University of Southampton

Faculty of Art and Humanities

Language, Cultures and Linguistics

Fostering Teacher and Learner Autonomy through Digital Professional Development for Saudi EFL University Teachers: An Exploration of Learning Processes and Outcomes

by

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Abstract

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The educational implications of fostering learner autonomy (LA) amongst EFL learners are required in the 21st century, as it obliges learning skills to lead the students to be lifelong learners (Elshaiekh et al., 2021). Henceforth, LA promotion depends mainly on the development of teachers' autonomy (TA), with the need to equip teachers with hands-on experience in LA for its promotion (Little,1995, 2007). Previous studies have dealt limitedly with presenting training courses about raising teachers' awareness related to LA promotion. Such studies emphasise the need for this type of training, especially in the Saudi context. Consequently, this study investigates the impacts of a digital professional development course (dCPD) on Saudi EFL teachers' beliefs and knowledge about promoting the LA skills of the EFL students. This investigation focuses on giving a detailed exploration of the impacts on teachers' conceptual and pedagogical understanding of their learning outcomes. The teachers' learning process within the course is another objective that this study tracks and examines. That's to understand the teachers' engagement in a training course that is based on involving themselves and exercising their autonomy in their professional development. This is because the teachers' process of engagement in autonomous learning within a digital setting has yet to be understood. Additionally, it explores the teachers' attitudes regarding their learning and engagement within their learning process of the undertaking training course.

Data collection was achieved through the implementation of a purely qualitative case study approach with seven EFL teachers, as the means mainly include: (1) three stages of interviews pre-, post-training as the post includes a stimulated recall part and a delayed informal interview, (2) digital observation for tracking and recording the teachers' engagement in the course, (3) the platform tasks and teachers' posts during the training, (4) the platform analytics, (5) the researcher's diary. The collected data was analysed using the reflective thematic

analysis method, allowing the researcher to generate themes from the data sources to answer the research questions.

The key findings provided empirical evidence about the types of beneficial impacts the dCPD has had on the teachers' conceptual and pedagogical understanding of LA, such as (1) enhancement and new learning with the LA conceptual understanding and (2) validation, enhancement, and new learning of the pedagogical understating of the LA principles implementation. Likewise, the findings also demonstrated the teachers' ability to negotiate and challenge contextual constraints. Another finding of this study indicates that during the training, teachers' process of engagement in learning within the dCPD was described as either highly engaged or moderately engaged, as the high level of engagement was salient within the independent activities over the social/collaborative activities. More importantly, it has been found that the patterns/intensity of teachers' engagement are shown to be indirectly affecting their learning outcomes. Furthermore, after the training, teachers were able to express their positive satisfaction towards their learning experience, for instance, how they acknowledged their autonomous learning experience during the dCPD, while also recognising some challenges they faced during their learning process.

Notably, this study presented several implications for the policymakers in the Saudi Ministry of Education, for the leaders of the higher education institutions, and for the EFL teachers. Primarily, this study contributes to the theoretical and empirical understanding of developing TA and LA. It also contributes to the field of EFL teachers' professional development pedagogy for improved, more effective, and innovative design that promises more transformational impacts.

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Research Thesis: Declaration of Authorship

Print name: Maha Ali Algamdi

Title of thesis: Fostering Teacher and Learner Autonomy through Digital Professional Development for Saudi EFL University Teachers: An Exploration of Learning Processes and Outcomes

I declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. None of this work has been published before submission

Signature: ..... Date: April 2025

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Definitions and Abbreviations

LA .....Learner Autonomy

TA .....Teacher Autonomy

TLA .....Teacher Learner Autonomy

LTC .....Language Teacher Cognation

LCF.....Laurillard's Conversational Framework

dCPD .....Digital Continuous Professional Development

SV2030.....Saudi Vision 2030

EFL .....English as a Foreign Language

L1 .....Learners' First Language

L2 .....Learners' Second Language

UQU.....Umm Al-Qura University

ELC.....English Language Centre

HoDs .....Head of Departments

ERGO.....Ethics and Research Governance Online

Chapter 1 Introduction

1.1 Overview

The promotion and fostering of learner autonomy (LA) among EFL learners has a wide range of educational implications (Borg & Al-Busaidi, 2012). Language learning research has found that developing LA can support both linguistic and non-linguistic outcomes, as well as learners' skills. For example, it can enhance achievement and improve the overall outcomes of L2 learning (Little, 2007; Zimmerman, 1990; Dam, 1995,). LA is advantageous because it encourages lifelong learning which is essential in the 21st century (Raya et al., 2017; Benson, 2011; Reinders & White, 2016; Elshaiekh et al., 2021). Additionally, LA encourages learners to be more confident, motivated, and effective (Li, 2015; Tseng & Schmitt, 2008). However, the definitions of LA are inconsistent due to their origin in several conflicting perspectives that sometimes are related to the individual language learning approaches (Oxford, 2003). Smith (2003a) argued that the promotion of LA may be interpreted as an imposition in some non-Western settings. This interpretation may relate to presenting the concept implicitly rather than explicitly. It may also relate to the limited attention given to teachers' freedom due to several constraints affecting the teachers' development, a situation common in many contexts, including Saudi Arabia.

LA is strongly linked to teacher autonomy (TA). Little (1995, 2007) argues that the promotion of LA depends mainly on the elevation of TA, and for its promotion there is a need to equip teachers with hands-on experience in LA. As with the multidimensions aspects of TA, the facet of the teachers-learner autonomy (TLA) focuses on how teachers can exercise their autonomy in learning and developing their knowledge, skills, and attitudes in cooperation with others to develop their students' autonomy (Smith, 2003a). By this definition of TLA, LA is, in other words, a transformative and reconstructive concept that educators can mediate (Devitt & MckKendry, 2014). The present study focuses on TLA intending to encourage teachers to learn how to promote LA and empower themselves through working with others. Fostering such empowerment entails administering teacher education and supporting career-long development in ways that promote TLA in teachers' lifelong learning. The possibilities include appropriately designing teachers' professional development courses through more innovative channels (Smith, 2003a, 2019; Smith & Vieira, 2009).

Teacher training should cover new knowledge, ideas, and skills that are relevant to teachers' needs making provision for exploration, experimentation, and reflection. Such training can also offer the following: (1) feedback that enables and leads teachers to reflect on their practices

and (2) opportunities for implementation in classrooms (Lydon & King, 2009; Borg, 2015). Consequently, this study aims to design and present content-based training to help teachers learn how to develop LA, which underpins TLA. The literature suggests that such training offers interventional means of achieving LA. The training in this study takes the form of digital continuous professional development (dCPD) aimed at providing teachers with the knowledge and skills to rethink, deconstruct, and learn skills to implement LA promotion in their teaching. Implementing LA, in turn, should enhance their professional development while allowing them to exercise autonomy during their learning process. It should be noted that the underpinning framework of the design is based on Laurillard's (2012) conversational framework (LCF), which proposes a mix of six learning types of activities that are digitally relevant to build more practical knowledge and skills construction. Within the programme, the fundamental focus is on evaluating the impact of the training on teachers' conceptual and pedagogical understanding of LA promotion. This is implemented by tracking teachers' learning engagement in the digital space and understanding their expressed attitudes toward it. This chapter introduces the contextual background of this study in terms of understanding EFL teaching practices in Saudi Arabia concerning LA promotion and EFL in-service teachers' professional development in Saudi higher education institutions. These practices are relevant because they highlight the required innovative initiatives in terms of teachers' learning to support both EFL teaching and learning development. This chapter also sets out the rationale, research problem, and highlights the significance of the study, followed by the research aims, the research questions, and an overview of the chapter structure of this thesis.

1.2 Research background and context

1.2.1 English language teaching in Saudi Arabia

It is important to outline the EFL methodologies for learning and teaching in the context of this study. This study is conducted in Saudi Arabia, a country that emphasises on the importance of learning English as a foreign language (EFL) due to the vast demand for English on a global scale; in other words, in this context, teaching English is a major concern (Alswat, 2021). English language teaching in Saudi Arabia depends largely on the traditional teaching methodology, which involves using the grammar-translation method and the audio-lingual method. Both methods focus on the mastery of grammatical rules and vocabulary, emphasising accuracy and correctness (Alqahtani, 2019; Al-Seghayer, 2015). However, in the 21st century, the two methods of EFL learning and teaching are undergoing a critical transformation in Saudi Arabia (Al-Mwzaiji & Muhammad, 2023). This recent transformation is due to the efforts to develop EFL learning and teaching in Saudi Arabia to overcome traditional practices, such as by

incorporating more communicative/interactive and autonomous learning approaches. Additionally, Alhejaily (2020) explains that the goals of autonomous learning are embedded in various areas of Ministry of Education policy, along with a variety of terminology that reflects its practices and aspects. These areas are in line with the objectives and plans for improving learning and teaching.

Despite efforts to incorporate a more communicative approach, EFL teaching and learning still follows the traditional practice and passive roles in Saudi public and higher education (Alssumlami, 2019; O Alharbi, 2020). Moreover, schools and institutions still prioritise students' optimal grading, examination preparation, and curriculum timeframe achievement over creating opportunities for interactive and autonomous classes (Al-Seghayer, 2015).

Alrabai (2021) explains that LA is less common in contexts such as Saudi Arabia with the teacher-centred focus whereas LA requires a learner-centred focus. Teachers hold the position of authority, from which they deliver knowledge, correct learners' errors, and control the entire learning process. Accordingly, Saudi students heavily depend on teachers, waiting for their commands, which leaves the students more anxious and less motivated. This situation could explain why many aspects of LA are yet to gain wide recognition in Saudi Arabia. However, LA is necessary in the Saudi context. Even with the overall positivity towards interactive approaches, many difficulties have emerged related to the learners, such as their low level of English proficiency and motivation (Alqahtani, 2019). According to Alzaharni (2016) and Alsowat (2021), some vital issues in the Saudi context for EFL are still common, such as how learners have limited chances to exercise English in the formal classroom setting and even fewer opportunities to practice it outside with others. Additionally, large class sizes further reduce individual interactions.

1.2.2 In-service teachers' professional development in Saudi higher education

Teaching EFL is a complex process because it relies on teachers' skills, attitudes, and knowledge that play essential role in students' learning (Alsowat, 2021). In terms of the CPDs provision directed at EFL in-service teachers, the Saudi Ministry of Education has been responsible for providing development training initiatives for public education teachers; previously, most of these training programmes were directed at the novice teachers. These initiatives focus on training teachers on their speciality, school management, educational supervision, computer science, self-development, and skill improvement. However, the initiatives have received much criticism, and achievement has been seen to be low and slow due to several difficulties. For example, the unclear agenda related to professional development, with weaknesses in teaching skills, and the need for more effective professional

training programmes with higher quality CPDs to ensure ongoing high-quality teaching (Alamri, 2011; Alfarani, 2015). However, recently, more projects have been created, and amendments have been made to previous projects to support teachers' learning in terms of supporting more motivated and communicative classrooms.

Furthermore, the Ministry of Education is extending a part of teachers' training to school staff and leaders to increase their sense of independence and ownership, as it is notable with higher education institutions and universities being independent in delivering and providing CPDs for teachers. Albogime (2021) explains that at Saudi universities, EFL teaching and learning processes are under the control of the coordination system where the dean is the highest authority. As such, each Saudi university offers the CPDs provisions via departments and deanships to support the delivery of workshops and conferences aimed at improving academic staff. Additionally, Al-Seghayer (2014) notes that although there are programmes available with the common goal of training EFL teachers, each institution has its unique requirements, leaving no chance for having a common thread or guideline that works as an umbrella that includes all the criteria required for preparing the EFL for Saudi teachers. Accordingly, there is no specific professional standard for higher education EFL CPDs in Saudi Higher Education. Hence, there is a need to consider an adequate approach for improving the teaching practices for more sustained professional development and for facilitating the institution's evolution and quality accreditations (Alsowat, 2021).

It may also be noted that, although attendance is not mandatory for any training. Teachers are not encouraged to attend for many reasons; the content of these programmes is theoretical input only, it is not designed to fulfil teachers' needs, and lack means of connecting theory to practice (Alsowat, 2021). According to Alshaikhi (2020), the literature has shown that the CPD content and delivery model in Saudi EFL contexts could fall short of being the ideal model of CPD. It is limited to events or workshops that are described as ineffective, due to their use of the one-size-fits-all approach that depends largely on theoretical input. Moreover, this approach does not provide hands-on experience in learning and practical activities that are directly linked to classroom activities, and many teachers struggle to practise what they learn about their classrooms. Many researchers have found that the current professional development for EFL training still does address the deeply rooted teacher-centeredness and prefers the grammar-translation method and audio-lingual drills (Alqahatani, 2019). These factors may be the reason why these traditional approaches continue to dominate in EFL teaching, and why teachers find difficulties in implementing other approaches such as communicative ones as they may lack the required skills for the implementation of such approaches (Al-Seghayer, 2014).

Furthermore, some teachers have not received the required training before joining teaching as a career with the necessary preparation (Al-Seghayer, 2014). According to Alzaharani (2016), teachers are often unaware of the new trends in teaching EFL and may lack awareness of and training on how to implement these trends in practise. Teachers still need to consider helpful teaching approaches related to collaboration and active control of EFL learning. Consequently, there is a need for innovative training and CPDs to be tackled immediately because the current in-service CPDs are conducted on a limited scale and insufficiently via local education departments in Saudi Arabia. As some EFL teachers receive little or no in-service training since there are limited incentives or occasional CPD opportunities (Al-Seghayer, 2014). The following section discusses the Saudi Vision 2030 for its relevance in explaining the ongoing shift towards addressing a more communicative approach to EFL teaching and learning.

1.2.3 The Saudi Vision 2030

The Kingdom of Saudi Arabia is undergoing transformational efforts and implementing several plans that are linked strongly to education and EFL learning and teaching. Hence, it is necessary to discuss the main drive and motivation of these changes. The Saudi Vision 2030 (SV2030) is a key plan for the country's economic transformation, focusing on a knowledge-based global economy (Vision 2030, n.d.). The development of the economy and education goes together; as such, there is a need to focus on informing education of the motivations behind this vision to fulfil and support its achievement (Al-Mwzaiji & Muhammad, 2023). There is an intrinsic link between EFL learning and the SV2030 that has been established by the goals of economic and social development. Accordingly, Saudi students should be equipped with the required knowledge and communicative skills that lead to the achievement of the SV2030, with one of its goals is to focus on educational reforms and improvements (Al-Mwzaiji & Muhammad, 2023). This vision has various aspects that call for developing 21st-century learning and teaching skills to help make learners responsible for their thinking, learning, and life in a social context. It emphasises the need of learners to be a more autonomous and lifelong learner (Alhejaili, 2020). Consequently, the SV2030 works on investing in the human resources of the citizens to make them more self-dependent (Al-Mwzaiji & Muhammad, 2023).

1.2.3.1 LA role in achieving SV2030

Learner autonomy could be considered as one of the most effective factors in achieving the SV2023 educational reforms because the quality of education is at the centre of SV2030 realisation. Furthermore, all the previously mentioned SV2030 goals align with the notion that learners are at the heart of the educational process (Albiladi, 2022; Alhejaili, 2020). In other words, these goals stress several key objectives: to improve learners' skills, personalities, and

thinking, to promote lifelong learning; to encourage independence among learners; and to equip learners with 21st-century skills (e.g., knowledge construction, communication and collaboration, technical literacy, self-regulation, problem-solving, and critical thinking) (Abdullateef et al., 2023; Albiladi, 2022). All of these necessary skills fall directly under the broader concept of LA. As Little (2007) and Benson (2011) stated that LA in language learning allows learners to build the capacity to take charge of their learning, both fostering learners' independence and improving their interdependence. Consequently, learners can improve and increase their language learning proficiency, motivations, and outcomes (Dam,1995; Little, 2007; Zimmerman, 1990).

Since the concept of LA has educational potential for EFL learners that is associated with and translating the educational reform goals of SV2030, thus it is integral to the educational goals of SV2030 and a key driver in achieving them. Henceforth, supporting learners to take ownership of their EFL educational journey will directly support the realisation of SV2030's transformative educational goals. The importance of LA in SV2030 relates to the fact that the English language has become the dominant language in communication, technology, employment, commerce, and economics; English is a tool of transformation for the country's development (Mahib ur Rahman & Alhaisoni, 2013). Given that reality, many nations including Saudi Arabia are emphasising EFL. Therefore, EFL teaching and learning should become a playground that encourages learners to take on more autonomy in their language learning, as that autonomy will prepare learners to join the labour market and compete for future career advancement (Albiladi, 2022; Bunaiyan, 2019). Ultimately, encouraging EFL students to become autonomous and empowered self-directed learners throughout their EFL learning journey will help the country achieve a more knowledge-based economy. Where these individual traits will contribute effectively to the workforce, building a vibrant society, a thriving economy, and an ambitious nation (Abdullateef et al., 2023).

Consequently, there is a need to re-direct Saudi educational policies to meet the increasing demands of the new SV2030 and other strategies towards a sustainable economy via public and higher education (Allmnakrah, 2020). Since this need is part of the educational process of teaching and learning, it also includes learning and teaching of EFL. Accordingly, Saudi education must emphasise EFL learning to prepare students to meet this new vision. In fact, to meet the Saudi vision, all education policymakers must reconsider EFL language teaching reforms, and all stakeholders in the educational sectors must work together with effective collaboration to identify challenges, improve the current status of EFL teaching/learning, and empower both teachers and students (Al-Mwzaiji & Muhammad, 2023).

1.2.3.2 Teacher development's role in achieving SV2030

The vision also focuses on teachers and curriculum development for fostering 21st-century skills for future generations and stresses the importance of the teachers receiving training to equip them with effective methods to succeed (Allmnakrah, 2020). These methods include EFL teachers, who need to develop by becoming familiar with the latest pedagogical strategies to teach EFL, being open to change, and demonstrating self-direction in terms of attending conferences and interacting in international forums (Al-Mwzaiji & Muhammad, 2023). Additionally, teachers need to be trained innovatively, listen to their own voices, and understand what is required for their development to play a positive role in contributing to the achievements and the goals of the SV2030 (Allmnakrah, 2020). Despite there being a renewed commitment and readdressing for more effective development from the Saudi decision makers; to support EFL learning and professional development for achieving the vision and fostering students' lifelong learning skills, there is still a need for more ongoing work and evaluation (Allmnakrah, 2020). It should be noted that the current CPDs' opportunities may not be completely compatible with the vision reform agenda that emphasises the fundamental change in teachers' practices and how they acquire knowledge (Alshaikhi, 2020). Saudi higher education institutions have indeed responded to these calls. However, there is still a need for further development as the adaptation of five-year strategic plans could be a helpful method for achieving the goals of the SV2030, resolving challenges, and creating initiatives for the teachers' and students' development of performance and outcomes (Al-Mutlaq, 2018).

1.2.4 The UQU strategic development plan

This study's context is Umm Al-Qura University (UQU), which has a 'new strategy of 2027' launched in 2022. (UQU, 2022). This strategy emphasises achieving high standards of teaching and learning, becoming a pioneer in education and research, and focusing on presenting more effective programmes based on creativity and quality. This strategic plan focuses on developing the quality of education programmes by preparing globally competitive students, improving innovation to enhance the means of research and knowledge, enhancing outcomes and innovation, and upgrading the competency of recourse. Moreover, this plan has many values that reflect the goals of the Ministry of Education and the SV2030 across all university departments, including the English department and the English Languages Centre (ELC). Therefore, this strategy is a response to the SV2030 reform that emphasises 21st-century learning to promote more lifelong learning. Accordingly, this strategy will require a high degree of autonomy to enhance EFL learners' success and to increase the focus on LA adaptation in both teaching and examining the initiatives of the CPDs provision for EFL teachers. It is required to make any necessary improvements regarding CPDs' content and focus on ensuring

innovative and effective design and delivery. Importantly, for guaranteeing CPDs' sustainability and the long-term effect of their benefits in achieving the goal of the strategies and the plan of the SV2030.

1.3 The research problem and rationale

The study's rationale is underpinned by two main elements, namely a personal/contextual rationale and a theoretical/pedagogical rationale.

In terms of the personal/contextual rationale, the context of this study is UQU, which has a 'new strategy of 2027' as a response to achieving the goals of the SV2030, see Section (1.2.4). These strategies and the vision will require a high degree of autonomy from both teachers and learners to achieve the lifelong learning goal. Based on my familiarity with the contexts and my previous educational experience at the university, LA must be improved due to the minimal attention given to it. Where with my current PhD programme at the University of Southampton (UOS), because of my eagerness to be involved in autonomy and e-learning technology, I took the following modules: (1) Autonomy and Individualisation in Language Learning; and (2) E-learning and ELT. These two modules provided me with insights into how LA and innovative technological approaches may be implemented. I was introduced to the concept of TA and LA and became aware of the usefulness and the need to create motivational instructions for teachers and learners for TA and LA to be promoted. I found that the availability of this kind of initiative is very rare, particularly in the Saudi context.

Based on what is mentioned in Section (1.2), in-service teachers now need these initiatives. As such, I decided to take the lead in creating a digital continuous professional development (dCPD) course for EFL teachers in an innovative way to participate in a course designed to increase awareness of autonomous practices and encourage the development of TA. Due to my academic position as a researcher and lecturer in the EFL Curriculum and Instruction department at UQU, see Section (4.9). I had the opportunity to facilitate the attempt of creating a dCPD design for guiding teacher learning and promoting LA in the Saudi context. Accordingly, it is aimed that the created dCPD could help to equip teachers with knowledge of LA and the autonomous behaviours and associated LA pedagogic practices to be fostered in language classrooms. Furthermore, this dCPD may help guide and improve the delivery of the current and other future designs of EFL teachers' CPDs in general, by using the affordances of digital delivery in training and understanding the process of the teachers' learning in a digital training setting.

Secondly, the theoretical/pedagogical rationale is related to the reading of existing literature, where, despite the interest in rapid educational and policy innovation calling for a vision for improvement in the Saudi EFL context of teaching and learning, existing research has found that LA is still a relatively new concept. Teachers have shown little understanding of LA (Alzahrani, 2016). Students are rarely encouraged to act autonomously, and research into LA and its practical implementation is limited and conflicting. Similarly, researchers have shed light on the need for teachers to be trained in LA promotion (Tamer, 2013; Asiri & Shukri, 2018; Mohammed, 2016; Almusharraf, 2018, 2020; Halabi, 2018; Alonazi, 2017; Alhejaili, 2020). However, implementing LA in language classrooms is a complex process because teachers must first understand the concept and their role in encouraging learners to develop autonomous behaviours (Borg & Alshumaimeri, 2019). From this clear link between LA and TA, it becomes apparent that there is a need to encourage the TA in teacher-learner autonomy (TLA). Researchers have argued that developing TA in the context of teacher learning, facilitates the understanding of autonomous behaviours to be promoted with learners (Gao, 2018). In turn, this process entails supporting teachers' beliefs about and knowledge of LA practices through the principled pedagogy of autonomy (Raya et al., 2017; Smith, 2003a). This approach could be effectively supported through teacher education via professional development to incorporate a degree of interdependence between teachers and learners, and involve teachers in autonomous learning themselves (Benson, 2011; Little, 1995, 2007).

Several studies have focused on the effectiveness of training programmes for teachers learning about LA, though these studies have been rare in the Saudi context, with a small number in other contexts (Borg & Al-Busaidi, 2012; Vieira, 2010). As such, the current study attempts to fill this research gap. However, this encouragement of LA promotion could involve an interaction between the effects of psychological and contextual factors (McGrath, 2000; Benson 2000). Consequently, more investigation into these factors is required in terms of how they interact with the process of TA as teacher-learner autonomy, how it is related to the need to acquire a more comprehensive understanding of language teachers' cognition regarding their beliefs and knowledge about LA, understanding the different elements of their prior background, and context that could affect their learning about LA promotion (Borg, 2003; 2006; 2019). In fact, when involving teachers in a learning process, it is important to be aware of how the individuals develop their learning process and what could be behind their performance and learning outcomes.

In support of this process of teachers learning about LA, research has also identified the need to reconceptualise and experiment with existing approaches to teacher education (Manzano-Vazquez, 2018). According to the existing literature, the suitable mediums for teacher learning to develop autonomy in teacher education may involve providing less formal and digital

channels for its different affordances that facilitate teacher learning (Teras, 2016; Ranieri et al., 2017; Kiddle & Prince, 2019; Dille & Rokenes, 2021; Howard, 2021). There are few initiatives using digital technology to train teachers about autonomy, revealing unique opportunities for supporting teacher learning (Raya & Viera, 2015; Trebbi, 2008; Ushioda et al., 2011; Li, 2023).

Therefore, there is a need for further exploration in this area. It is also argued that the most appropriate model for teachers' learning could be the one that ensures more transformational changes that promote teachers' autonomy and agency (Kennedy, 2005). Consequently, this study uses the digital/self-paced space to support teacher training in learning about developing LA. To draw on this affordance for supporting teacher learning, the design of the intended dCPD in this study adopts an underpinning framework that allows for tracking teacher learning process, namely the Laurillard conversational framework (LCF). This framework uses the role of technology and takes advantage of its benefits to create effective dCPD that supports teacher learning about LA and experiencing autonomous learning themselves in terms of their interaction, collaboration, and knowledge building (Laurillard, 2012). Since only a few studies have used digital technology to train teachers to develop LA, this study attempts to address the research gap regarding educational reforms in Saudi Arabia that aimed at enhancing EFL teaching by having teachers shift away from traditional training. This approach could be via incorporating digital technologies into teacher training for its affordances, where there is a shortage of high-quality CPD in the Saudi context (Alqahtani, 2019; Binmohsen & Abrahams, 2020).

1.4 Significance of the study

The rationale and the research problem presented in Section (1.3) support the value of this study by demonstrating the gaps in the literature for proposed research. In short, this study is significant in the EFL learning and teaching field in several different aspects. Firstly, this research attempts to encourage TA in the sense of teacher-learner autonomy, aiming to fill the gaps in what is given to teachers in terms of first-hand experience of autonomy (Little, 1995, 2007). With the limited studies in the field that have examined teacher education initiatives that provide awareness of the pedagogy of LA in the Saudi context and on a global scale, this study attempts to contribute to the TA and LA knowledge by creating this opportunity as a dCPD for teacher learning by impacting teachers' beliefs about and knowledge of LA promotion. As this expected to lead to greater understanding of TA and TLA (Smith, 2003a), the LA pedagogy, and the impact of the dCPDs on teachers' conceptual and pedagogical understanding.

Another contribution of this research is related to the pedagogical contribution to EFL teacher learning and professional development, which may be achieved by providing a less formal

digital space with a variety of affordances for the use of LCF as the underpinning framework for designing the dCPD programme (Laurillard, 2012). This framework helps track and unpack the process of teacher learning and knowledge building. It offers a space to examine its independent learning behaviours, as well as the interaction and collaboration within its cycles. The study also examines how this framework implicitly implies that the learning process requires teachers to exercise their autonomy in their learning with its activity types and interaction, thereby contributing to involving teachers in a real learning experience concerning LA. Consequently, a general contribution to the field of teacher learning and CPD programmes could be obtained both within and beyond the Saudi context in the use of LCF in the field of EFL teacher education. Hence, pushing towards more transformational, practical training that links theory to practice of the conceptual and pedagogical understanding of L2 learner autonomy promotion.

1.5 Aims and research questions

1.5.1 Research objectives

As an overarching aim, this study explores the impact of a dCPD on Saudi EFL teachers' conceptual and pedagogical understanding in terms of beliefs about and knowledge of L2 learner autonomy through their engagement with dCPD. Thus, the aims of this study are as follows:

1- To explore the impacts of the dCPD training on the teachers' understanding by exploring and comparing
   A. EFL teachers' conceptual and pedagogical understanding of LA and the pedagogy for autonomy pre-training;
   B. teachers' responses after training about LA and the pedagogy for autonomy to determine their learning outcome; and
   C. the extent to which teachers' prior backgrounds affect the learning outcomes.

2- Within the dCPD environment, to track and explore teachers' engagement in the learning process concerning a variety of learning types/activities that reflect their autonomous learning.
   A. This includes exploring whether teachers' learning process within the dCPD contributes to their learning outcomes.

3- To explore teachers' attitudes regarding their involvement in the dCPD concerning different aspects of training.
   A. This includes exploring whether there is a relationship between teachers' attitudes related to their learning process followed during training.

1.5.2 Research questions

This study aims to answer the following qualitatively driven research questions:

> ***RQ1:*** *To what extent does a targeted programme of dCPD affect teachers' conceptual and pedagogical knowledge about learner autonomy?*

This question aims to address the understanding of the impact that dCPD training could have on teachers' understanding by comparing the EFL teachers' conceptual beliefs and knowledge about LA and the pedagogical understanding of LA pre- and post-training. This approach aims to determine the learning outcome of the teachers as a result of their involvement in the dCPD, and to explore if there is a link between the teachers' backgrounds and their learning outcomes.

> ***RQ2:*** *To what extent did the teachers engage with the dCPD and how, if at all, did this impact their learning?*

This question aims to address the understanding of the teachers' process of learning and engagement within the dCPD environment with various learning types and activities that reflect the teachers exercising autonomy in learning. Moreover, the question aims to explore if there is a link between the teachers' learning process within the dCPD and how it may affect their learning outcome.

> ***RQ3:*** *What kinds of favourable aspects, challenges and recommended solutions did teachers report from learning through the dCPD?*

This question aims to address the understanding of teachers' expressed attitudes and views in relation to their engagement in the different aspects of dCPD. This question also seeks to explore if there is a link between teachers' attitudes related to the learning process that they were engaged in during training.

1.6 The structure of the thesis

The thesis comprises of eight chapters that are organised as follows:

- Chapter 1 introduces the contextual background of this study, establishes the research problem and the rationale, and highlights the significance of conducting this study, followed by the research aims, research questions, and an overview of the structured chapter of this thesis;
- Chapter 2 provides conceptualisations of LA, TA dimensions and the aspect of TLA. Hence, this chapter demonstrates a specific focus on the concern for teachers' education and

encouraging teachers' involvement in learning LA promotion and presents empirical literature that has tackled developing teachers' beliefs and knowledge about promoting LA;

- Chapter 3 presents the conceptualisation or theorising of the teachers' learning of cognitive constructivism and social constructivism, as well as their relation to the two notions of conceptualising the teachers' learning. The chapter also presents the aspects of the language teachers' cognitions frameworks (LTC), the elements of the effective CPDs, types, and mode of delivery. Chapter 3 then shows the affordances of the digital mode and factors that affect teachers' learning in CPDs, presenting a chosen underpinning framework for designing an innovative dCPD for this study, which is the LCF;
- Chapter 4 presents this study's methodological choices. The chapter addresses the paradigm, the research design, and the context and design of the dCPD, as well as the data collection stages, its methods, the instruments, and the data analysis. This chapter also discusses the researcher's positionality, trustworthiness, and ethical considerations;
- Chapter 5 and Chapter 6 both present the key findings of the data that were gathered from various tools of this study. Chapter 5 is concerned only with the findings related to the impacted outcome of teachers' learning regarding LA's conceptual and pedagogical understanding and addresses the first research question. Chapter 6 presents the key findings on teacher's engagement with the learning process during the dCPD and their attitudes about training affordances, challenges, and different aspects of the dCPD, which address both the second and third research questions.
- Chapter 7 discusses the study's key findings presented in Chapters 5 and 6 in light of the findings of the literature review. The chapter starts by approaching the first theme for attempting to relate to the first research question and then addresses the second theme related to the second research question. Finally, this chapter also addresses the third theme related to the third research question; and
- Chapter 8 is the final chapter and offers a summary of the thesis by summarising the study findings, reflecting on the implications of this study in education, and presenting the study's contributions. Finally, the chapter presents the limitations of this study and provides suggestions for future research to be conducted.

Chapter 2 Learner Autonomy and Teacher Autonomy

2.1 Introduction

The rationale of this study is to foster teachers' understandings and practices relating to both TA and LA. The research also examines the learning process involved in professional development, which involves theoretical and evidence-based insights, as well as how they translate into practical classroom activity. As LA is central to the research, this chapter critically evaluates the underpinning conceptual/theoretical framework of LA and its varied perspectives, as well as the concept of TA and its different facets, focusing on TLA in particular. The chapter then introduces an understanding of the encouragement of TA as TLA in teacher education of LA and specifies teachers' involvement in the principled pedagogy for promoting LA. Moreover, the chapter introduces how teachers could take part in the learning process themselves based on their own autonomy and then investigates the constraints and factors that might affect LA promotion and teachers' learning of this promotion. Finally, the chapter looks at the available initiatives for encouraging teachers to support LA via an investigation of research conducted in this field on teachers' training initiatives for promoting LA.

2.2 Learner autonomy and its behaviours

The main aim of teaching EFL is to support learners in using the language effectively to communicate efficiently when using the target language. This aim depends mainly on the learners having confidence, self-reliance, and independent skills to be successful in navigating different communitive and social situations. In other words, learners need to become autonomous language learners with a substantial degree of autonomy (Little, 1991).

LA is a concept that has a variety of definitions (Little, 1990). The foundational definition by Benson (2011) describes LA as a multifaceted concept that refers to "the capacity to control one's own learning" (p. 58). This definition aligns with that of Holec (1981), who describes LA as "the ability to take charges for one's own learning" (p. 3). Huang and Benson (2013) and Teng (2019) expand on this definition and state that LA and its behaviours are derived from individual cognitive constructs that determine autonomous learning, arguing that 'capacity' includes an individual's ability, desire, and freedom. In other words, to be autonomous, learners need knowledge and skills in their language studying, as well as having affective factors such as motivation and desire to engage in such behaviours. Furthermore, the cognitive constructs that underpin autonomy may include the following: making decisions and acting on them (Lamb,

2017), such as by selecting learning methods, setting objectives, and evaluating learning (Holec, 1981), and aligning language learning with personal needs and objectives (Huang & Benson, 2013; Teng, 2019; Benson, 2011). Whilst these cognitive and affective factors reflect an individualised account of learning and have often been interpreted as independence in learning, Little (1991) argues that LA is a social construct supported by interdependence (relatedness) rather than purely independent learning processes.

LA is a complex idea in research and in practice, and the field has witnessed a variety of definitions (Little, 1990) rather than a single, easily describable behaviour or a fixed statement (Wagner, 2014; Teng, 2019). Accordingly, Benson (1997) and Oxford (2003) state that LA could be viewed and classified into four types: a) technical autonomy, or the learner's ability to develop cognitive and metacognitive strategies such as identifying their learning objectives and using the learning strategies; b) political autonomy of how learners have freedom and choice, such as choosing a learning topic for an assignment; c) psychological autonomy, which refers to the learner's willingness and motivation to take control of their own learning, such as having a positive attitude towards the learning process; and d) socio-cultural autonomy, which refers to the learners' learning within a social interaction setting with their teacher and/or other learners, such as engaging in interactions with others.

This complex, multi-layered concept of LA has proven to be challenging for teachers to understand as it is often considered troublesome knowledge (Alnajjar & Altamimi, 2016). Because of this complexity, there is a need to present a holistic, clear conceptualisation of LA in this study. The definitions of LA by Benson (2011), Huang and Benson (2013), and Teng (2019) imply, when looking at detail at the components, that LA behaviours and characteristics are inclusive and include the interdependent aspect as well, as emphasised by Little (1991). All these components are combined to form a holistic umbrella that explains the concept of LA in this research. Hence, having a goal of promoting LA with EFL students with such a comprehensive concept and components that imply a variety of types is essential to be acknowledged and acquired by teachers as learners of LA. In fact, this holistic concept is presented to EFL teachers within the dCPD of this study. In other words, it is the conceptualisations of LA that are predominantly and understandably learner-centred, defining LA as a personalised array of cognitive and metacognitive skills and knowledge supported by motivation. Furthermore, sociocultural views of LA attribute roles to its development and/or use to others co-learners and teachers. Similarly, it is worth noting that there are many constraining factors that could hinder the understanding of the LA and its pedagogical promotion, as discussed in the following section.

2.2.1 Factors constraining LA promotion

In terms of LA being fostered among EFL learners, several constraining factors, which could be related to technical, political, socio and psychological factors, may influence autonomous learning (Teng, 2019; Smith, 2003a). Existing research has found that these factors are categorised as internal and external factors influencing LA promotion (Wisniewska, 2007; Lamp, 2017; Teng, 2019).

A- Contextual external factors

The contextual constraints are likely to influence the development of LA. These constraints are divided into macro and micro constraints. Macro constraints are those that are external to the institution as a general policy referring to educational philosophy, goals, language teaching policies, curriculum, materials, and methods. Micro constraints refer to internal institutional decisions based on which teachers may be able to discuss these decisions or negotiate to practise autonomy, such as the institutional community and its goals, local and institutional authority, peers, learners, rules and regulations certification, examination, and the physical and social organisation of classroom practices (Smith, 2003a; Lamb, 2008; Trebbi, 2008; Ramos, 2005; McGrath, 2000; Benson, 2000).

Empirical evidence has supported the importance of macro and micro constraints. Nakata (2014) and Saad (2024) found that high school EFL teachers were influenced by contextual factors, identifying institutional inflexibility and enhancing exam constraints as significant difficulties that hinder Japanese EFL teachers from fostering LA. Restrictions on teaching methodology in educational institutions have also adversely affected LA (Tayjasanant & Surartdecha, 2016; Wiraningsih & Santosa, 2020). In addition, classroom factors influence LA. Kuchah and Smith (2011) found that factors such as a large number of students per class with different language backgrounds, lack of resources, poor proficiency with discouraged teachers, and a lack of meaningful English exposure, along financial and cultural issues were important. Finally, fixed curricula and centrally defined content and assessment are likely to limit LA (Al-Asmari, 2013; Alrabai, 2016; 2017; Alonazi, 2017; Alzaharni, 2016; Asiri & Shukri, 2018; Borg & Al-Busaidi, 2012).

At the classroom level, Pham (2023) reports that large classes and institutional elements influence LA. Moreover, Saad (2024) found similar results to the restrictions of the standardised designs of the curriculum and restricting teachers in the completion timeframe. Similarly, autonomous teaching practices may be limited by the learners themselves (Wisniewska, 2007). These factors include the learner's language learning experiences, attitudes, beliefs, and knowledge regarding language teaching/learning, metacognition knowledge, commitment to

education/lifelong learning, motivation, achievement, and engagement (Raya, 2017; Mansooji et al., 2022). Existing literature has found that learners depend on teachers to learn and pass the exam, and that there is a lack of students' independent skills when learning (Tayjasanant & Surartdecha, 2016; Intraboonsom et al., 2020; Baz et al., 2018; Wiraningsih & Santosa, 2020; Alonazi, 2017). Furthermore, there are a variety of founded institutional constraints that are also related to learners, which is in line with what is stated by Nunan (1997), namely that LA promotion depends on a range of factors related to the personality of the learner, their goals in undertaking the study for learning L2, the philosophy of the institution in providing instruction, and the context within which learning takes place.

B- Teachers' Internal factors

The internal factors are considered to be teachers' experiences, education, beliefs, attitudes, and motivation (McGrath, 2000; Benson, 2000). According to Raya (2017), these factors are teacher-related aspects, namely their beliefs about and knowledge of teaching and learning, professional background, values, attitudes, past experience as a learner, and teaching experiences. If the teachers do not believe in the importance of autonomy, they will struggle to foster it (Wisniewska, 2007). Decisions surrounding practice are often grounded in beliefs and understandings (Borg, 2003). Therefore, LA promotion may be affected by teachers' beliefs and knowledge and what they perceive as desirable and feasible in teaching (Borg & Al-Busaidi, 2012). To explore empirical studies on teachers' beliefs and perspectives on the concept of LA, different results have been reported in the Saudi context and other contexts (Borg & Alshumaimeri, 2019).

Several studies have found that, whilst teachers are broadly positive about LA, their understanding of the practice varies (Change, 2020; Lin & Reinders, 2019; Mansooji et al., 2022). Nonetheless, teachers are willing to experiment in their classrooms (Halabi, 2018; Tayjasanant & Surartdecha, 2016; Lin & Reinders, 2019; Szocs, 2017; Baz, et al., 2018). Positive views about LA have been linked to positive LA experiences as language learners (Szocs, 2017; Baz et al., 2018). Other studies have demonstrated positive views but with varied views regarding LA types. For instance, Alhujaili (2020) and Alrabai (2017) found that teachers hold psychological, technical, and political understanding and that this understanding influenced views of LA and the teacher's role in fostering it. Boudouaia et al. (2022) obtained similar results with additional views related to the social and independent view of LA. However, Melvina and Suherdi (2019) explored how the teachers viewed LA from a psychological perspective only and the importance of teachers' roles.

Other studies have found another kind of variation, namely that some teachers hold positive views, while others hold opposing views. Asiri and Shukri (2018) found that teachers reported

having familiar knowledge of the concept of LA but held opposing views about implementing it. Similarly, Borg and Alshumaimeri (2019) found that some teachers held favourable views but were less positive about the feasibility of LA in their classrooms. Similarly, Szocs (2017) and Baz et al. (2018) found that teachers' views were related to their teaching and learning background, in the same way, that Al-Busaidi and Al-Maamari (2014) argued that teachers held diverse understandings of LA influenced by their background and teaching/learning experiences.

Other studies such as Birouchi (2015), Al-Busaidi and Al-Maamari (2014), and Asiri and Shukri (2018) have found that there are some negative views held by teachers, as well as reluctant and negative views about LA behaviour's application in classrooms. The teachers' variation in their views and beliefs about LA promotion may be related to the notion of how LA is not an absolute concept. There are degrees of autonomy and the extent to which it is feasible or desirable to embrace autonomy as it is not a "now or never" concept (Nunan, 1997, p.13). This position does not contradict the argument mentioned in Section (2.2) from Benson (2011) and Little, (1990), who describe how the concept of LA needs to be addressed clearly concerning the context and the practice, though more acceptance is required for not considering LA as either full or zero autonomy (Murase, 2015). Accordingly, further investigation is needed to understand teachers' views and beliefs about LA to understand this variation, as well as the negative views and the reasons behind them.

Research has also found that beliefs, even positive, about LA do not necessarily have actual implications on LA teaching practice (Borg & Al-Busaidi, 2012). Recent investigations have found that teachers struggle to "translate" LA into pedagogic practice by being unwilling to involve learners (Balcikanli, 2010). Specifically, teachers' vague conceptual understanding has been linked to a lack of LA pedagogic skills (Halabi, 2018), with favourable understandings of LA not necessarily leading to LA specific teaching practices (Borg & Al-Busaidi, 2012; Change, 2020; Mansooji et al., 2022; Phasm, 20203; Szocs, 2017). It has been found that teachers favoured LA development and supported learning involvement in selecting materials and discussing classroom management, learning strategies, and course methodology. However, the same teachers were reluctant to involve students in this practice, as even with positive views of LA, there was a conflict with reported practice in class (Halabi, 2018; Szocs, 2017; Change, 2020; Mansooji et al., 2022; Pham, 2023). Borg and Alshumaimeri (2019) recommend that further research should be conducted to investigate whether there is a relationship between teachers' beliefs and practices in promoting LA. Clearly, without pedagogic practices, LA would remain purely conceptual (Lamp, 2017). Therefore, research has contended that efforts must be made to support teachers in the transition from conceptual understanding to actual teaching practice (Ostovar-Namaghi, 2012). This study intends to fill this gap regarding how to help teachers navigate the connection of the theory of LA with the practice of LA. Additionally, the

study considered how an initiative might assist teachers with experiencing what is it like to be an autonomous learner. The study explored how to make that possible via training courses (dCPD), by providing a sufficient combination of theoretical inputs and modelled LA promotion practices. Accordingly, the dCPD in this study attempts to foster a more positive connection between teachers' conceptual understanding regarding LA promotion and teachers' pedagogical implementation. In other words, this study is significant in offering assistance to teachers in transitioning from a conceptual grasp of LA to a practical sense of what LA practices and processes look like in real classrooms.

This aspect is related to the implications of teacher education on the encouragement of LA amongst L2 learners for teachers to learn how to promote LA and empower them in terms of how they view LA, change their beliefs, or enhance rethinking the reality of class to understanding the constraints, solutions to these constraints, and action for direct implementation. As many of the reviewed studies have called for the creation of teacher training to raise awareness of LA promotion (Tamer, 2013; Asiri & Shukri, 2018; Mohammed, 2016; Almusharraf, 2018; 2020; Halabi, 2018; Alonazi, 2017; Alhujaili, 2020; Alrabai, 2022), there has been focus on another area of LA, namely teacher autonomy TA. The following section explores the concept of teacher autonomy TA, its links to LA, and teachers' responsibility for promotion to be achieved.

2.3 Teacher autonomy

Researchers have concluded that the development of LA with its varied types (e.g., socio-cultural autonomy) implicates the teacher because LA is the product of an interactive process in which autonomous behaviours are encouraged through teachers' practices (Alonazi, 2017; Little, 2007). Teng (2019) argues that, for EFL learners to be actively involved in the learning process, a teacher's responsibility involves showing them how to become autonomous learners and providing guidance to monitor and evaluate their progress. TA has recently gathered more attention due to the increasing significance of teachers' roles in promoting LA in language learning (Benson, 2001). Consequently, LA research has shifted to focus on the teacher, with TA emerging as a multi-dimensional concept that is difficult to define independently from LA (Lamb, 2017; Han, 2017; Benson, 2011; Wisniewska, 2007; Smith, 2003a) because language teachers have multiple roles to play in understanding LA, becoming language instructors, researchers, and learners of the teaching practice of LA promotion (Xu, 2007).

According to McGrath (2000) and Huang and Benson, (2013) TA is the capacity, willingness, and freedom for self-directed action and professional development to take control over their teaching and learning. This process involves the following two aspects: a) what relates to the

teaching practices as teachers' capacity, willingness, and freedom to control and self-direct their teaching (Benson, 2011; Benson & Huang, 2008; Smith, 2003a); and b) what relates to teacher learning, as teachers taking responsibility for updating their teaching skills through professional development and identifying training needs (McGrath, 2000; Smith & Erdogan, 2008). Researchers have argued that TA is important in the development of LA in classrooms because the teacher is a central component in creating classroom conditions for fostering LA. As such, when considering the goal of this study, namely the promotion of LA by teachers, it is important to acknowledge the perspective of Thavenius (1999), who argues that a teacher has the ability and willingness to reflect on practical teaching to help learners become autonomous learners. In other words, it seems possible that a teacher may need to have the kinds of metacognitive and cognitive knowledge and skills linked to autonomy to be able to encourage autonomous behaviours in learners. Consequently, Smith (2003a) argues that conceptualisations of TA should, therefore, be extended to include TLA. The following section explores this concept in greater detail.

2.3.1 Teacher-learner autonomy (TLA)

TLA is referred to as "the ability to develop appropriate skills, knowledge, and attitude for oneself as a teacher, in cooperation with others" (Smith, 2003a, p. 1). This notion allows teachers to view themselves as learners (Smith, 2019). This term is what Dam et al. (1990) refer to as having the readiness to take charge of one's learning regarding what is related to one's needs, as well as the capacity and willingness to act independently and in cooperation with others as a social and responsible individual. Therefore, this concept combines individuality and the social aspects of autonomy, which is contrary to the misconception that autonomy is only about independence and isolation (Smith, 2019). Additionally, the enhancement of TLA depends on the social learning environment in which teachers work together as a collaborative learning community in pursuit of autonomy (Smith, 2000). Similarly, TLA involves the development of knowledge and skills aligned with LA and TA skills of self-direction and agency in selecting professional development opportunities. In other words, TLA refers to teachers' involvement in opportunities to learn as teachers and exercise their own autonomy during the course of self-development and learning (Halabi, 2018; Wisniewska, 2007).

These views build on Little's (1995) earlier position that teachers are unlikely to be able to foster LA in their classrooms unless they understand the concept of LA, its associated skills, and what these skills might look like in actual classroom settings. Teachers should have first-hand experience of autonomy to know what it means to be an autonomous learner. Smith (2003a) contends that initial teacher education and professional development programmes should include opportunities to learn about fostering LA. It appears, therefore, that the concept of TLA

(which embodies both LA and TA) could be the object and a means of learning for teacher professional development programmes (Benson, 2011; Smith, 2000). Notably, the links among LA, TA and TLA are more precise here. Little (1995) manifests that TA is significant in its relation to teacher development due to the strong correlation between TA and LA; LA development depends mainly on TA development. In the same vein, Smith and Vieira (2009) suggest a need to create programmes for teachers that deal with learning new knowledge, beliefs, and practices about LA promotion and encourage teachers to engage in autonomous behaviours and use agency/self-direction in the selection of learning materials, which are likely to ultimately foster LA in classrooms. Research establishing what this process could look like and what is included are explored in the following sections.

2.3.1.1 Raising teachers' awareness of fostering LA

Teachers' professional development has the potential to raise teachers' awareness of LA both as a concept and practice that could lead to changes in attitudes, reflections, and insights (Thavenius, 1999). According to Little (1995; 2007) and Raya et al. (2015), teacher education should aim to develop skills concerning and knowledge of LA and associated practice amongst trainee teachers to allow them to apply this knowledge in their language teaching practice (Han, 2020). Similarly, researchers have argued that abstract conversation about LA promotion's importance is insufficient. Instead, involving teachers in reflection about learning pedagogy for promoting autonomy could be a powerful way of developing TLA (Smith & Erdogan, 2008).

As well as conceptualisations of what autonomy is, any efforts to develop autonomy in teachers and learners require an approach to what autonomy looks like in teaching practice. One such example is the pedagogy for autonomy, which focuses on teachers in teacher education as learners (Smith, 2003a). This pedagogic approach helps trainee teachers grasp the implications of LA in language teaching, and understand how its application could change how language is taught in the language learning community (Everhard, 2013). Little (1990) mentions that LA is not a single, easily describable behaviour. However, it is necessary to offer a clear understanding for teachers if aiming to introduce more effective programmes concerned with fostering LA. According to Smith (2003b), there is no particular method for these programmes as there are a wide variety of approaches that may be under investigation and could vary from one context to another. Consequently, involving teachers in learning about the pedagogy for autonomy requires choosing a principled framework related to the pedagogical understanding of LA in L2 classroom contexts (Benson, 2011).

There are many principled frameworks to LA pedagogy, such as that of Benson (2011), who explored LA strategic promotion in and out of class, and Littlewood (1996), who focuses on promoting autonomy on three levels: task; learner; and personal level. On the other hand, Lewis

and Reinders (2008) are concerned with increasing students' willingness to take responsibility for their learning. Nunan (1997) involves the learner in five levels of goal setting and what is related to the content and material of teaching, whereas Raya et al. (2017) concerns a wide range of LA and outlines 10 principles. One of the important frameworks in fostering LA is Dam's (2011) because Dam (1995) has contributed significantly to applying the principles of LA, which underpin her work with secondary-aged English classes (Lamp, 2017). The study focused on the involvement of learners in decision-making regarding the content of lessons by using English as the target language and how they evaluate their learning using a reflective journal. The following is a representation of the main five principles of Dam's (2011) framework for LA promotion:

A. *The principle of fostering learner involvement* involves establishing learner control, engaging learners to share responsibility for the learning process, and providing opportunities for choices and means of managing their learning;

B. *The principle of fostering learner reflection* means involving learners in opportunities to analyse their learning experience themselves and think critically when planning, monitoring, and evaluating their learning;

C. *The principle of providing teacher support* involves the teacher providing adequate opportunities and support in the learning environment for learners to take over and remain responsible for ensuring that learning occurs;

D. *The principle of encouraging authenticity* involves using the target language from the very beginning to establish situations for authentic language use for all teaching and learning functions. Allowing learners to be engaged in authentic language use among themselves for genuine communication purposes and in reflection establishes situations for authentic language use for all functions and different kinds of reflection, individually or collaboratively. Sometimes, teachers may use the learners' mother tongue when using the target language, which may help in the expression of personal ideas and feelings related to the language-learning process in some situations; and

E. *The principle of providing clear instruction* involves establishing a clear structure and instructions for a lesson or teaching/learning sequence. It is vital that the learner feels secure taking over by knowing what is expected and required of them. Moreover, this approach is also about fostering a learner's willingness to reflect, which needs to be increased by establishing a clear structure and instructions for the process of reflection.

Dam's (2011) framework, which was derived from her own work in EFL classrooms, has also been evaluated in adult English learner settings (Little, 2022). This recent application shows how the learners have become more confident and fluent in using the target language (Little, 2022). Accordingly, this study grounds its pedagogic intervention in Dam's principles for several reasons. Firstly, this framework allows teachers to develop specific skills, such as learners'

responsibility and autonomy, monitoring and evaluation, self-evaluation, learning strategies, cooperation, and group work (Scharle & Szabo, 2000). Secondly, the framework has a clear role for the teacher, one that deals with the management of the L2 learning process (Benson, 2011; Little, 2022). Thirdly, for language classrooms, Dam's principles play a role in language use in the process of developing autonomy, as well as scaffolded sequences that allow for a structured process of fostering autonomy. This combination of principles allows for developing autonomy in alignment with LA conceptual and pedagogical understandings, and albeit to a lesser extent, a role for the teacher (TA) and a means of developing teacher confidence in fostering autonomy through a scaffolded process. Therefore, engaging teachers in pedagogy for autonomy with learners within the presented dCPD could contribute to encouraging teachers to adopt new methods for promoting LA (Teng, 2019). This approach aims to help teachers generate thoughts, feelings, and actions about LA principles and promotion and be aware of the aims, processes, and constraints in relation to fostering LA amongst L2 students. The use of these principles will empower learners to be autonomous and translate the main principles and behaviours of autonomous learning.

2.3.1.2 Involvement in the autonomisation process

Linking LA and practice with TLA could make teachers more confident in promoting and practising the pedagogy for autonomy in their teaching (Manzano-Vazquez, 2021; Thavenius, 1999). In other words, TLA requires involving the teacher in LA pedagogic experimentation and essentially supporting them to learn autonomously through professional development. This process, which Viera (1997) refers to as the process of 'autonomisation,' supports involvement in pedagogy for the autonomy of the development of pedagogic approaches to learning about autonomy. Vieira (1997) and Little (1995; 2007) explain that this method includes how teachers must experience autonomy themselves to fully understand and implement it in practice. Having established a conceptualisation of autonomy and a principled pedagogic approach that underpins the key features of autonomy in teaching practice; it is necessary to explain how both might be combined with TLA, which is also crucial to the process of developing LA. As such, involving teachers in their own cycles of activity that enact autonomous skills is likely to contribute to a more accurate understanding of LA (Smith & Erdogan, 2008). This understanding could be incorporated into teachers' means of development. As McGrath (2000) agrees, TLA may be developed by exercising it in teacher research, action research, teacher development, and reflective practice.

2.3.1.3 Involvement in rethinking the contextual reality

In terms of the internal and external constraints mentioned in Section (2.2.1), according to Smith (2003a), the involvement of teachers' education programmes on LA could lead them to have the opportunity to rethink the LA promotion constraints within the teaching context. This approach may also foster the ability to create spaces and opportunities to deal with constraints, reflect on teaching, work around the constraints, and find spaces that offer opportunities to resolve challenges (Cova, 2021; Raya & Viera, 2015). This focus enables the teacher to be involved in the coping process with contextual external and internal constraints and use opportunities afforded in specific contexts for more effective learner-centred situations (Raya & Viera, 2015). Similarly, within the teachers' engagement in reflective pedagogy for autonomy, teachers should acknowledge and be prepared where possible to address practical limitations that may affect their autonomy during the learning process when undertaking professional development (Smith, 2003a; Smith & Erdogan, 2008).

2.3.2 TLA encouragement: Teacher training for promoting LA

The focus on training teachers to encourage LA has been incorporated into pre-service teacher education, in-service teacher development, and how LA is the concern of teacher education to provide this kind of experience (Benson, 2011; Smith, 2000; 2003a). However, limited research accounts exist for pre-service or in-service teacher education for LA promotion. Therefore, it has become difficult to translate the development of autonomy into reality as educational practices, resulting in a need for further research into teacher education for autonomy (Manzano-Vazquez, 2018; Raya & Vieira, 2015). Borg and Al-Busaidi (2012) explored the beliefs and practices surrounding LA among 61 teachers in Oman via questionnaires and interviews, implementing five professional development workshops on LA practices in classrooms. The workshops involved the exploration of LA through classroom research. However, the discussion around LA beliefs and practices was not under evaluation during the post-workshop phase to report potential changes in teachers' beliefs and practices. Similarly, Manzano-Vazquez (2021) introduced 24 pre-service teachers in Spain to LA theory and the pedagogy for autonomy principles during a 29-week module before practicum.

Teachers' willingness, ability, and opportunity to implement the pedagogy for autonomy in future teaching were investigated. The study tools included reflective tasks, questionnaires, and practical activities such as designing a lesson plan based on LA orientation and portfolio. Participants were introduced to LA in EFL in the programme and to the pedagogy for autonomy in EFL classrooms, offering pedagogical implications for teacher education for autonomy. The

findings show that the participants doubted their confidence in fostering LA, though there were positive attitudes concerning the pedagogy for autonomy implementation.

Additionally, Fabela-Cardenas (2012) offered two 20-hour autonomous language teaching modules to 12 Mexican university teachers. Teachers reported in the post-interviews that they had experimented with what they learnt in their classrooms and were willing to incorporate more autonomous practices into their teaching pedagogies, changing their teaching views from teacher-centeredness to learner-centeredness. The same teachers also showed evidence of TA and TLA and were gradually able to direct their learning in training as they took more controlling steps. Also, Galiniene (1999) investigated 13 EFL teachers in Lithuania, namely in-service trainees who were involved in the LA course for five sessions as part of a teacher training programme. Participants experienced LA through selected readings, group discussions, and individual reflections. The initiative included a practical component, encouraging teachers to involve students in autonomous learning by implementing experimental projects at a classroom level. The post-course questionnaires found that teachers increased their knowledge of LA and their classroom behaviour, became aware of their own autonomy, developed sensitivity to learners' needs, grew professionally, changed their negative attitudes about LA, and had broader views about LA.

Another initiative was implemented in China by Wang and Ma (2009), who adopted a learner-centred approach within one of the pre-service modules for six months; data were collected by using questionnaires, phases of reflection, and focused group interviews. The findings reveal that teachers' views developed regarding learner-centred teaching alongside their confidence to promote LA in future teaching. The teachers were involved in observing effective modelling of teaching practice by working on micro-teaching and critical reflections, which helped them to mediate between theory and practice in the real context of teaching. Moreover, Alrabai (2021) examined Saudi teachers and learners in experimental interventions for LA promotion within three longitudinal phases. In the first phase, four teachers were involved in three stages of autonomy promotion CPD to allow them to be more autonomy-supportive and less controlling in EFL classrooms. After classroom implementation, teachers' group discussions took place. Teachers discussed and shared their experiences, exchanged tips for teaching situations, and reported on how students reacted and the constraints that they faced. General findings reveal positive changes in both learners' and teachers' practices due to the experimental intervention of the training.

Other studies have adopted different approaches to teacher training to involve teachers in exercising their autonomy. For example, Mello et al. (2008) investigated using an action research cycle to enhance L2 teachers' knowledge of LA in collaborative action research. The

researchers conducted a year-long course with 50 EFL public schools in Brazil. Schools were grouped with one university professor and pre-service teachers based on the classroom problems that they wanted to research. 13 groups met regularly to plan and evaluate the action research project. Seminars, writing papers, class observations, students' questionnaires, analysis of activities, and portfolios were used to solve classroom issues and enhance LA. The study found that the most successful groups were those who could establish challenging goals for their learners, demonstrating that their autonomy could be exercised within this systematic inquiry of the action research by collaboratively reflecting on the experience. Also, the initiative of Vieira (2010) encouraged four in-service teachers to investigate and explore promoting LA through the theoretical input of LA pedagogic principles and classroom research.

Participants were asked to produce a collaborative narrative experience to describe their own LA practices in a group portfolio with others, including records, data collection, out-of-class group meetings, and self-evaluation. This LA promotion in a professional collaborative inquiry enhanced teachers' understanding of how LA could be promoted in reality and enhanced their reflective and self-regulatory stance concerning their own learning. Similarly, Smith and Erdogan (2008) developed pre-service MA student TLA as a learner of teaching L2 as an intervention of small-scale action research experience spread over 10 weeks within a professional practice course. The study aimed to develop teachers' autonomy as a learner of teaching to help them to develop their skills, knowledge, and attitudes for themselves as teachers, as well as the ability to evaluate their teaching for more effective future teaching. An action research cycle involved planning English lessons, employing micro-teaching with peers and receiving evaluated feedback, discussions, and video and audio recording analysis. The findings of this initiative suggest that, after evaluating the effect, there was evidence of TLA improvement amongst the student teachers, and that the teachers' involvement in the action research could help in developing their autonomy.

All the discussed initiatives have been focused on improving teachers' awareness of the promotion of LA and a principled pedagogy for LA. However, only Smith and Erdogan (2008), Vieira (2010), and Mello et al. (2008) had another goal, namely developing the teachers' autonomy in learning in terms of teaching. This focus is similar to that of this study, which concerns exploring both two aspects in line with the focus on developing the teachers' understanding of LA. Specifically, involving teachers is the autonomous experience of learning about autonomy and exploring the outcome of these two aspects. Furthermore, these studies have followed different methods of teachers' development, such as involving the teachers in action research cycles and case analysis. Unlike the rest, which was mostly around delivering inputs and accompanied by a variety of tasks and activities, this approach is similar to the approach followed in this study.

It is worth noting that the reviewed training initiatives have focused on exploring the changes in teachers' beliefs about and knowledge of promoting LA (Borg & Al-Busaidi, 2012; Fabela-Cardenas, 2012; Manzano-Vazquez, 2021). Other researchers have expressed the same concerns but had the advantage of observing changes in classroom practices (Mello et al., 2008; Vieira, 2010; Galiniene, 1999; Alrabai, 2021). This study aligns with the first group, which did not apply a practical observation but only aimed to influence the teachers' beliefs about and knowledge of promoting LA. However, LA is considered meaningless unless related to practice (Lamp, 2017). As such, this study is concerned with linking the theoretical input of LA to teachers' actual practice for producing and reoperating a practical plan for promoting LA in their classrooms. Additionally, it should be noted that this study aims to focus on analysing the process of teachers learning about LA and how they report their classroom implementation, which has not been touched on in existing research.

2.3.2.1 Encouraging TLA within innovative and digital training

Based on the literature review, it may be concluded that existing studies that have investigated teacher training to promote LA have followed the face-to-face mode of attendance and delivery, which is accompanied by the achievement of several tasks. Since this study is intended to present a digital dCPD for teachers promoting LA, it is necessary to look at the small number of studies that have investigated the digital delivery of teacher training to implement the promotion of LA. Raya (2011) and Raya and Viera (2015) presented an innovative package digitally named the European pedagogy for autonomy learning (EuroPAL), which is based on the material that adopts the case-based approach for enhancing LA, highlighting the use of pedagogical cases related to the pedagogy for autonomy as the basis for teachers developing LA.

The link between the use of the digital mode and teacher learning in LA is demonstrated as follows: accessing videos and texts to pace teacher learning and adapt to many learning styles; facilitating LA professional development by providing rich content to empower teachers to take a more proactive role in practising LA and facilitating life-long learning; and involving teachers in interactions to create new knowledge and experiences. This 15-session project worked in the form of self-access multimedia, including theoretical input, practical instruments, and reflective tasks. The course was offered to five pre-service student-teachers studying an EFL methodology module during an MA programme. The data collected from questionnaires and logs demonstrate that the case-based approach was appreciated and promoted the competence required to enhance the pedagogy of autonomy, which should be developed in classes. Teachers developed a critical stance on setting constraints and alternative practices in their practicum. At the beginning of the class, the teachers were unaware of the pedagogy for autonomy, except for one student, who only had educational training related to the effect of the

previous experience. All the participants expressed a willingness to engage in the course, supported the teachers' perspective in understanding the relation between theory and practice, believed that change was possible, helped in addressing constraints, and envisioned a different future for education by focusing on autonomy as an educational goal.

Trebbi (2008) aimed to develop LA as an approach to teachers' education and provide a learning experience for 12 pre-service teachers in Norway. The two-week training course relied on the blended digital environment as it offered powerful indications for collaboration for knowledge building. The programme was an open learning space based on synchronous and asynchronous lectures, seminars, digital portfolios, logs, and forums, in which trainees were able to share and reflect on their learning and teaching experiences with autonomy, both individually and cooperatively. Tasks included oral and written reports from classroom observation, reflections on trainees' learning experiences, and reading and writing essays based on theory. The participants stated that, at first, they were resistant to the concept of LA as they rarely practised its promotion in their classrooms; their experience with LA during the course helped them understand the concept and put it into practice, and they expressed a willingness to change traditional views on teaching and learning.

Additionally, as a follow-up to the initiative of Smith and Erdogan (2008) mentioned in Section (2.3.2), Ushioda et al. (2011) worked on exploring TLA improvements beyond the MA programme as students become alumni and begin their teaching jobs. The initiatives involved establishing a social networking platform for current and former MA students, with a variety of features and tools within the platform enabling content, discussion, and posting experiences about theory and research related to L2 teaching practice and task-based teaching. The findings of this project reveal positive feedback for integrating a group of current and graduated students into an online community. These finding sheds light on the online community and its usefulness in supporting and re-engaging alumni in reflective practice on their newly developed teaching practices, reporting more details about it, and providing more recourses and modelling practices. All these affordances attracted the continuous support of the ongoing professional development of how the online site functioned as a platform for teacher learning for different teachers with different levels of experiences, sustained their ongoing professional development, and supported teachers' TLA as learners of teaching. Furthermore, a recent initiative was implemented by Li (2023) in China, the project goal of which was to develop the in-service teachers' beliefs about, knowledge of, and practice for LA through two online workshops emphasising teachers' discussion within the workshops. Firstly, an in-depth interview was conducted, followed by the two workshops, with a post-workshop evaluation performed by focus groups, written reflection, and the researcher's journal. The findings show that the

teachers became more aware of LA and its importance; their LA beliefs, previous learning experience, and teaching competencies influenced their classroom practice.

Based on the above four reviewed digital training initiatives of Raya and Viera (2015), Trebbi (2008), Ushioda et al. (2011), and Li (2023), digital environments may offer unique opportunities for knowledge, experiences, and changes in LA beliefs and practices, as well as the opportunity for teachers' involvement in online communities and benefits from social settings, utilising the self-access advantageous that could aid in the promotion of the autonomy of the teachers as learners. Trebbi (2008) and Ushioda et al. (2011) offered the mode of blended learning, whereas Raya and Viera (2015) and Li (2023) used the online-only mode of delivery, meaning that they were like this study. In addition, adopting digital delivery for training may solve several issues or constraints raised by the conventional method. Borg and Al-Busaidi (2012) trained teachers for five days, with the final workshop being conducted months later for logistical reasons; the study recommends longer-term staging of professional development activities to allow teachers to connect training and classroom practices. Further, the affordance of digital teacher professional development is reviewed in the next chapter, see Section (3.3.2.3).

Though a handful of initiatives have been found for teachers learning about LA promotion, differences were prevalent. Approaches that include more elements and tools to give teachers more opportunities to exercise their autonomy when learning about LA seem to be practically effective, such as reflection, peer, and collaboration activities. According to Smith (2003a), Lamp (2008), Wisniewska (2007), and McGrath (2000), there is a need for greater emphasis on the development of teachers' autonomy to turn them into autonomous teachers. Accordingly, it is possible that further teacher education initiatives, particularly those in LA, should be based on the concept of TLA and tools in the form of strategies that support teachers in adapting their teaching practice to promote LA (Manzano-Vazquez, 2018). There is a need to find new channels through which teachers explore their practices to teach more effectively, which may be supported by reflective digital writing and dialogue (Raya, 2011; Trebbi, 2008; Li, 2023). Many traditional approaches to teacher education and development have been criticised for their inability to meet language teachers' professional needs. For example, Smith and Vieira (2009) argue for rejecting the top-down approach and finding common ground for teacher education for learning about LA to understand how teachers and educators should experience it, thinking of what teachers need to know, and helping in understanding the source of the teachers' knowledge and practices.

Consequently, since this gap exists on a global scale, especially in the Saudi context. This study aims to contribute to the research by creating a holistic training programme involving LA, TA, and TLA by contributing to the knowledge of TLA research to identify to what extent a focused

dCPD course influences and changes LA knowledge and skills. The study also aims to support teachers in embracing LA practices in EFL teaching and understand teachers' TLA improvement. In addition, as recent research has recommended, this study uses digital techniques to support longer-term access to professional development provision and enhance the means and more appropriate elements of engaging with TLA using the opportunities of digital tools and venues.

2.4 Conclusion

This chapter noted that teacher professional development around LA first involves understanding key related concepts, namely LA, TA, and TLA. This chapter also aimed to conceptualise the dimensions of LA and TA, as well as those of TLA, to provide details of this study's developed understanding of these concepts. Secondly, the chapter discussed how teacher development for learning about LA depends on a principled pedagogic framework and supports teachers in turning those conceptualisations into practical action. This concerns developing their knowledge and skills, attitudes about themselves as teachers in cooperation with others for LA promotion, and exercising their autonomy in learning how to promote LA. Furthermore, this chapter described how there are many constraining internal and contextual factors for prompting LA, and that teacher acknowledging and rethinking the constraints is key in resolving such challenges, which requires rethinking what could constrain their own autonomous learning. Finally, a review of previous studies informed the findings and revealed how the study differed from past studies. Overall, all the previous empirical studies reviewed had focused on various CPD initiatives in terms of how these initiatives encouraged the conceptual base of LA, TA, and TLA. Hence, the strengths of the present study lie in two main aspects:

First, this study worked on providing a holistic qualitative picture in examining encouragement of TLA. It took into consideration both aspects involved by teachers: learning about LA and experiencing LA. In addition, the present study strove to understand in depth the types of impacts of the dCPD, and exploring the teachers' reflection regarding their autonomous learning experience. In contrast, none of the previous studies attempted to explore these aspects altogether. *Second,* this study contributed to providing a solid design and theoretically driven framework (i.e., LCF), as a common ground for designing a dCPD. Consequently, it serves the study's objective of encouraging TLA and enabling the tracking of teachers' different types of engagements during the learning process. In contrast, the previous studies did not take advantage of all dCPD's affordances; most notably, they did not attempt to track or understand the teachers' learning processes and engagement in a digital setting.

Moreover, the previous studies varied in approach, either taking a purely qualitative approach or adopting mixed methods and often implemented various tools and different sampling methods.

This study, in comparison to some of these variations, does have some limitations due to this study's scope and the doctoral research time frame. For instance, some of the previous studies used qualitative tools and methods such as teacher action research, classroom observation, focus groups, and questionnaires. These tools supported more longitudinal and expanded studies with a focus on tracking and investigating the teachers' autonomous practice in classrooms over time.

Chapter 3 Teacher learning and professional development courses

3.1 Introduction

Chapter 2 introduced the concepts of LA and TA. It also examined the idea that TLA starts with teachers developing autonomy through professional development, which is likely to prompt teachers to embed elements of LA in language classrooms. As this study aims to help teachers develop their understanding and practical skills relating to LA, the present chapter first explores how teacher learning, in general, functions in theory and how professional development models can serve teacher professional development. The chapter further explores the concept of teacher cognition, which informs both teacher learning and practice, followed by the mode of teacher learning – in this case, digital professional development. The chapter examines how digital professional development affects the learning process and how professional development design could incorporate its affordances and challenges. The chapter further explains the chosen underpinning framework for designing the activities in the dCPD, namely the LCF (Laurillard, 2012). The framework draws on different learning types/activities. Consequently, this chapter notes that digital professional development has the potential for tracking and observing the learning process. Finally, the chapter covers how the study adopted the scale by Fredricks et al. (2004) to track and observe the teachers' online learning engagement in the dCPD. Alongside the theoretical/conceptual discussion, the chapter also presents relevant empirical research.

3.2 Theorising teacher learning

Since the teachers need first-hand experience to promote LA (Little, 1995, 2007). Consequently, it is necessary to raise teachers' awareness of their conceptual and pedagogical understanding of LA, as explained through the theory of experience, which places equal importance on the following: (1) teachers' real practices and experiences and (2) teachers' reflections on these experiences (Dewey, 1938). According to Dewey (1938), behavioural change occurs when the individual relates actions to experiences. To achieve this, teachers to take a personal interest in any quests for improvement and learning opportunities should prompt reflection on experiences and enable social involvement (Bates, 2016). The following two subsections tackle the concept of teacher learning from two perspectives regarding teachers' practical knowledge.

3.2.1 The constructivist-cognitive view on knowledge of practice

Most teacher professional development programmes aim to support teacher learning and teaching practice. Therefore, teacher learning emphasises putting knowledge into practice by upgrading teachers' skills and knowledge and making teachers learn from ongoing training in the form of conventional learning. This approach allows teachers to construct and gain "knowledge of practices" by implementing those practices individually (Cochran-Smith & Lytle, 1999; Kelly, 2006). The view of cognitive "knowledge of practice" (underpinned by cognitive constructivism) is an important theoretical stance on how teacher learning occurs as it centres around teachers' involvement. This study explores cognitive constructivism as a learning theory because constructivism implies building on existing knowledge and understanding to create new knowledge and learning. Constructivism is also conceptualised as an independent, active process for learning and constructing knowledge and for making personal sense, wherein the learners draw subjectively on their background experience (Tippins et al., 1993). Teachers construct knowledge by receiving input from a meaningful learning environment (Huang & Spector, 2019). This view is supported by Bada and Olusegun (2015), who explain that teachers construct knowledge within a learning environment that exposes them to materials and usage as a drive to draw newer meanings.

Constructivist approaches to learning can produce greater internalisation and deeper independent understanding, helping teachers to construct knowledge via, for example, inquiry and problem-solving, which encourage learners to question and challenge ideas and opinions (Abdal-Haqq, 1998). Teachers' experimentation or creativity when it comes to trying new teaching practices may further support teacher learning (Bergh et al., 2015; Jones & Dexter, 2014). For example, in terms of task involvement, conducting professional reflections and reading professional literature, textbooks, and website content fosters a willingness to change (De Vries et al., 2014; Teng, 2019). To summarise, constructivist approaches to learning involve independent opportunities related to experimentation, involvement, and reflection, thus situating new learning alongside existing knowledge. Though this model is widely accepted, it does not wholly account for processes that are influential in professional learning (Kelly, 2006).

3.2.2 The socio-cognitive view of knowledge in practice

Teachers learn practical "knowledge in practice" by examining and reflecting on their own practice and ongoing actions collaboratively (Cochran-Smith & Lytle, 1999). The socio-cognitive perspective supports this view as learning is a dynamic process resulting from cooperation between teachers and others in social practice and environment. Learning is also a constructive process of iterative engagement in constructing and reconstructing professional knowledge,

wherein teachers internalise experience and learn from participation through reflections on collaborative engagements with dialogical communities and networks through experience sharing (Kelly, 2006; Cochran-Smith & Lytle, 1999).

Socio-cognitive knowledge in practice relates to theoretical insights provided by Vygotskian social constructivism (Vygotsky, 1978). Vygotsky's social constructivism learning theory argues that learning is a social transformational process that involves the individual in the socio-cultural context (Abd-alhaqq, 1998; Bates, 2016). Individual development derives from social interaction, with knowledge development dependent on complex, active interaction between learners (Vygotsky, 1978). Vygotsky's ideas relate to the zone of proximal development (Vygotsky, 1978), which refers to the distance between (1) the actual individual development level as determined by independent problem-solving and (2) potential development determined via problem-solving under guidance or in collaboration with other capable peers (Vygotsky, 1978). Also, what is related to cognitive social learning is the concept of vicarious learning, as introduced by Bandura et al. (1963), who explains how learning can occur via observing others' behaviours in a social setting. With their cognitive capacity, learners can internalise observations and make decisions related to their learning based on these internalised representations (Aubrey & Riley, 2019). Involving teachers in socially constructive activities can benefit their learning and create opportunities to build and share knowledge through sharing and dialogical reflection (Dille & Rokenes, 2021). According to Bergh et al. (2015) and Huang & Spector (2019), interaction may involve teachers talking and sharing with others, such as via group discussions or seminars, which involve assistance and scaffolding with peers.

Borg and Al-Busadi (2012) and Kelly (2006) state that many teacher development programmes provide opportunities for developing individual "knowledge of practice," which is important. However, social constructivism should also inform teacher learning design, as "knowledge in practice" is a dynamic process resulting from teachers' collaborative actions and social learning with others in their professional contexts (Kelly, 2006; Paor & Murphy, 2018). An active expert teacher can correlate their "knowledge of practice" to "knowledge in practice" (Kelly, 2006). Therefore, teacher learning should include a combination of activities to support individual teachers' growth and teachers' social collaborative work with others (Abakah, 2023). These two views of knowledge construction are perhaps the most relevant theories in the field of teacher professional development (Duncombe & Armour, 2004).

In this study, constructivist and social constructivist views of learning align with the notion of TLA. Social constructivism means learning about LA knowledge and skills in cooperation with others and emphasises teachers' involvement in a professional development activity to enhance their awareness, readiness, and capacity to promote LA (Smith, 2000, 2003a).

Accordingly, this study adopted both constructivist and social constructivist stances to support teachers' knowledge about practice, providing teachers with an opportunity to experience this knowledge in relation to what they already know and introducing teachers to a range of conceptual and practical perspectives to prompt them to create, reflect, and share their own knowledge collaboratively.

3.3 Language teacher cognition

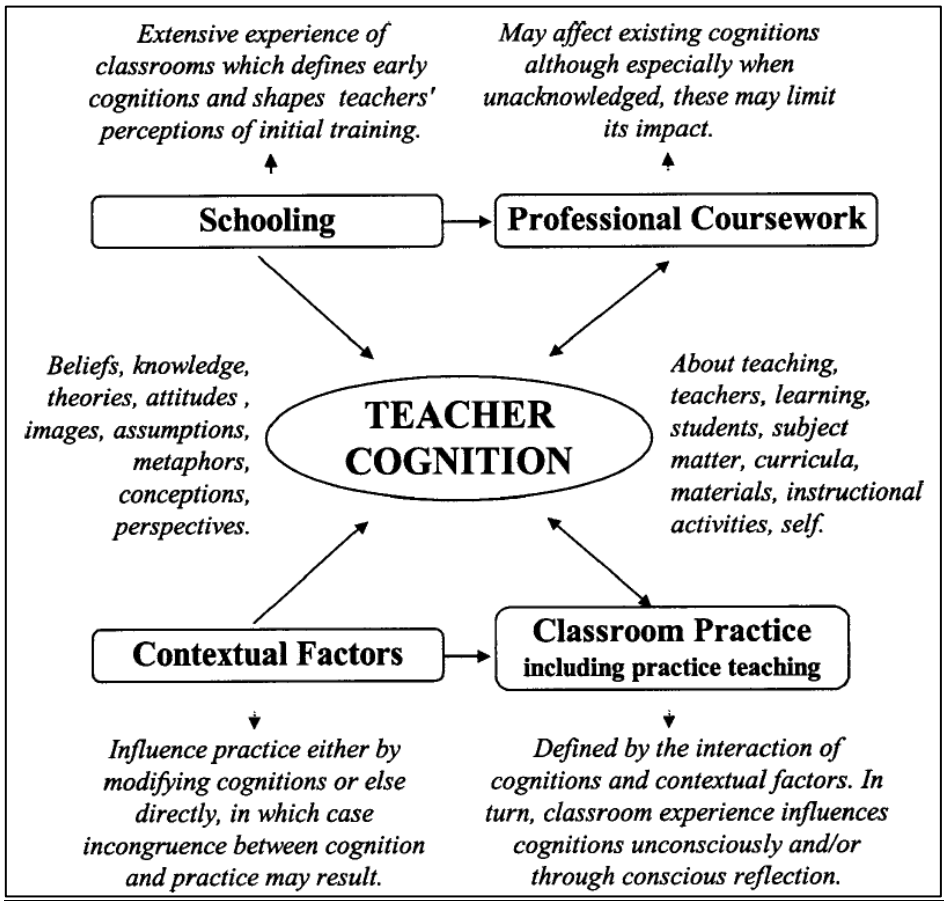
The objectives of this research include understanding what could affect and shape teacher learning and teaching practice. Teacher cognition is the unobservable construct in teachers' minds of what they know, believe, and think about and how their knowledge and beliefs connect to teaching practices (Borg, 2003, 2006, 2019). Teachers' emotions, however, is an area of limited exploration within research on teachers' cognition (Swain, 2013). Golombek and Dornan (2014) and Richardson et al. (2014) argue that teachers' emotions and motivation are part of teacher cognition, as these factors affect teachers' behaviours and even their beliefs. According to Huangfu (2012), there is a relationship between teachers' self-efficacy and teachers' motivational adaptation of strategies in their teaching. Teacher cognition is defined by Borg (2019) as a combination of "a reference to the teachers' personal, professional, social, cultural, and historical contexts, to understand teachers' minds and emotions and the roles these play in the process of becoming, being, and developing as a teacher" (p. 62). As such, teacher cognition is a dynamic, broad term that involves multiple, often interrelated topics.

As teacher cognition and its focus on beliefs and knowledge are influential in teaching practice, it is necessary to unpack the differences among the terms. Borg (2003) states that beliefs are a subjective mental state based on what one accepts as true according to their thoughts, experiences, and feeling. Knowledge is what teachers know objectively about a subject matter and practical skills in some external sense. The two concepts both have close connections to one another and are treated as inseparable and synonymous. Therefore, knowledge could be understood differently from beliefs or be considered an overarching term that includes both what teachers know and believe in (Beijaard et al., 2004; Verloop et al., 2001; Borg, 2003). This study aligns with Borg (2003) and does not distinguish between beliefs and knowledge because the data are based primarily on teachers' self-reports, and teachers tend not to distinguish between the two terms in their expressions. Consequently, this study aligns with Borg (2006) stance that the concepts are synonymous and, accordingly, use the terms interchangeably.

Borg (2003) calls for a unified framework to obtain a holistic idea of the elements that could affect teachers' cognition and different areas of teachers' mental lives (Li, 2017a). Borg's (2006) presentation of the language teacher cognition framework (LTC) relates to teachers' personal

trajectory of complex factors that could affect how the teacher shapes cognition through three elements: (1) professional learning coursework, (2) prior schooling, and (3) contextual classroom practice (Freeman, 2016). LTC has become an essential framework because its three elements affect teachers' practices and provide understanding and interpretation of teachers' learning and teaching (Borg, 2003). The following figure illustrates the components of LTC (Borg, 2003)

Figure 1: Language teacher cognition framework



It is worth noting that several studies have looked at teachers' cognitions and professional educational development, including both pre- and in-service teachers. The study acknowledges that teachers' professional coursework could affect learning outcomes and educational and professional improvement regardless of their categorisation as pre- or in-service teachers. Hence, the following section discusses studies related to pre-and in-service teacher development training. Section (3.3.2) presents a more central focus on in-service development.

3.3.1 Effects of teachers' learning and coursework

Understanding teachers' learning and involvement in training programmes entails understanding how teachers are taught knowledge and practices. Borg (2006) that training courses provide teachers with a base connected to their beliefs and knowledge. As teacher

education influences teachers' cognition, teachers may undergo a process of reformulating beliefs as they learn, which could affect their initial opinions and beliefs about a new teaching practice (Borg, 2006). However, there is debate among researchers as to how teachers' involvement in training could affect their acceptance of new ideas or methodologies. This ambiguity stems from mixed results of existing research.

According to Almarza (1996), although trainee teachers adopted and implemented a specific method taught during the programme, their cognitive acceptance of the introduced approach varied. These findings also emerged in Borg's (2005) study, which examined the development of pre-service teachers' pedagogic thinking during a CELTA course. While some teachers developed their beliefs as their understanding deepened, others were resistant to change. Additionally, Borg (2011) studied the effect of in-service teacher CPD training on six EFL teachers. The data collected via interviews, coursework, and feedback revealed variations in the influence. Three teachers expressed improved understanding in relation to their beliefs and articulated their new beliefs strongly. Another three participants felt that the training had not changed their beliefs.

Krulatz et al., (2024) investigated the impact of CPDs on teachers' cognition of multilingualism and pedagogy. The data collected from two teachers via questionnaires and observation of two pre- and post-training phases revealed that the teachers' development differed individually: one showed considerable changes, whereas the other remained stable. Ali and Ammar (2005) obtained similar results but offered a different interpretation. That is, they found that several pre-service teachers did not improve when introduced to the training. Taken together, these studies demonstrate how teachers respond differently to the training provided to them. However, other research has found a positive impact. For example, Buehl and Beck (2015) found that engaging teachers in specific actions and practice could shape their beliefs because of professional development involvement. Msamba et al., (2023) investigated the impact of in-service EFL teachers' training on their learning and teaching through interviews with 21 teachers. Teachers' stories revealed that training had a positive effect on improving their knowledge, confidence, and classroom practices. Similarly, teachers' regular attendance of these courses could positively affect their improvement. Harisman et al. (2019) found that teachers' experience of attending training to improve themselves significantly influenced professionalism compared to other factors such as length of teaching experience. Overall, existing empirical research has shown promising results suggesting that training can help teachers learn and develop positive beliefs about LA promotion.

This study aimed to understand the impact that teacher training could have on teachers by evaluating the power of a specific dCPD and the teachers' responses. In considering the

development of the teachers' knowledge, beliefs, skills, and attitudes about promoting LA in relation to TLA, understanding the effect of teachers' professional learning is key. The following section therefore discusses professional learning, acknowledging secondarily the other two elements of the contextual practice and teachers' prior schooling. The connection between the LTC and TLA in understanding language teachers' cognition emphasised in this study through the central involvement of teachers in professional coursework, namely the dCPD.

3.3.2 The importance of continuous professional development (CPD)

To situate teachers' professional learning in the LTC framework and create a training programme for in-service teachers to learn about promoting LA, it is necessary to look at the elements and components of effective CPD. This focus may be useful in designing an efficient CPD to influence a teacher's knowledge and skills for promoting LA. Looking at elements that comprise effective CPDs supports the understanding of teacher learning by offering autonomy. Teachers' CPD is a continuous planned process, whereby teachers develop personal and professional qualities to improve their knowledge, skills, and practices, which leads to the empowerment and development of students and the organisation. Continuous growth supports how teachers understand themselves and their practices. (Padwad & Dixit, 2011; Richards & Farrell, 2005).

Generally, CPD should include essential elements: (1) providing knowledge and skills relevant to teachers' and students' needs; (2) maintaining collaboration to provide teachers with opportunities for discussion and exploration to generate new understanding within a range of strategies that have the potential for implementation; (3) ensuring critical engagement with the knowledge received with experimentation and reflection to explore the subject with attention to both practices and beliefs, offering appropriate feedback that allows teachers to reflect on practices; and (4) providing the opportunity for implementation in classrooms and sustained reflection (Lydon & King, 2009; Borg, 2015). These elements should be part of an effective CPD as they are achieved in the dCPD of this research.

3.3.2.1 Models and categories of CPDs

Many models, categories, and types of CPDs have been found in the literature. Understanding these varieties and their purposes could lead to improved and create innovative designs that serve teachers' learning. Kennedy (2005) identifies nine key models that a CPD can take. The first model is the *training model,* which improves teachers' skills and knowledge delivered to teachers by experts where teachers take a passive role. The second model is the *award-bearing model,* which prioritises the completion of the curriculum of programmes that lead to the attainment of awards by bodies responsible for validation and/or funding. Thirdly, the *deficit*

model serves as a remedy for each teacher's perceived weakness. Fourthly, in *the cascade model, one* teacher attends training and then distributes information to colleagues. The fifth model is the *standard-based model,* which aims to establish a teaching system and teacher training that produces and confirms the links between teachers' effective proficiency and student achievement. The sixth one is the *coaching-monitoring model, which offers* one-to-one teachers as peer coaching between a novice and an expert. The seventh model is the *community of practice model,* which involves more than two people together who have a mutual engagement with the value of knowledge through shared practices. The eighth is the *action research model,* which requires teachers to be reflective researchers with a view of improving the quality of action. The final model is the *transformative model,* which is not clearly defined as a model, instead includes the range of different conditions required for transformative practice and integrating principles from the eight models.

These nine models were grouped into three groups of purposes for teachers' development: the transmission aim; the transitional aim; and the transformative aim. According to Kennedy (2005), these nine models move top-down to offer transformative practice and the capacity for teachers' professional autonomy and agency. The theory, research, policy, and practice in CPD and education have shown increased interest in approaches to CPD recently that have the potential for transformative change in teaching and learning (Borg, 2015). The transformational approach could support teachers' autonomy and teachers' critical ability to reflect on their practice, self-esteem, and creativity (Kiddle & Prince, 2019).

With the integration of the previous models, teachers' CPD may exist in the form of two categories as individual or collaborative activities (Day, 2002). The first category is formal CPD, which is institutionalised, structured, and formally assessed, leading to certificates and diplomas that allow learners to enter the workforce. This approach aims to lead to positive change in teaching and learning, teacher development, and improvements in learning (Patricia, 2021; Kiddle & Prince, 2019). The second category is informal CPD, which includes educational training for self-education and learning, for which no qualification is awarded. This programme can consist of a range of courses and learning contexts and tends to be voluntary, short-term, flexible, and less structured than formal learning. This category of CPD may also be validated by a certificate of attendance (Patricia, 2021).

According to Richards and Farrell (2005) and Bachtiar (2020), the informal approach may situate in teachers' daily practice by using their self-directed efforts. These efforts may adopt the bottom-up approach, in which teachers collaborate with others (Kennedy, 2011). Meanwhile, the formal top-down approach could result in teachers feeling stressed with no tangible investment, leading to lower commitment and involvement in the CPD. Additionally, losing

interest in committing to CPD is often associated with other factors, such as the lack of relevance, ignoring or conflicting teachers' needs, neglecting the understanding of what would motivate teachers to engage in training, and neglecting how to work with teachers to make changes (McElearney et al., 2019; Guskey, 2002).

The most effective CPD approach is one that involves teachers designing and implementing classroom activities by themselves, which goes hand-in-hand with teachers' need to develop their skills and knowledge collaboratively with others (Bachtiar, 2020). Since the informal approach is considered valuable, as argued by Kennedy (2011) and Patricia (2021), there is a need to (1) acknowledge both categories (formal and informal) and (2) make use of the affordances that informal CPDs enjoy. This way, both types complement one another.

3.3.2.2 Delivery modes of CPDs

The delivery of CPDs could be face-to-face, through the online/digital mode, or a blend of both (Brooks and Gibson, 2012). Face-to-face delivery is a conventional method used in short-term workshops, seminars, and lectures (Ranieri et al., 2017). On the other hand, digital delivery (dCPDs) could use the same face-to-face method with a group of people brought together online digitally by shared interests to deepen their understanding of a subject through regular interactions facilitated by digital mediation tools (Bostancioglu, 2018). Although the face-to-face mode has advantages, its application has limitations and is demanding of specific circumstances (Kennedy, 2005).

Although both modes offer benefits, the digital methods could provide more subordinating affordances, as it creates a venue of opportunities to make training easier and more effective to personalise the intervention than with the face-to-face model (Kiddle & Prince, 2019); these affordances are discussed in the following section. Researchers have mentioned that, with the significant growth of the changes in education with the emergence of technological software in recent decades, CPD delivery requires the adoption of this kind of innovation (Vivian, 2014). Understanding the adoption of dCPDs over the conventional face-to-face method is still a debate among educators (Binmohsen & Abrahams, 2020). Moreover, when looking at CPDs in the Saudi context, many are using the traditional formal top-down method led by external trainers. Therefore, there is a call for further educational reforms in Saudi Arabia to enhance EFL teaching and modify teacher training to include digital technologies (Alqahtani, 2019). This issue may be related to how some CPD programmes may fail to improve education in general and how teachers' development and beliefs could affect students' achievement, particularly when implemented on a large scale (Garet et al., 2008). Ali and Ammar (2005) in Section (3.3.1) found that many teachers did not improve after training, which was due to ineffective intervention.

3.3.2.3 Affordances for teacher learning when engaging in dCPDs

This section introduces the affordances that support the presentation of the dCPD in this study, focusing on those that facilitate engaging teachers in a learning process.

3.3.2.3.1 Engagement in independent and social activities

Using digital spaces in learning makes it possible to translate underpinning learning theories of cognitive constructivism and social constructivism (Olusegun, 2015), see Section (3.2.1 & 3.2.2). Consequently, this leads to the implementation of the two stances on teachers' learning, namely "knowledge of practice" and "knowledge in practice." These constructs aid in describing how knowledge is acquired and processed in digital contexts (Huang & Spector, 2019). Effective CPD should foster collaboration with communicative engagement through sharing, reflecting, and cooperating with instructors, and colleagues, even constructing knowledge with peers to communicate with their contexts (Dille and Rokenes, 2021). This concept is related to the socio-cognitive perspective of how knowledge is constructed through reflections on collaborative engagements with dialogue, enquiries, and experience sharing (Kelly, 2006). This variety of opportunities is used by several tools based on Laurillard (2012), see Section (3.4.1.1).

Consequently, digital space could create more cognitive and social-collaborative constructivist opportunities for learning and allow them to build and share knowledge because online collaborations are full of opportunities for social discussions, allowing teachers to become part of the social learning community, providing cognitive support via interactions around classroom implementation (Signer, 2008). Collaborative professional development integrated into everyday activities has proven promising. However, research on how this approach may be implemented in online learning is scarce. Moreover, there is a limited understanding of practical design principles regarding learning designs and online facilitation that would promote effective collaboration in dCPD (Teras, 2016).

Conducting and designing this dCPD in the Saudi context could establish potential benefits and understanding of the dCPD and support teachers' learning, which could provide teachers interactions with colleagues, providing them with the opportunity to share knowledge and exchange experiences and aligning with how TLA could be encouraged.

3.3.2.3.2 Learning in an autonomous, self-regulated manner

The dCPDs could support TLA by providing rich activities and tools with time and place flexibility to facilitate self-paced and autonomous self-regulated learning. The provision of activities with the dCPD is offered through numerous channels and tools and synchronous and asynchronous

interactions to foster reflection, discussion, and sharing practices, which effectively structure the course and learning pathway (Teras, 2016; Ranieri et al., 2017; Kiddle & Prince, 2019). Successful training projects are flexible in place and time, giving faculty freedom to complete learning activities at their own pace (Binmohsen & Abrahams, 2020; Rizzuto, 2016). This flexibility allows teachers to harmonise their professional learning with academic and personal responsibilities (Vu et al., 2014).

In the Saudi context, Binmohsen and Abrahams (2020) argue that Saudi Arabia is vast, and it is costly and time-consuming for participants to attend face-to-face CPDs. Moreover, providers and instructors lack high-quality CPD available for targeted teachers regardless of location and time. Additionally, dependence on the self-paced mode and flexible content may allow faculty members to organise their learning more effectively with reduced time conflicts and logistical constraints. Ranieri et al. (2017) offered a digital course for faculty development as a self-paced approach to professional learning, finding that users demonstrate a pattern of use in terms of the content and activities selected, confirming the importance of adopting an approach based on self-paced principles. Similarly, Cho and Rathbun (2013) created a series of teacher-centred online self-access CPDs. Participants reported that it was helpful for them to understand the experience that their students have when they are involved in digital learning and reported being positive about the digital delivery mode, hoping to adopt some of its features with their students. Thus, this type of learning environment could affect teachers' ability to be active participants by using knowledge directly in their teaching context. Zeichner and Liston (2013) state that CPD could be considered deep self-directed learning that fosters teachers’ skills and knowledge and enhances their understanding and thinking.

Furthermore, the dCPDs could support teachers' autonomous self-regulation to increase their motivation, persistence, willingness to learn, and self-reflection. As Vieira (2010) states, professional collaborative inquiry for teacher learning about autonomy enhances teachers' self-regulatory stance concerning their work. A digital learning environment provides learning experiences with tasks designed to promote the development of skills such as self-regulation. This environment allows teachers to engage in regulated learning that manifests their learning (Howard, 2021). Teras (2016) investigated learning experiences during a collaborative, authentic, and e-learning-based dCPD. The results suggest that participants overcame difficulties in learning and developed self-regulation skills such as persistence, willingness to learn self-reflection, and control of one’s motivation.

A comparative study was conducted by Binmohsen and Abrahams (2020) to evaluate the impact of face-to-face and dCPD, finding that dCPD could be effective for developing conceptual understanding as a high level of satisfaction was seen for dCPD amongst the teachers

compared to face-to-face instruction due to time, flexibility, location, and accessibility of materials. The participants stated that learning online was more accessible because they could study at their own pace, which meant that they could fit the programme into their professional and private commitments. Furthermore, Hulon (2020) advocates for delivering the CPDs online, and teachers appreciate the convenience of access in different locations. Alkhreshen and Asif (2022) found that a group of Saudi EFL teachers reported that attending online CPD was beneficial as it supported how this type of training mode could help in facilitating teachers' training and learning and enhancing their proficiency and capacity.

Therefore, designing an online learning environment that promotes autonomy and self-regulation, involves strategies recommended for the successful development and delivery of dCPD in higher education. Furthermore, because research on self-paced dCPDs is limited, there is an increased need for investigation of higher education based on recommendations that call for innovative designs, that could emphasise transformative learning through self-reflection among teachers (Binmohsen & Abrahams, 2020; Rizzuto, 2016).

3.3.2.3.3 Providing longitudinal and in-depth learning

Another affordance of the digital space is how it could provide in-depth learning opportunities over an extended period. The duration of face-to-face CPD could be limited to a few hours or days, whereas the online approach, due to its flexibility, may be longer-term (Binmohsen & Abrahams, 2020). Garet et al. (2001) argue that the duration of extending activities over time is important for two reasons, the first of which is that it allows in-depth discussion of content, students' conception, and pedagogical strategies. Additionally, teachers have the time to try new classroom practices and obtain feedback. According to Delfino and Persico (2007), dCPD participants have time to exchange opportunities to learn, providing access to text-based discussion and interaction, which provides in-depth knowledge of the content and critical thinking in asynchronous communication as it enables self-directed learning, problem-solving, and higher thinking skills (Binmohsen & Abrahams, 2020; Kiddle & Prince, 2019).

Similarly, Gliniene (1999) found that, when teachers engaged in LA training they needed time, as LA promotion is a long-term experience. Therefore, to witness development, teachers need the time and concentration offered in this type of training (dCPD). In Li (2023), teachers reported that they needed more space for reflection on their practices. According to McElearney et al. (2019), for CPDs to be effective, they should be sustained over time and include multiple opportunities for interaction and engagement; an effective model could be a focused training model followed by supplementary classroom practices, development, or coaching activities. This affordance should be considered, as dCPD should be designed with caution to maintain a balanced longitudinal period to avoid withdrawal issues.

3.3.2.3.4 Connecting teachers' beliefs to practice

Within LTC frameworks in Section (3.3), the extent to which teachers put their beliefs into practice tends to be affected by cognitive, affective, and experiential factors, something influenced by contextual factors such as students, curriculum, and teaching policy (Borg, 2015; Phipps, 2009; Li, 2017). These contextual factors affect the trajectory of what teachers think they do and what they do in reality (Borg, 2003). Contextual factors could be the cause of the teachers having unrelated connections between their practice and the articulated belief because they may be unaware and influenced by these factors beyond their control (Basturkmen, 2012; Jamalzadeh & Shahsavare, 2015; Speer, 2005).

Sometimes, teachers' beliefs and the actual practice become disconnected, indicating that the relationship between the two is not necessarily linear, but rather interactive (Borg, 2006; Xu, 2012). In existing research, there has been a gap between how teachers view their practice and said practice in reality. Barrot (2016) explored how experienced English as a second language (ESL) teachers' beliefs and practices are consistent with the ESL pedagogy of teaching. The data collected from five teachers revealed that the teachers showed that also some conflicting beliefs and practices regarding learner-centredness. As related to some factors such as the learners' needs and learning styles and the abstract nature of teaching pedagogy. Breen et al. (2001) concluded that contextual factors could affect teachers' positivity or negativity and have an impact on practice. The same was found in the findings related to the gap found of connecting the LA concept to its practice with the presented study found in Section (2.2.1), as there were calls for further investigation into this gap.

Accordingly, involvement in an effective CPD and reflective practice could help in bridging the gap between teachers' beliefs and practices. Accordingly, Farrell and Ives (2015) revealed that the teachers' theoretical beliefs were connected with their practices and that their reflection helped shape a strong relationship between beliefs and classroom practice. Within Alharqan (2023) study, he found that because of the teachers' involvement in reflective practices during the training, teachers were able to make a validation by putting theory into practice that they had not connected before. Moreover, in another empirical study, Razak et al. (2015) showed similar results regarding involving teachers in a digital CPD that bridge their knowledge and practices. Furthermore, how the previously mentioned studies in Section (2.3.2), such as Wang and Ma (2009), Raya and Viera (2015) and Trebbi (2008), concluded that teacher's involvement in training course for learning about LA promotion has helped them to put the theoretical understanding of LA into practice in their context.

For that, it is important to consider how classroom practises could shape teachers' cognition when it is subject to teachers' reflection (Borg, 2006). This affordance of connecting theory to is

present in Laurillard (2021) in Section (3.4.1.1); as some digital tools could be beneficial for providing teachers with modelling opportunities for the practises. It is worth noting that such constraints could be found when teachers learn during their course works they are undertaking. Such as what is related to relationships with colleagues, administration, and the community could help form teachers' beliefs concerning their teaching practice (Tschannen-moran & Hoy, 2007). Therefore, the following section describes constraints and issues that could affect the implementation of the dCPD that require further investigation and focus.

3.3.2.4 Factors affecting teachers' learning through CPD

As found in existing research, some difficulties are inevitable with any CPD mode, particularly digital ones.

3.3.2.4.1 Low attendance and drop-off

Generally, with any CPD design or type, there will be issues and less positive perceptions from teachers. Ismail et al. (2016) found that one teacher expressed dissatisfaction and described challenges in practical aspects of the offered dCPD. Galanouli et al. (2004) and McCarny (2004) found that the teachers felt negatively toward training in terms of content due to its poor quality, causing low attendance. Al-Mutlaq (2018) found that, in a Saudi context, many challenges affect teachers' participation, such as the irrelevance of program content to teaching, following the teacher-centred lecturing style, and low awareness of the accessibility of CPD. Afshar and Ghasemi (2020) found that, generally, the issue is a lack of effective and well-planned CPDs that meet teachers' needs. These issues might lead the teachers to leave training or show low engagement in the activities of their CPDs. Furthermore, Anderson (2004) explains that, with the physical absence of digital training, the difficulty lies in keeping teachers active in attendance and motivating them. Consequently, dCPD duration should be reconsidered to balance achieving its goals and teachers' workload to avoid withdrawal. Al-Mutlaq (2018) and Kennedy (2011) found that potential constraints include timetable issues, course timing, and teachers' time and workload. Xie et al. (2017) state that there are risks with long-term dCPD; teachers might be active at the beginning and drop out later, emphasising the importance of monitoring participants.

There is still debate on understanding the suitable length and time for digital CPDs and finding an optimal mode. Cho and Rathbun (2013) found that, with a provided self-accessed course, the pattern of teachers' speed and engagement differed; some were active, and others were not and needed extra external motivation and time. The course lasted for four to six hours a week for two weeks, causing teachers to drop off. Some teachers dropped out because they did not realise that their participation required active participation. Singh (2022) aimed to understand

the quality of using massive open online courses (MOOCs) for teachers' development and collected 101 teachers' views about the suitable duration of MOOCs that they could complete. 30.7% of the participants finished 11-16 weeks of courses, 27.7 % 5-10 weeks, and 41.6% 1-4 weeks. These findings support what has been observed worldwide that teachers prefer completing and engaging with short-duration MOOCs. According to Laurillard (2014), when designing MOOCs for teacher learning, five hours a week is an ideal commitment.

However, Kalinowski et al. (2019) argue that there is no relationship between the time that teachers spend in training and identifying how successful it is. Although longer training could help change teachers' general hard beliefs, Lydon and King (2009) found that teachers undertaking short, well-structured workshops can have long-term impacts; teachers reported positive results in increasing their knowledge and understanding. This finding is in line with those of Patricia et al. (2014), who states that the length of the CPD could be less important; what matters is what teachers do and achieve during that time, as the number of hours does not have a direct link to outcomes, which are related to focus of the content and active engagement in training.

Therefore, there are potential solutions to maintain active attendance and prevent dropouts. Xie et al. (2017) suggest that it is important to monitor participants throughout training to scaffold and support them. Cho and Rathbun (2013) recommend providing regular help and emailing teachers to check their status, constant monitoring, and offering time extensions when needed. Another solution is offering an introductory face-to-face session or meeting that could be helpful as pre-orientation, where the expected time is stated and declared earlier to prepare teachers to balance the programme goals and the impact of teachers' learning within training.

3.3.2.4.2 Technical issues

Many studies have identified issues with digital learning that could affect teachers' engagement in and towards digital training, such as teachers not being adequately familiar with the technology, leading to frustration. Binmohsen and Abrahams (2020) argue that teachers need to be digitally literate and be able to use technological tools. Zhou and Eslami (2023) and Su et al. (2023) found that teachers' technological literacy plays a role in dCPDs for accessing technological tools, which could affect teachers' self-directed education development and not affect students' learning and academic performance. As McElearney et al. (2019) found, teachers with 11-20 years of experience experienced issues due to their lack of technological skills. This issue needs to be considered when running digital training as regular support could be useful in solving technical issues (Xie et al., 2017; Cho & Rathbun, 2013).

3.3.2.4.3 Resisting collaboration and interaction

There is still a limited understanding of the practicality of learning designs and the online facilitation that would promote effective collaboration in conventional CPD and dCPD (Teras, 2016). Afshar and Ghasemi (2020) found that one of the challenges with EFL teachers' professional development is a lack of cooperation with colleagues due to a lack of teamwork spirit as they may fear exposing their weaknesses to others. Liu and Kleinsasser (2014) investigated 23 pre-service and in-service teachers in web-based asynchronous discussions for their development. Although teachers experienced the collaboration, several issues prevented them from joining the community. For instance, some did not perceive trust, did not feel good about exposing their identity and thoughts, and had limited confidence in offering professional ideas or comments as well as posting opinions online. Kennedy (2011) adds that these issues may be related to the lack of time for teachers to contact colleagues to work collaboratively outside of class. Moreover, the low level of collaboration and interaction is reported by Smith (2003a), as in teachers' educational programmes, teachers lack time to discuss teaching issues with others.

Musanti and Pence (2010) found that even with the long CPD based on collaboration approaches for three years to address English teaching, teachers were resistant. Asking teachers to work together and serve as a model of practice created anxiety and resistance, which could be related to teachers' identity. This identity could prevent teachers from focusing on their roles as a teacher and shift to being collaborative learners, where more personalised training programmes are required for further exploration. Jacobiene et al. (2007) explored teachers' learning and changes in a collaborative setting and found that there were changes in teachers' cognition, which did not translate into behaviour. However, with little empirical research in this area, it is still unclear how teachers learn in a collaborative setting, as the description of this setting and how it could lead to a change in beliefs and behaviours remain generally unexplored.

Also, McElearney et al. (2019) found that teachers expressed their preferences and capabilities regarding collaborative activities, though the approach was only applied by a minority. The participants reported that they had never tried online discussions, webinar software, or social media to support CPDs. Li (2023) found that, although teachers expressed positive views about collaboration and interaction to share knowledge, limited engagement in online discussions occurred as teachers did not answer informatively and skipped tasks, which could be related to the design of the questions; teachers highlighted a lack of interactive opportunities and time. In contrast, in Cho and Rathbun (2013), with digital space, teachers were able to raise their level of

social engagement because the asynchronous environment offered equal opportunities for everyone to participate to some degree.

It was suggested by McElearney et al. (2019) that creating a blended online approach with a community of practice may help to promote teachers' engagement, prevent isolation with a supportive environment, and sustain training over time with extended opportunities and cycles for teachers to reflect on classroom experience. Liu and Kleinsasser (2014) also suggest implanting real-time tools for interaction and instant messages to build trust and relationships and a blended approach to mediate natural social relationships, such as offering face-to-face meetings.

3.3.2.4.4 The teachers' prior schooling and experience

The LTC framework states that the teachers' early learning experience could affect and shape their beliefs and, hence, their cognition and practices. Erkmen (2010) states that teachers are affected by the memories of previous teachers and the method of instruction that could influence their practice from early schooling. This early experience could affect the framing of teachers' beliefs surrounding teaching and the practices followed in actual teaching. Teachers' accumulated experience, including exposure to previous educators' behavioural and teaching methodology, may affect their future teaching careers (Sanchez, 2013). As Pikos- Sallie (2018) and Barnawi & Ha (2014) found that teachers' experience of studying abroad is related to how they gain increased independent learning skills and confidence, improving their pedagogical awareness, practice, and agency.

Research has found that both teacher education and professional development could interfere with teachers' prior experiences because teachers usually bring this experience to challenge the concept they face during learning (Borg, 2011). However, teachers are less likely to adopt instructional strategies introduced during pre-service teacher education if they do not align with their experience as language learners (Almarza, 1996; Borg, 2003). Krulatz et al. (2024) explored teachers' development differs individually; one of their teacher participants showed considerable changes, whereas the other stable, which could be due to individual differences, background, education, and teaching experience.

It is important to consider teachers' prior experience and beliefs to allow them to use their new learning in training to inform improved practice. However, some beliefs are difficult to change. Richardson (2003) claims that changing knowledge or beliefs could be difficult because they may be idealistic, deeply stated, and traditional. This issue could be related to the complexity of the belief system concerning teachers' early teaching process. Basturkmen (2012) concludes that there is tension between teachers' beliefs and their practices, which is more common

among novice than experienced teachers. For Basturkmen (2012), experienced teachers can relate their stated beliefs and practices clearly as their principled knowledge becomes embedded with experience (Breen et al., 2001). On the other hand, novice teachers are often not able to connect beliefs and practices because their beliefs could still be in the process of formation, or they may have recently become aware of other concepts (Sinprajakpol, 2004).

In short, the dCPD in this study intends to be a less formal, digital, self-paced dCPD. This type is a self-access course that is transformational, less structured, less formal, easy, and flexible and could foster teachers' autonomy and interaction. The dCPD is an attempt to provide the closest optimal mode as possible for teacher education and professional development and meet the study's aim of developing teachers' knowledge, skills, and attitudes towards LA promotion. This approach should be built around elements of knowledge acquisition to present teachers with new information and raise awareness of LA.

Consequently, this study explores the affordances of digital CPD, specifically in terms of what makes it useful in its delivery and in avoiding issues associated with face-to-face delivery. Furthermore, the review of the affordances may aid in developing a critical understanding of the intended dCPD for teachers to learn about promoting LA, as digital affordances could aid teacher development by delivering innovative methods for CPDs in Saudi Arabia to promote LA and teacher learning. Butcher & Stoncel (2012) argue that presenting teachers with new methods of teaching and increasing their willingness to adopt new changes will improve not only their beliefs and practices, but also the educational system in general. Accordingly, there is a need to review available CPDs programs for improvement. This review of the affordances offers space for a critical examination of the quality. Consequently, since it is necessary to understand teachers' patterns of learning within available dCPDs and understand issues that could be addressed for teachers' learning, a holistic principled framework for digital design is discussed in the following section.

3.4 Principled framework for designing a digital CPD

After focusing on understanding the mode of effective face-to-face and digital delivery, with a focus on the digital method, this section explains the chosen underpinning framework for designing the dCPD for using the affordances and involvement in learning activities based on teacher learning theories, and the two stances of knowledge in and of practice. The section explores teachers' patterns of learning in the digital environment and issues that may arise. With the benefits and popularity of online social interaction and teachers' learning communities, it is necessary to select the most effective design to guarantee learning promotion and changes (Teras, 2016). Different digital learning frameworks and models may be

suitable for designing a digital environment. These models focus on different aspects to achieve different purposes, such as the teachers' community of inquiry model (Garrison, 2016), the 7Cs model (Conole, 2015), the teaching and assessing reflective learning model (Ryan & Ryan, 2013), the five stage-model (Salmon, 2013), and the pedagogical, technological and content knowledge framework (Mishra and Koehler, 2006). Therefore, the planned design should include a learning pathway with defined learning outcomes, ensuring that it provides ongoing support to participants and facilitates continuing communication for collaboration and reflective exercises. This approach requires theoretically driven frameworks to enhance the teacher learning experience (Howards, 2021).

Laurillard's conversational framework (LCF) was chosen as the theoretical framework to explore the process of learning in a digital environment by involving learners in individual and social learning types, supporting the autonomous approach to teacher learning supported by digital tools. That is beneficial for providing deep insights into the teachers' learning patterns concerning understanding LA promotion and experiencing autonomy as learners themselves.

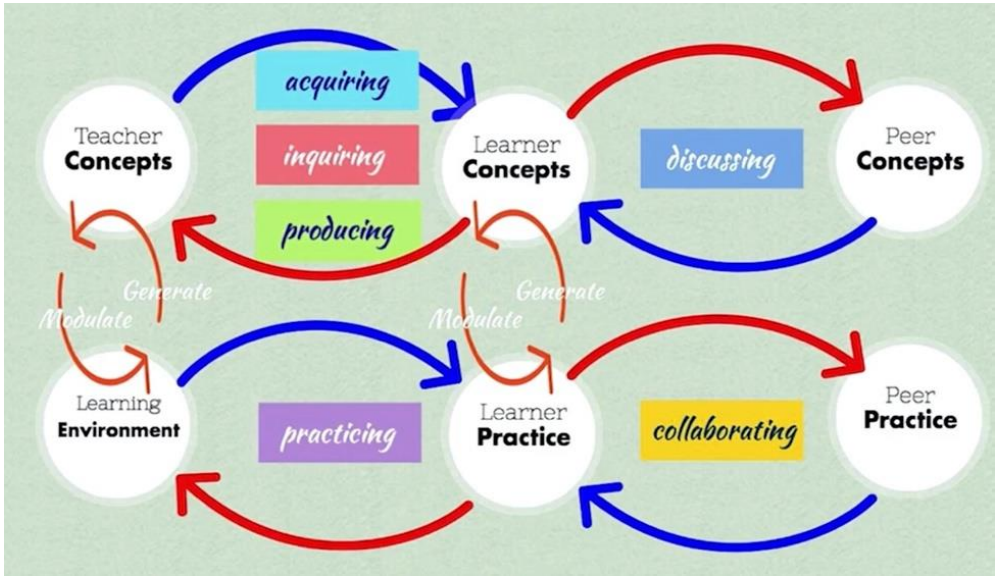
3.4.1 Laurillard's conversational framework

The LCF framework draws on the most relevant learning theories that explain learning in a digital environment. The model explicates the process of knowledge construction and emphasises the role of communication in learners' environment as critical in cognitive development (Laurillard, 2012). The LCF was developed based on a transformational process that focuses on understanding and mastery. It could be applicable to any academic learning, specifically in online or blended learning settings and across the full range of subject areas and topics (Laurillard, 2012, 2008). In fact, the technological environment enables the construction of knowledge by enabling learners to collaborate, and the use of technology could be considered interactive, communicative, and user-controlled (Laurillard, 2007). The framework aligns with the underpinned learning theory, which is relevant to the affordances of the dCPD as it helps in designing the learning and justifying the pedagogy followed in the dCPD. According to Neo et al. (2013), integrating technology in a learning framework emphasising active participation through conversation and experiential learning would provide insights into developing a dynamic, engaging learning environment. The framework also helps create a community of learners mediated by technologies.

The LCF defines the dialogical iterative process on two upper and lower levels within six components: teacher concepts; learners' concepts; peer concepts; the constructed learning environment; learners' practices; and peer practices (Laurillard, 2008, 2021). These two levels take several types of iterations of interaction with activities that explain how learners learn

(Laurillard, 2012). The following figure demonstrates the cycles and learning types (Laurillard, 2021).

Figure 2: Learning types within LCF



3.4.1.1 Learning types within LCF levels

An explanation of how learning occurs, and knowledge is constructed in the framework could be that learning is related to stages of the mental process as explained by Bloom's taxonomy of, remembering, understanding, applying, analysing, evaluating, and creating (Fastiggi, 2019; Li et al., 2022). The learning and activity types make learners engage in individual self-directed independent learning and social, collaborative activities that provide opportunities for interaction (Cho & Rathbun, 2013). This framework is used in designing the dCPD in this study. For clarity in the review of LCF learning types, it was linked to the tasks' designs explained in Chapter 4, also the word 'teacher' is replaced by 'instructor/trainer' in the dCPD, and 'learners' refer to the 'EFL teachers' as the learners in the dCPD. The following is an investigation of the learning process for each type of activity in the framework's levels.

In the first upper level, the interaction occurs as a discussion linking instructors' and learners' concepts (Laurillard, 2011; 2008). There is a continuous iteration as learners gradually develop ideas and combine them with other concepts (Laurillard, 2021). Three types of learning may represent the cyclic interaction:

- Learning via acquisition is when the instructor communicates concepts and ideas that change learners' conceptualisations. Within this learning type, learners should engage cognitively and show how they achieved their goals. They should learn by remembering the information and concepts after spending learning time listening or reading (Laurillard, 2021). Despite Dewey's (1938) support for active, experiential learning, learners should still spend

learning time listening and reading to contribute to narrative tasks for deconstructing the given discourse and constructing their own. The affordances of using technological tools with this type of learning exploit the usefulness of offering logistical convenience, improving the presentation of conceptual structures, providing activities with feedback, and maintaining the quality of resources (Laurillard, 2012);

- Learning via inquiry/investigation is when the instructor questions learners' concepts to generate ideas for further exploration. With this learning type, learners should engage cognitively by showing how they achieved objectives and learn to understand information and the question being answered. This iteration of questioning and developing ideas produces more conceptual activities because of the questions generated (Laurillard, 2021). It is important to train learners in inquiry-based learning to develop their knowledge. The affordances of using technological tools with this type of learning are the usefulness of access to resources for inquiries beyond the range of institutional libraries, challenging learners' concepts, and scaffolding the inquiry process (Laurillard, 2012);
- Learning via discussion is when the instructor motivates learners to articulate their concepts and ideas, define them, and reconsider them to challenge somebody else's ideas. With this learning type, learners should engage cognitively by showing how they achieved the goals and learn by remembering and understanding the information presented and evaluating alternative perspectives. This process helps learners further develop concepts by receiving feedback from peers and offering critiques, ideas, comments, and answers to one another (Laurillard, 2021). Vygotsky sees the role of communication in the learners' environment as critical to cognitive development, and the relationship between learning and development is built through discussion to develop a cognitive understanding. The affordances of using technological tools with this type of learning are the usefulness of offering discussion opportunities of asynchronous or synchronic modes across time and location constraints. The approach creates a natural limit to the length or frequency of each contribution and time to reflect on what has been introduced, to be involved in a debate. Finally, this approach allows a small group to share ideas to generate high-quality dialogue within structured interactions (Laurillard, 2012).

The second experiential lower level occurs when an instructor engages learners in thinking about concepts that will influence practice (Laurillard, 2012, 2008), which is the practice level for establishing a learning environment to put learners' ideas into practice for developing skills and model and share these practices through action and feedback (Laurillard, 2021):

- Learning via practice is about the use of a learning environment established by the instructor to provide modelled practices and foster exploration. Within this learning type, learners should learn when engaging cognitively by analysing a concept and applying knowledge as a

practice of understanding. Bandura (1997) argues that vicarious experience is the primary source of self-efficacy because it deals with presenting modelled practices for the participants to guide change in actions and concepts that generated them. This method is adaptive, and learners can keep improving learning without feedback from the instructor because they receive intrinsic feedback from the model in the programme (Laurillard, 2021). This learning type helps link theory to practice and experience as a powerful form of independent learning. The affordances of using technological tools with this type of learning are the usefulness of offering modelling for effective pedagogy, such as adaptive teaching modelling, gaining intrinsic feedback on students' actions, and modelling specific aspects in a real-world experience that provides intrinsic feedback (Laurillard, 2012).

- Learning via collaboration goes beyond learning with discussion and inquiry, in which learners negotiate what they do in practice, making it more engaging. Learners receive feedback from the practice environment and negotiate with peers. With this learning type, learners should engage cognitively by showing understanding and evaluating different perspectives to create joint outcomes (Laurillard, 2021). This process of knowledge building is achieved through participation and negotiation with learners, focusing on fostering mechanisms to enable collaboration or group work, creating collective knowledge, and sharing a combined understanding of the assigned topic. This learning highlights how the group constructs a shared outcome beyond learning through cooperation, engaging in peer modelling and learning from how others work. The affordance of using technological tools with this type of learning is the usefulness of offering communication support among learners for the construction of representation. The approach mediates and encourages social interactions, which constitute group learning and lead to individual learning, aiding in constructing and reconstructing knowledge and ideas by keeping records of activities and output to use as recourses (Laurillard, 2012).
- Learning via production is when learners reflect on what they are doing, communicating, and learning with the instructor. Learners should connect concepts and practice and produce work, performances, or presentations to show what they have learnt. Feedback should further enhance learning to assess how learners provide evidence of what has been learnt (Laurillard, 2021). The affordances of using technological tools with this type of learning are the usefulness in motivating learners to consolidate what they have learned by articulating an existing conceptual understanding and reflecting on how they use and link this understanding in practice (Laurillard, 2012).

3.4.2 Tracking teachers' learning engagement

The six learning types that have been included in dCPD designs and tasks are considered the basic individual and social activities of the dCPD. These learning types were translated through a variety of tasks and digital tools, which are explained in detail in Chapter 4. Since online learning is usually recognised with multifaceted dimensions (Lin & Tsai, 2012), to track teachers' engagement during learning with the six learning types, a scale of engagement in online learning of Fredricks et al. (2004) has been used. According to Fredricks et al. (2004), engagement among online learners can be classified as cognitive, behavioural, or emotional engagement.

Firstly, cognitive engagement comprises thinking and understanding the topic, as reflected by learners' strategic task investment and making a focused effort about the understanding of what is presented to them (Fredricks et al., 2004). Possible indicators of this type of engagement may be related to aspects such as levels of thinking and use of strategies in the learning activities. Second, behavioural engagement refers to participation or observable acts in different activities, such as attendance, participation, and task completion (Fredricks et al., 2004). Possible indicators of this type of engagement could be related to the number and types of posts shared and activity participation (Tang & Hew, 2022). The third component, namely emotional engagement, is related to affective reactions or feelings that learners have toward interactions with instructors, peers, and the learning environment. Emotional engagement could be expressed by showing interest, boredom, and frustration. Fredricks et al. (2004) state that learners' satisfaction could be associated with positive outcomes and achievements. Possible indicators of this type of engagement could be related to affective reactions or what could be elicited by self-reporting (Tang & Hew, 2022).

This engagement scale could be used to understand and track teachers' learning process and understand their attitudes towards different aspects of the dCPD. The scale may be used to obtain an understanding of teachers' engagement in an online setting because the occurrence of cognitive learning in this context should be validated through behavioural performance; showing active participation could be a strong indicator of the cognitive process (Lin & Tsai, 2012). This typology of engagements could help in between linking the process of engagement and the online learners' outcomes and achievements (Fredricks et al., 2004). This typology of engagement is grounded in literature for exploring how different types of engagement are interrelated and has been widely utilised across disciplines for engagement exploration (Tang & Hew, 2022). Employing this typology in this study to track and understand teachers' learning in a dCPD could help understand teachers' engagement with their learning process in online and digital CPD.

In short, the choice of framework is because the LCF is a suitable digital theoretical framework for teaching and learning in dCPDs. Furthermore, technological trends have added to the LCF's significance through affordances that have proven to be informative. As such, a grounded framework should be considered when designing and implementing a digital programme for teachers to be successful beyond the relevance of the LCF to teacher learning and support of digital training affordances. The use of this framework could support this study's attempts to attain the following contributions;

Firstly, since the goal of the intended dCPD is to offer teachers first-hand experience in LA practice and learning about the pedagogy for autonomy, this framework and its activity types could implicitly satisfy the required aspects of the learning approaches by offering teachers experiential autonomous learning of LA promotion. This approach supports the idea of TLA, which emphasises that teachers should exercise autonomy while learning. By involving teachers in the cyclic levels, it is possible to incorporate knowledge construction that considers independent and social learning types.

Secondly, the framework offers an opportunity to examine how the digital space could support the teacher-learning process beyond conventional affordances, addressing teachers' autonomous learning, collaboration, and interaction affordances. As such, research may explore interactions and collaboration between teachers who do not network; there is a need to understand what makes them effective in the LCF cycle underpinned by learning theory in the digital environment, as research is scarce in this area (Teras, 2016).

Thirdly, the LCF has been widely used in other disciplines, where it offers a significant pedagogical contribution to supporting teacher learning in the form of a dCPD design both broadly and in the Saudi context. So far, the LCF has been used as content for CPD for teachers to learn about applying it in their teaching (Laurillard & Kennedy, 2018). The study used the LCF to design teachers' tools to allow them to practice their teaching ideas by using the six learning types. Additionally, using this framework to support the design of student learning in other disciplines in evaluation or design is seen in Neo et al. (2013). This research investigated the interaction between teachers and learners in web-based tools. Oyekola (2023) used the LCF as a lens for undergraduate courses, Watson (2010) used it to develop a learning toolkit for learners, Douglas (2023) used it to evaluate the effect of breakout rooms in online learning, and Basitere et al. (2023) used it to develop the elements and components of blended learning. This study is unique in its use of the LCF as an underpinning framework for understanding the pattern of teacher learning in a digital space, and to understand teacher autonomy as learners themselves.

3.5 Conclusion

This chapter presented the conceptualisation of teacher learning by theorising cognitive and social constructivism and their relationship with "knowledge of practise" and "knowledge in practice." As follows, the chapter presents the LTC framework elements, focusing on learning as the main element that could affect and contribute to teacher learning about LA within the dCPD training. This chapter then presents the elements of creating effective CPDs, categories, models, and modes of delivery and discusses the affordances of and issues with the digital mode. The chosen underpinning framework, namely the LCF, is then discussed in terms of the design of an innovative dCPD. Fredricks et al.'s (2004) scale of engagement in online learning is discussed to present how it helps track and observe teachers' engagement in the dCPD. The chapter closes by mentioning the benefits of using this framework in designing the dCPD of this study.

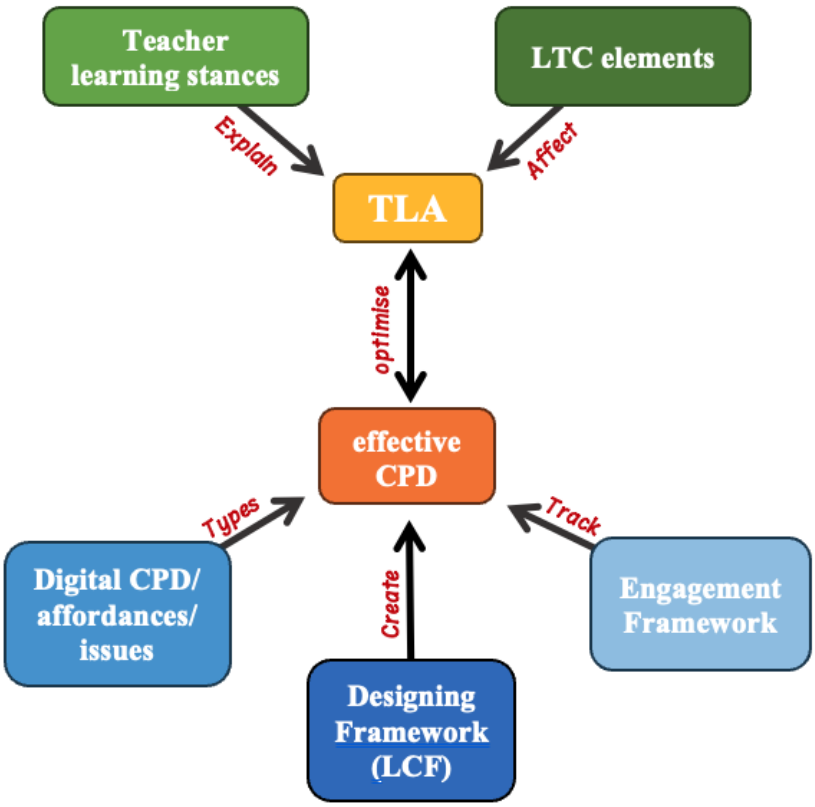
3.6 Connecting concepts: A unified and integrated framework

This study focused on how to encourage TLA to help teachers learn how to promote LA in their classrooms via a professional development course. Accordingly, there is a need to explore how teacher learning happens and what affects and supports teachers' learning. A bridging-up process took place throughout the study regarding the conceptual/theoretical frameworks involved. This process progressed as follows:

First, underpinning the two primary stances of teachers' learning, which are (1) knowledge of practice grounded by independent cognitive constructivism and (2) knowledge in practice grounded by social cognitive constructivism. *Second,* incorporating the LTC framework to support understanding of the elements that could shape the teachers' learning/cognition (i.e., the teachers' professional course, prior schooling/experience, contextual factors, and classroom practices). *Third,* understanding the criteria of the most effective CPD, including its delivery modes, and identifying the affordances/issues of digital delivery to create a dCPD initiative aimed at helping teachers learn about LA. *Fourth*, adopting the LCF framework to map both above-mentioned theoretical stances regarding teachers' learning by offering six learning types for balancing independent and collaborative learning in the digital setting. *Fifth*, adopting the engagement framework of Frederic et al. (2004) to track the teachers' engagement in this learning situation (i.e., via the cognitive, behavioural, and emotional aspects of digital learning engagement).

The following diagram synthesises the integrated conceptual/theoretical framework positionality and offers a unique overview of the theoretical and empirical contributions of this study:

Figure 3: The study unified framework



3.7 Summary of literature

The rationale of this study highlights the importance of promoting LA and the need to create initiatives that train teachers to promote L2 LA. Little (2007) argues that teachers must learn about LA if they hope to promote it. Therefore, this study aims to create an innovative initiative to address this call, as discussed in Chapter 1. Chapter 2 then presented an understanding of the conceptualisation of LA, TA, and TLA, which aids in understanding these concepts and how LA is the responsibility of teacher education, which should be encouraged and fostered. This approach may involve teachers in learning about the pedagogy for autonomy, which translates TLA to encourage teachers to learn about LA promotion by exercising their autonomy. Moreover, teacher education and training could help teachers in rethinking the constraints within their teaching and learning. This chapter ends by presenting the initiatives that encourage teachers to learn about LA promotion. Also, Chapters 1 and 2 addressed the following gaps:

1- In the literature, there is a need for innovative approaches to teachers' education to promote LA on a global scale. This study looks at the Saudi context in terms of training teachers for LA promotion, developing LA knowledge and beliefs, and promotion in teacher education.

2- Since existing studies have used a limited number of approaches, such as conventional face-to-face, action research cycles, the blended or online mode, the dCPDs in this study work on filling this gap to understand how teachers' education could help teachers to learn about LA and create innovative self-access training that aims to involve teachers in learning about LA and exercise their own autonomy as learners. This approach aids in translating the theoretical concept of TLA empirically to offer a practical understanding of TLA;
3- Previous studies on teachers' beliefs and knowledge about LA have found complex variations between positive views, negative views, and different categorisations of the LA concept, as well as how the theoretical understanding and practical application appeared to be absent in classroom implementation, a gap that needs further understanding of the reasons behind it. The dCPDs in this study attempt to address this gap and see how it could contribute to filling it to understand how teachers should relate LA theory and practice in classroom implementation; and
4- Furthermore, previous studies have found that many constraining contextual factors are also related to learners and acknowledging them could help teachers mitigate the constraints and create solutions. The dCPDs in this study attempt to address this issue.

Chapter 3 offered another perspective related to teachers' learning, focusing on language teacher cognition and the elements of creating effective CPD, its types/mode of delivery, and the affordances of and issues associated with the digital design. The chapter also presented the chosen underpinning framework for designing an innovative dCPD, the LCF, with the six learning types and their benefits for designing the dCPD of this study. Consequently, Chapter 3 addressed the following gaps:

1- Theorising teachers' learning and the two stances of teachers' knowledge construction in practice and of practice could offer a more comprehensive understanding of TLA and how to apply it empirically, which was discussed in Chapter 2;
2- Examining the language teacher cognition framework is beneficial in establishing a connected relationship with TLA. The framework element of teachers' professional coursework impacts teachers' learning for changing beliefs and knowledge, which should be explored further to gain an understanding of the impact of the dCPD on LA promotion, the effect of teacher learning, and on belief and practice alteration;
3- There is a need to examine the reality of CPDs in the Saudi context and to find more effective, innovative methods for CPD that follow the bottom-up approach;
4- Understanding the process of teacher learning within the dCPDs, what facilitates it, and its constraints offers an understanding of the affordances of, and issues caused by digital training for teachers;

5- The LCF is used as an underpinning framework for the dCPD design to understand the teachers' process of learning about LA, and the exercising of their autonomy in their learning; and
6- Fredricks et al.'s (2004) scale of engagement in online learning is used to track and understand teachers' learning in a dCPD and engagement with their learning process.

In terms of structure, I presented the content of the two chapters in a logical order, which helped guide the readers along the flow of topics systematically and enabled swift correlation with the findings and discussion chapters.

Chapter 4 Methodology

4.1 Introduction

Essential to developing learner autonomy for EFL students in Saudi Arabia is providing teachers with professional development programmes that promote LA, and an understanding of the teacher-learning process. The overarching aim of this study was to explore how engagement with a dCPD on pedagogy for autonomy. Additionally, this study aimed to track the impact of the dCPD on teachers' engagement by supporting conceptual and practical understandings of LA. Furthermore, the study explored the teachers' attitudes towards the learning process during training. This chapter discusses the study's methodological choices, study paradigm, research design, and context. The data collection stages, as well as the method and instruments are then described. The chapter also presents the data analysis stages and the ethical considerations of the study, which include ensuring the trustworthiness and identifying the researcher's roles.

4.2 Research paradigm

The philosophical assumptions and choices behind any research stem from its research paradigm and that paradigm's ontological and epistemological beliefs (Creswell, 2013). The study's research questions necessitated a research paradigm that could address the process of teachers learning about LA and engaging in learning by making sense of training via the dCPD. Therefore, the chosen paradigm is constructivist-interpretivist.

Ontology aims to understand the nature of reality, which it views as based on subjective perception; people develop their reality based on what they think, their experiences, and their interactions with one another (Creswell, 2013). The ontological belief behind this study relates to relativist ontology, which acknowledges multiple realities constructed socially (Cohen et al., 2018). In other words, in this study, the generated data on teachers' beliefs and knowledge about LA are based on multiple individuals' subjective views. Each teacher's perceived reality may vary according to their beliefs and knowledge about the concepts related to LA, their background and contexts, and the dCPD itself (e.g., how and what the teacher learns by participating their engagement processes, and their views about the dCPD). The rich, varied data align with the relativist ontology.

In comparison, epistemology aims to understand knowledge, including how knowledge relates to the nature of multiple realities, how knowledge is acquired and transmitted, and how others think (Cohen et al., 2018). Epistemology involves the interpretation of multiple ontological realities in terms of what researchers know, the relationship between researchers and the

research subject, and how researchers build relationships with participants by playing an insider role (Creswell, 2013). These methods aid in understanding and interpreting the nature of data because the perspective acknowledges the multiple realities and social construction of knowledge. The epistemological view shapes how a study is conducted. In this case, the participants worked in a natural setting, and I shared an interactive relationship with my participants given our co-working nature, my involvement in the training, and my participation as an insider.

The philosophical assumptions that guide this study informed the choice to use qualitative research. Since this study aimed to understand how teachers construct their beliefs and knowledge as an outcome of the dCPD, it would involve interpreting the reality of EFL in-service teachers' experiences, providing details of the teachers' learning experience within the dCPD, and understanding the teachers' engagement with their learning in the dCPD. This study aimed to offer a comprehensive understanding of teachers' thinking and knowledge and how teachers constructed both in the uptake of the dCPD. Ultimately, an interpretive research paradigm, namely the constructivist paradigm, was therefore chosen. The constructivist paradigm focuses on studying people's collective practices of constructing their shared world (Hammersley, 2013). To understand people's actions, it is necessary to understand how people make sense of their world and interact with others (Hammersley, 2013). The constructivist paradigm allows researchers to document the characteristics of a social phenomenon within textual and discourse data to gain an in-depth understanding of how a phenomenon is constructed (Creswell, 2013; Hammersley, 2013).

The methodology for the paradigms includes applying techniques within participants' natural settings to explore how participants adapt to deal with multiple realities. To capture realities holistically per its qualitative nature, this study opted to use case study design and instruments such as interviews, documentation of the dCPD tasks, and teachers' observational documented profiles. It approached the collected data inductively without hypothesis testing. The qualitative interpretivist constructed paradigm was appropriate for framing this research because it aligns with the theoretical perspective and supports the aim of the study: to understand teachers' beliefs and knowledge of LA in a conceptual and pedagogical sense while taking into consideration the impact of teachers' background variables, engagement, and views about the digital training environment. This paradigm also acknowledges my role in negotiating the meaning of participants' responses by analysing, interpreting, and reporting the findings. Namely, I strove to adopt a critical, reflexive role throughout the research phases.

4.3 Research design

The study's main goals were to identify outcomes in teachers' beliefs and knowledge after encouraging teachers to develop their conceptual and pedagogical understanding of LA promotion, while taking into consideration teachers' learning process and views of digital training. This study was conducted in a specific context with specific participants. Consequently, the case study approach was chosen. A case study is an empirical, in-depth enquiry into a contemporary phenomenon in a real-world context; it is the appropriate approach to follow when the boundaries of the phenomenon or contexts are overlapping, or when there are many variables related to interests that rely on multiple data sources (Yin, 2014). The case study has supported research on a wide variety of practices within specific professions, including teaching (Creswell, 2013); accordingly, it aligned adequately with this study's aim to understand and interpret educational phenomena in a specific context (i.e., seven EFL Saudi university teachers).

By collecting teachers' responses before and after engaging in digital professional development, the study explored teachers' engagement with the dCPD. The case study design allowed me to understand the participants' perspectives and gain insights into the dynamics of events and people (Cohen et al., 2018). This design was useful in understanding teachers' variables and investigating participants' views on training, the varied activity types, and participants' views towards being involved in an autonomous learning experience. Yin (2014) states that the case study approach helps in understanding multiple realities, which could mean collective multiple cases; relying on multiple data sources; and using data collection and analysis to guide a theoretical proposition. In addition, since this study examined and tracked individual participants using multiple data sources, the aim was to obtain rich data concerning teachers' learning outcomes, beliefs, knowledge, engagement, and views about the dCPD. The case study design allowed the study to focus on the seven teachers' cases in depth (Yin, 2014). Another reason for choosing a case study related to how the research questions were both exploratory and explanatory. Descriptive case study helps to answer the 'what,' 'how,' and 'why' questions and seeks to explain aspects of the phenomenon under investigation (Yin, 2014). Furthermore, the case study is suitable when participants' behaviour cannot be controlled or is not manageable by the researcher (Yin, 2014), as was the case in this study.

4.4 Research setting

To recruit suitable participants, the setting was UQU, in Makkah, Saudi Arabia, which has a new development strategy that reflects the Ministry of Education's goal of teaching and learning development that supports the SV2030 plan of development, see Section (1.2.3 & 1.2.4).

Targeted participants were in-service EFL teachers teaching either English language courses as general English/special purposes English or individual core skills modules of the language, such as listening and speaking or reading and writing. The study took place within the English departments and the English Language Centre (ELC) at UQU as different campuses were involved based on the distribution of teaching provisions. The English departments teach English core skills modules such as reading, writing, etc., for students to be prepared to progress to more advanced studies in the department related to theoretical linguistics, applied linguistics, British and American literature, which require English proficiency and autonomous skills (UQU, n.d.a). The ELC offers general English language courses or English for specific purposes for students who are majoring in other fields but require English for their professional development (UQU, n.d.b). There were two reasons for choosing participants from departments and the ELC from different campuses; the first is that most teachers also teach courses at English centres either alongside department modules or ELC courses alone. The second reason is that the programme aims to link teachers who do not know one another to create a digital community. Furthermore, these teachers do not have the same expertise, and this programme represents an opportunity to collaborate and share knowledge.

4.4.1 Sample and participants

Convenience sampling was used to select participants who had agreed to participate and volunteered to commit to all four phases of data collection. This approach allowed me to choose willing participants and provide a rich, holistic dataset (Dornyei, 2007) because it is a purposive way to find individuals who can provide rich insights into the phenomenon under investigation (Dornyei, 2007).

The research involved teachers of core English skills modules or English language courses at the ELC. Data collection began in December 2022 and ended in April 2023, and the following is an exploration of the process across the four campuses. This process was challenging due to lack of enthusiasm from potential participants; 57 teachers were contacted in the first round, and the responses were slow and insufficient. As such, an alteration was made to the training design to obtain approval from the volunteering participants, and 73 teachers were contacted in the second round. Ultimately,12 teachers participated in the study.

In addition to the 12 teachers, three heads of departments (HoDs) from three campuses were asked to participate in interviews. 12 teachers would guarantee at least six participants in total who may complete data collection due to the potential of withdrawal. After receiving approval from the 12 teachers and three HoDs, participants' information sheets and consent forms were sent, and the three HoDs' pre-interviews and interviews were conducted. After participants had

completed the first phase, teachers were enrolled in the training platform for the second phase. Only seven teachers were involved in the post-interview in the third phase because they were able to complete the entire programme. In the fourth phase, all 12 teachers were involved in an informal interview via WhatsApp. The main participants of this study were only seven teachers. Duff (2008) explains that four to six participants is the norm for case study research, as I was able to develop a close relationship with the teachers when tracking them, allowing for rich data. Furthermore, the HoDs were treated as secondary participants to enrich the discussion with contextual data related to teachers' responses. Additionally, the other five teachers who completed some phase of the training but then withdrew participation were included to understand the reasons for withdrawal. Appendix (A) shows several participants and their involvement in data collection for a clearer demonstration of participant distribution. The following is a table showing the basic demographic data of the seven main participants; a more in-depth profile of each teacher's background is provided in Section (5.2).

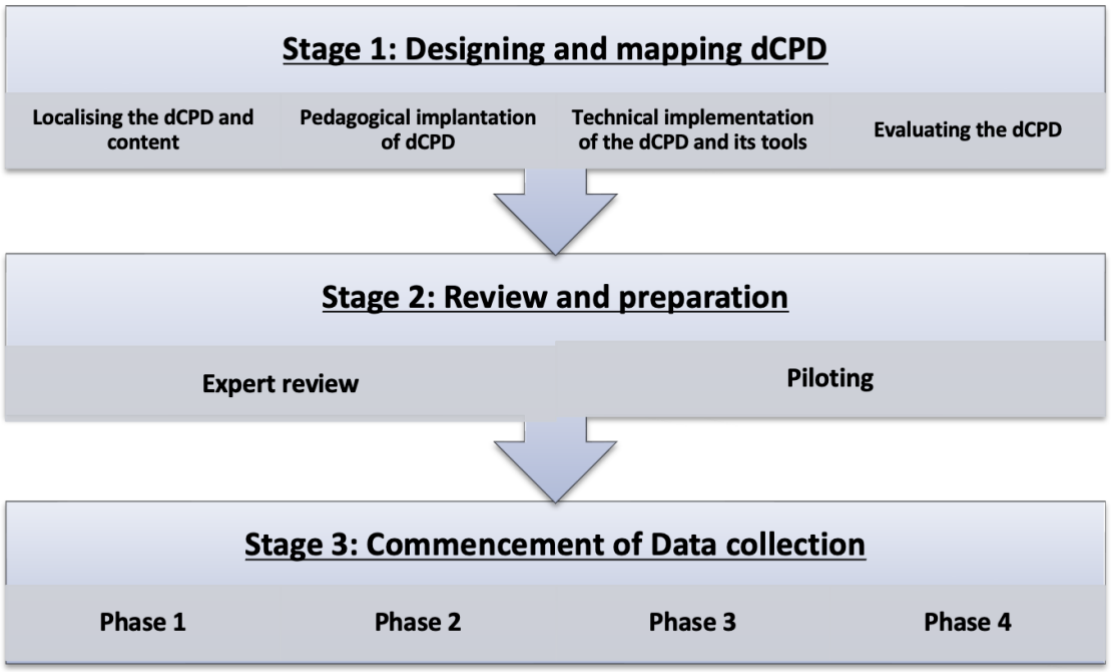
Table 1: Teachers' simple demographic data

No	**Teacher**	**Education**	**Experience**	**Teaching context**
1	Alice	BA English MA Literary Studies	20 years	English department and ELC
2	Maya	BA English MA and PhD EFL/TESOL/Linguistic Studies	13 years	English department and ELC
3	Lana	BA English MA EFL/TESOL/Linguistic Studies	Five years	English department and ELC
4	Ivy	BA English MA and PhD EFL/TESOL/Linguistic Studies	Two years	ELC only
5	Jane	BA in English MA and PhD EFL/TESOL/Linguistic Studies	One year	ELC only
6	Lora	BA English MA EFL/TESOL/Linguistic Studies	10 years	ELC only
7	Rose	BA in English MA EFL/TESOL/Linguistic Studies	Six years	ELC only

4.5 Data collection stages and process

This section discusses data collection, and its procedure based on the nature of the study and its design as a qualitative case study. Additionally, the section describes stages before data collection, such as dCPD designs, the expert review procedure, and piloting procedures. The following is a figure demonstrating each phase and stage of data collection, which are clarified with instruments and procedures to answer the research questions.

Figure 4: Data collection stages



Pre-data collection stage was conducted from October to December 2022, alongside designing the details of training, conducting expert review procedures, and piloting the instruments, all before carrying out the third stage, which are presented in detail as follows.

4.5.1 Designing and mapping the dCPD stage

In this stage, the dCPD was designed by following the ABC-LD mapping model based on the LCF. This model has stages that aid in determining how the intended dCPD is conceptualised, created, planned, and evaluated and how it will be implemented to collect data on teacher learning (Online ABC, n.d.). Adapting this model is expected to aid in creating innovative professional development. The model was created at University College London (UCL) and developed as a curriculum development workshop for teachers (Young & Perovic, 2020). The model was chosen because it provides a guided stage for design as it aids in manifesting the LCF (Laurillard, 2012). The model also allows monitoring and examining engagement, enabling deep, engaging, and enjoyable learning experiences for participants (Young & Perovic 2016),

which aided in collecting data about the process of teacher learning with its downloadable toolkit of resources and guides that consists of seven stages (Young & Perovic, 2020). To adopt this method in the dCPD, the order of the stages was modified and combined into four steps:

- **Step 1. Localising the dCPD and its content**

  This step is related to how the design is localised to a specific institution, teaching, discipline and context and explains how it is to be used, planning the specific content, and mapping learning outcomes (Young & Perovic, 2020). Information on the institution, participants, and contexts was mentioned in the previous section. The dCPD aimed to provide a professional learning environment that supports the development of conceptual and pedagogical competence to increase teachers' awareness of LA, make changes to their beliefs and knowledge, and equip them with the required skills to promote LA with their students. The learning outcomes were identified by reviewing the course content and key aspects of what is expected from participants to be able to do/know/create once they have completed the course (Online ABC, n.d.). Since this study focuses on TA, specifically TLA, the design of the dCPD was related to raising participants' awareness of LA, and how to promote it practically under principled pedagogy for autonomy that focuses on adopting materials from LA concept literature (Borg & Al-Busaidi, 2012; Holec, 1981; Little, 1991; 2007; Huang & Benson, 2013), see Section (2.2), and from the principled pedagogy for autonomy (Dam, 2011) in Section (2.3.1.1). The details of this framework and the justification for choosing the principled framework of LA and the pedagogy for autonomy were also mentioned. Furthermore, a table is provided in Appendix (J & K) to demonstrate the general plan of the dCPD and its constructs on the platform, showing the course outline and detailed learning objectives of what teachers need to understand in each week, topics, and weekly learning outcomes.

- **Step 2. Pedagogical implementations of the dCPD**

  To explain how participants apply the previous objectives and outcomes during each week, the pedagogy of the dCPD was underpinned by the cycle of activities based on the LCF, which has proven to be a remarkably robust, accessible route to teaching and learning through discussion and reflection (Laurillard, 2012). By exercising their autonomy through involvement in a variety of independent and social activities, participants were involved in learning experiences and generating a cyclic learning interaction of communication. These goals were achieved by creating a cyclic interaction that covers the six different types of learning. Using the ABC-LD model helps review these learning types as applying each during the training weeks aided in supporting teachers' conceptual and pedagogical understanding of LA concepts, their engagement, collaboration, practice, and reflection. The following

table provides an explanation of the pedagogical implementation of each learning type within a cyclic interaction between the teacher (training instructor) and learners (dCPD participants) as they were localised in every week of the dCPD (Laurillard, 2012, 2021). Appendix (K) shows how the LCF and learning types were utilised in each week's plan.

Table 2: Pedagogical implementation of LCF learning types

No.	**Activity**	**Pedagogical implementation**
1	*Acquisition*	Instructor fosters conceptual knowledge and influences learners by explaining the concept.
2	*Inquiry*	Instructor elicits questions and answers from learners and comments on their articulation.
3	*Discussion*	Learners receive support from the instructor to communicate a concept and facilitate dialogic behaviour between peers.
4	*Practice*	Instructor provides opportunities for practicing and modelling tasks and involves a mix of practice and communication, where learners see the results of their actions in terms of the presented model.
5	*Collaboration*	Instructor encourages learners to exchange their output from the practice through collaboration, to debate concepts and practice the skills together to share practical experience.
6	*Production*	Instructor supports learners to articulate concepts and reflect on practices by creating reflective production.

These pedagogical interactions and learning types were the basic activities underpinning the practicality of teacher learning and engagement during the dCPD weeks. Within these learning types, the process of knowledge building and learning was revealed, starting from the acquisition types and moving forward to the production of a modelled practice in the final learning outcome. This implementation is in line with the TLA concept of Smith (2003a) and Smith and Erdogan (2008) about the capacity of self-directed teacher learning, and the argument of Little (2000; 2007) of how it is unreasonable for teachers to foster autonomy in their learners if they do not know what it means to be an autonomous learner. For teachers to determine the initiative of the dCPD taken in classrooms, teachers must be able to explore their professional skills autonomously, applying their teaching reflective and self-managing processes to their learning process. This process was intended to involve the teacher in an autonomous learning experience and learn about LA promotion before expecting them to promote LA. This process also established a link to the LCF as the digital space gives the

teacher the experience of autonomous learning that they were involved in by themselves. LCF creates a setting and environment of autonomy, which manifests the impact of the digital space on the process of learning, considering it a context to develop their ideas together or individually using digital space. As generally, teachers were learning about promoting LA (pedagogy for autonomy) autonomously. Section (2.3.1 & 2.3.1.2 & 3.4) provides a more extended discussion.

- **Step 3. Technical implementation of the dCPD and its tools**

  This step is related to implementing technological tools that could translate technology's affordances and roles, such as teachers' involvement with technological tools that facilitate the learning experience and allow for the building of knowledge (Young & Perovic, 2020). The six types of activity and the interaction types could be applied using different digital tools. The choice of platform and technological tools was made by associating the digital example of activities with each learning type of LCF using a storyboard card and the tools wheel, which displays different examples of the available tools for teachers to use within the dCPD mapped to each learning type (Young & Perovic, 2020; Online ABC, n.d.). Appendix (L) shows an example of the storyboard card.

  To implement the dCPD in a platform to deliver the content and manifest the aims of the dCPD, tasks must be based on a self-paced mode using the learning management system (Canvas) with its different tools and tasks. This platform helped demonstrate and express the previous features of the pedagogy of LCF and autonomy and allowed me to create a self-paced course for participants to be involved in and support the principled pedagogy of this training. Canvas is a course-builder platform that is easy, user-friendly, and attractive; it follows the mode of the self-study approach because it allows participants to view the course at their own pace and take control of their learning process.

  The platform has helpful features, such as the structure of how content is displayed week-by-week, using various tools such as videos, texts, images, audio, PDF, and more. Likewise, the tool allowed me to collect data for supporting answering the research questions by providing a variety of tools, such as quizzes, group discussions, comments, and personal reflection, including posting a reflection about their learning practice at the end of each week. In addition, the platform provides a basic progression report and analytics of each learner. The weeks constructs in Appendix (K & L) display the technological tools used and their purposes. The following table also shows the employment of each learning type, and the technological tools used.

Table 3: Technological tools in dCPD

Learning type	**Technological tools**

Acquisition (individual)	- Watching videos - Watching PowerPoint presentations
Inquiry (individual)	- Answering quizzes - Answering questions in main group discussions
Discussion (Social)	- The platform's main discussion group - Assigned peer-review activity
Practice (individual)	- Analysing and posting in Padlet
Production (individual)	- Posting three reflections
Collaboration (social)	- WhatsApp collaboration and interaction to negotiate the modelled strategies posted in Padlet (external tool)

- **Step 4, Evaluating the dCPD**

  The evolution of dCPD implementation was achieved by collecting participants' self-expressed views, through my roles as a designer/instructor of the dCPD, and as a researcher in this study. The participants helped in evaluating the dCPD and were asked to complete simple survey questions to encourage them to evaluate the dCPD activities at the end. Participants were also asked direct questions during the post-interview about several aspects related to the training design and content. The goal was to highlight the importance of the learning design to build a practical, engaging educational experience to share ideas and resources to contribute to teachers' growth (Young & Perovic, 2020). This helped in developing an understanding towards each learning type.

  Furthermore, the researcher evaluation is related to how the design was reviewed initially by expert reviewers before implementation and to explore the impact of dCPDs by answering and discussing the research questions of this study. It should be mentioned that the initial structure of the dCPD was to provide three topics (modules) to be studied over three weeks, with two extra weeks to track teachers' practical application of the training input in their classroom practices. However, some unexpected challenges were faced during recruitment.

  Firstly, despite the extensive emails sent to the prospective participants, very few responded to take part in the project. Other teachers expressed their discomfort with the lengthy training period; some teachers showed a sense of willingness to participate if the training period was shortened and they were given time to complete it based on their schedule and availability. Consequently, a minor modification was made to the shape and style of the dCPD, and the separate conceptual and practical elements were combined entirely over a single week for each module/topic, to remove the extra two practical weeks

assigned as extra time for the teachers to apply the strategies in classrooms, and to replace synchronous activities with the asynchronous ones. By then, the exact content of the three topics (modules) was presented to take the shape of three weeks with compressed conceptual and practical elements. The activity became less restricted, with participants being able to complete the project over five weeks. As a result of this adaptation, I recruited the required participants.

Doing this amendment did not affect the success of conducting this dCPD, nor did it compromise any part of the study, because the focus on observing the applied practice in class was not one of the original objectives of this research. Moreover, this alteration turns out to be for the interest of the research to be considered a data set documented in the researcher's journal. This process contributed to my findings, discussion, and conclusions, which helped support discussing the optimal CPD design concerning time and duration. Hereafter, I realised that this method was interesting and allowed to consider these data points positively, and place these amendments as part of my reflexivity as a researcher. That's by deciding on an alternative design that served my research focus and allowed participants to take part in my project enthusiastically.

4.5.2 Reviewing and preparation stage

This stage involved conducting two reviewing procedures: (1) utilising the independent expert review procedure- that's sometimes called the peer-debriefing procedure, (2) conducting a piloting process. These two reviewing methods together help to ensure research trustworthiness and credibility (Cohen et al., 2018; Creswell, 2014; Dornyei, 2007), see Section 4.8).

First, conducting the expert review producer: Several EFL lecturers who work at various Saudi universities contributed to checking the interview guides and the overall plan of the dCPD. The expert review procedures were conducted by sending and receiving replies from eight experts in EFL for reviewing the three interviews; the experts agreed on the validity of the interviews and their questions and gave valuable feedback concerning changes in wording, fixing spelling and grammar mistakes, dividing/simplifying some of the questions, and determining when to ask less of the 'yes' or 'no' questions and replacing them with 'why' and 'how' questions to allow participants to speak more. I received advice to unify the three interviews' main questions to some extent to obtain teachers' views before (pre-interview) and after training (post-interview) to see changes in their views and understanding of the concepts, adding reflective questions related to their learning of the concepts and their learning in the dCPD. In addition, the overall plan and the format of the dCPD were checked by two colleagues to receive general feedback on the practicality of the design.

Second: conducting the piloting procedure: Next, a pilot study was conducted to identify any potential issues. After making changes that addressed the reviewers' feedback, I piloted the pre-interview with two PhD students of Applied Linguistics/ELT at the University of Southampton, who also works as lecturers at different Saudi universities. The main purpose of this pilot study was to test the feasibility of the interview and refine questions accordingly. The results of this pilot study informed the main study, supported my role in the study, and strengthened my confidence as a researcher, ultimately helping me to collect more reliable and valid data.

The pilot study led to the following achieved outcomes: I made additional changes to the interview guides' wording and formatting to ensure the suitability of the questions for the targeted participants. I exercised and developed several practical skills during the pilot study, which raised my confidence in conducting the interviews with my study's participants. As a result, I was able to progress through my questions more smoothly and with less hesitation. Also, I realised that, when participants struggled to answer a question, I should simply try asking the question differently, such as by relating the question to their teaching, or try asking a follow-up question based on their previous answer. As a result, in my study, rather than becoming confused or anxious when encountering participant confusion, I was able instead to stimulate more ideas and elicit more substantial responses. Moreover, I realised that participants could feel intimidated by the questions as if I might judge them for not giving a correct answer. During the study, I therefore was careful before beginning to thank my participants and reassure them that there were no correct or incorrect answers. I made it clear that there would be no judgment from my side, as I only hoped to learn their actual beliefs, knowledge, and background information.

Additionally, I realised that since all my participants, like me, would speak both Arabic and English, I should offer them a choice regarding the interview language. Allowing participants to choose what language they would prefer can help make them more comfortable and relaxed, leading to deeper insights (Cohen et al., 2018). Since I also planned to offer the participants the choice regarding the place of conduction, I tested the feasibility and effectiveness of face-to-face and online interviewing, trying out both public places like coffee shops and the Microsoft Teams software. That also allowed me to ensure my interviews would not exceed 45 minutes, which was important to preventing my actual participants from feeling overwhelmed, as they would be participating in several phases of data collection.

Throughout the main study, I kept all that I learned from the pilot study in mind, and I made all the above-mentioned adjustments before starting the data collection. Notably, I piloted only the pre-interview, as I considered that to be sufficient for identifying necessary refinements for the

other interviews due to their similarity in structure, content, and format. Furthermore, the dCPD did not go under a piloting process because the study aimed for the dCPD to undergo a live-run piloting. In other words, that is because one of the study objectives was to discover the impact and the practicality of the learning process of the dCPD itself during its application. As such, the study tested the live implementation of the dCPD by reviewing its structure, format, and content to ensure the successful running of the training. This review was conducted by two reviewers, who evaluated the dCPD by testing its practicality and trying some of the tasks intended to ensure its validity before its launch.

4.5.3 Instruments and phases of data collection

This study used different forms of data collection to build a deeper, more holistic picture of the phenomenon under study. These forms were utilised across different phases with varied instruments.

4.5.3.1 The First Phase

After designing the dCPD and ensuring that it was ready for implementation, the first phase of data collection was conducted as pre-implementation of the dCPD. The main data collection instruments were used in the first phase are as follows:

First: (pre-semi-structured interviews)

This instrument explored participants' experiences and views to gather rich and deep insights (Croker, 2009). This tool effectively collects information from participants to understand their views, feelings, and thoughts (Cohen et al., 2018). The instrument's designs are semi-structured because the purpose of the inquiry is to encourage open dialogue to engage participants with fixability and can formulate additional prompts according to participants' responses and participation in an exploratory manner (Corbetta, 2003; Dornyei, 2007).

This phase started at the end of December 2022 and lasted until the end of January 2023. The interviews were conducted with 12 teachers in this phase before implementing the dCPD. The background data of the participants, such as length of service, experience and pedagogic confidence, were collected. In addition, several questions were asked to obtain participants' experiences and views to identify their current beliefs about and knowledge of different aspects of LA and undertaking continued professional development. The interview guide was built by adapting and modifying tools from existing research (Manzano-Vazquez, 2021; Borg & Al-Busaidi, 2012; Halabi, 2018). The guide was peer-reviewed and piloted; the sample of the interview guide is presented in Appendix (C). To continue supporting participants' answers, semi-structured interviews were conducted with three HoDs from different campuses to

explore views on the contextual factors influencing LA promotion in their department as they are considered stakeholders who act on delivering policy to departments.

Consideration was given to interview location, as it could influence participants' interactions. I planned on finding a safe, controlled space for the face-to-face interviews. For this research, I needed to work in a structured timeline. I was still in the UK when the first phase started; during that time, some interviews were conducted via Microsoft Teams. When I arrived in Saudi Arabia, I informed the other participants that we could conduct the interviews either face-to-face or online. All participants chose to be online for several reasons, such as time or distance constraints. I agreed with their choice in order not to stress them and facilitate participation since what was needed was to provide an elaborate response. The online interview method is advantageous for presenting no challenges regarding time and place flexibility (Cohen et al., 2018).

Second: (Documentary data)

Several forms of documentary data were gathered to obtain additional information about teachers' engagement during the dCPD. This data type is defined as any form of data not collected through the interviews (Merriam, 2015). It helps to improve the credibility of the interpretation and findings and support the data triangulation (Cousin, 2009). The methods are as follows:

A- Teachers' observational profile

During this first phase, each teacher's profile was created to build an individual holistic case, documenting and observing their complete experience of reactions, engagement, and performance with activities and tools during data collection and within the training weeks. This observation tracks teachers' performance and behaviours during their learning as, generally, observation is the process of looking at and noting events, people, behaviours, and routines (Cohen et al., 2018). A sample of the teacher observational profiles is in Appendix (G).

B- Researcher's journal

In this phase, the researcher's journal was created as a Word document to reflect on and document the detailed data collection and fieldwork steps weekly. Dornyei (2007) explains that the journal allows researchers to write field notes, real-time comments, and memos, all of which could be perceived as potential data in qualitative research. This instrument requires considerable discipline, particularly when the research has numerous tasks associated with data collection and analysis. However, the journal is vital in remembering essential data when analysing and interpreting the findings, as well

as serving purposes such as supporting the procedure of carrying out the study instruments' conduction during the four phases of the data collection and using it as a self-reflection instrument. The journal was key in expressing my perspectives, thoughts, and feelings during the data collection period and aided in explaining my position in the dCPD and my specific role as an insider and outsider. Furthermore, the journal helped in documenting how each week of the dCPD and its session went and aided in recording elements of the participants' behaviours and engagement, which may be triangulated by going back and exploring whether they engaged with the content, helping in supporting the individual profile for observing each teacher's engagement. A sample of the researcher's journal is in Appendix (G).

4.5.3.2 The Second Phase

During the second phase, the designed dCPD was launched, from the end of January to early April 2023. The 12 teachers were enrolled in the platform with anonymous names. I visited the teachers during their office time and informed them that the visit was not formal or recorded, only explaining platform enrolment in detail. Some agreed that the enrolment should be face-to-face, and others asked to be online via Microsoft Team by sharing screen. On the platform, I immersed myself fully with learners, acting as an observer, facilitator, and instructor.

First: (Documentary data)

A- Tasks/activities within the dCPD

Participants were engaged with various tasks and tools during training, such as videos, quizzes, group discussions, Padlet, reflections, peer review, and final evaluation surveys. Additionally, WhatsApp groups were created for teachers to discuss and collaborate to avoid using any other application that requires restrictions due to participants' preference not to be restricted by time and date. These data were collected to elicit participants' explanations of events and behaviours through a written record as responses to specific stimuli (Dornyei, 2007). These tasks were data-driven and used to track teachers' engagement in the learning processes.

B- The teacher's observational profile and the researcher's journal

Each teacher's profile was created to build an individual holistic case during the phases of data collection. In this phase, the usage and building of these instruments were continued; the action recorded was related to how each participant engaged and completed the weeks, documenting their motivation and reactions. Some participants finished by the deadline at the end of March, and some needed extensions until early April. Eventually, seven participants were able to complete the training. The other five teachers who completed only the first phase or some of the tasks were given until the

end of April, but they withdrew eventually. Moreover, the researcher's journal documented the reward that each teacher received based on their achievement during training, providing vouchers and final appreciation certificates, a sample is in Appendix (M). This recognition was essential because the study required participants to be involved in three long phases of voluntary data collection. As such, I decided to thank them for their participation via a reward for their time and effort in participating in the study.

4.5.3.3 The Third Phase

After implementing the dCPD, the main data collection instruments were used in the third phase are as follows:

First: (post-semi-structured interview/stimulated recall part)

During this phase, the post-semi-structured interviews were conducted with the seven teachers who completed the entire training to reveal any changes or impacts regarding their beliefs and knowledge compared to the original ones that they held before the dCPD as an outcome of their conceptual and pedagogical understanding of LA. Furthermore, this process aided in exploring participants' views towards their autonomous experience within the dCPD, and their views about its tasks were provided within the platform survey, including stimulated recall questions. According to Dornyei (2007), the stimulated recall interview is an interview procedure that uses pictures, videos, or audio recordings to reveal the original situation, to obtain data from the long-term memory, and to retrieve participants' thoughts while performing a specific task or mental operation. Consequently, the stimulated recall part was conducted with the teachers after finishing with the questions of the post-semi-structured interview in one session, screen sharing was used to display teachers' posted practical reflections on the platform to ask them to elaborate more about them, and to understand the plans that they produced.

The stimulated recall questions prompted the teachers to consider why they had chosen the posted plan; to elaborate on how this plan would, in their opinion, support LA promotion; and to decide whether their choice was a result of new learning from the dCPD, or a result of validation or enhancement of their pedagogical understanding. Moreover, the stimulated recall questions prompted the teachers to explore why, in the platform survey, they had chosen individual versus social activities as their preferred types of activities for learning. Despite that, the questions did not directly ask what the teachers had been thinking when they posted their reflections, the strengths of these interviews lay in enhancing understanding of the teachers' decision-making behind their reflective posts and in giving richer and more detailed information about the teachers' reflective posts as well.

However, a challenging limitation did arise, which was the delay in conducting the stimulated recall interviews after the participants had completed the full dCPD weeks. According to Dornyei (2007), the follow-up recall should be conducted within two days of interval time after the tasks' performance to obtain accurate memory elicitation, and to avoid the risk of participants forgetting critical details. Gass (2001) stated that there are three main ways to conduct recall - consecutive, delayed, and nonrecent- with those latter two ways, not requiring the interviews to take place immediately after the event. However, the risk remains that participants may forget details and struggle with memory retrieval. In the case of the present study, conducting several immediate stimulated recall interview sessions was challenging. The teachers had low availability due to their work duties and teaching timetables. For that, I had to integrate the stimulated recall questions into the post-semi-structured interview session. To minimise the risk of delaying the stimulated recall interviews, before asking the recall questions I gave the teachers the needed time to review their reflective posts, using the lengthy details that they posted to help them prepare to answer the upcoming questions. Despite the limitation of the delayed conduct, the teachers did not express any difficulties with recalling details, and the necessary data were elicited from each teacher. Nonetheless, in future studies, researchers should take care of arranging an immediate follow-up event for recall when dealing with busy teachers, and to prepare better questions for understanding the teachers' cognitive mental processes and thinking.

Generally, the post-interview was built by adapting and modifying tools from existing studies (Manzano-Vazquez, 2021; Borg & Al-Busaidi, 2012; Halabi, 2018), the sample of the interview guide is included in Appendix (D). In terms of post-interview location, the participants all chose online meeting via Microsoft Team for the same reasons as the pre-interview; only one asked to be face-to-face.

Second: (Documentary data)

A- Learners' progression analytics

Learners' progression analytics were collected from the platform to help in recording and observing teachers' performance comprehensively. This feature was used to track learners' engagement, and several studies have proven its effectiveness for monitoring learners to analyse their engagement and help teachers when they are experiencing difficulties in the learning process (Naujokaitiene et al., 2020; Pantazatos et al., 2020; Lu et al., 2017). I performed that using this tool several times during training; whenever analytics showed me the absence of a teacher's performance, I contacted them to check on their progress. Generally, this information was triangulated with other collected data to conduct a comprehensive analysis to understand how dCPD tasks

support teacher learning. It contributes to the existing understanding of how the dCPD could encourage teachers to build and apply knowledge and track their observed behaviours.

B- Teacher's observational profile and the researcher's journal

In this phase, I continued finalising data collection phases and my observation of teachers' engagement in capturing the complete picture from the beginning to the end of data collection. The teachers' observational profiles, and the platform learners' analytics, all included some simple numerical numbers which were used to understand the analysis related to the teachers' cognitive/behavioural engagement in the findings chapters. The use of some simple numbers in a qualitative study is useful and does not lead the study design to be described as a mixed method. According to Maxwell (2010), using simple numerical data in qualitative research may make descriptive terms to be more precise, support conclusions, and act as a complemented role to the research process.

4.5.3.4 The Fourth Phase

During this phase, which was the period of the end of the third semester of the academic year, the following instruments were implemented:

Informal/delayed structured interviews (WhatsApp messages)

Informal interviews were conducted via WhatsApp messages during the third academic semester. According to Maeng et al. (2016), this kind of messaging is advantageous because it allows researchers to use a variety of media, such as images or voice notes, making it easier for participants to reveal information and save time, which is particularly important at the end of the study. Therefore, this tool aids in determining teachers' enactment for reporting on any practical implementation after training. The seven participants who completed the three phases of the data collection were asked to answer simple questions to be sent at any time that they preferred in any form, written or voice recorded. An example of this informal interview guide is in Appendix (E). Additionally, the remaining five teachers who withdrew at different times during the data collection were asked to answer a WhatsApp poll to understand why they could not continue with this study and the dCPD and the reasons behind the withdrawal. An example of this poll is in Appendix (E).

4.5.4 Summary of research questions and instruments

The following table presents the research questions developed for this study and the instruments employed to answer them, as well as which phase supported the answer of each research question. This pretension is for providing more details before starting the data analysis section.

Table 4: Summary of research questions and instruments

No.	Research questions	Instruments	Phase
RQ1	*To what extent does a targeted dCPD affect teachers' conceptual and pedagogical knowledge about learner autonomy?*	- Pre-interviews - Post-interviews/stimulated recall - Delayed interviews	- Phase 1 - Phase 2 - Phase 3 - Phase 4
RQ2	*To what extent did teachers engage with the dCPD and how, if at all, did it impact their learning?*	- Teachers' observational profiles - Platform tasks - Platforms analytics - Researcher's journal	- Phase 2 - Phase 3
RQ3	*What kinds of favourable aspects, challenges and recommended solutions did teachers report from learning through the dCPD?*	- Platform surveys - Post-interviews	- Phase 2 - Phase 3

4.6 Data analysis

This qualitative study gathered data from several sources from different teachers, a method that provided a rich picture of the teachers' thinking and engagement through authentic engagement and interaction with the individuals. The various datasets were used to answer the research questions, specifically data from interview transcripts and the informal WhatsApp interview. Additionally, different data were obtained from dCPD digital tools. The data analysis of the collected data from these instruments involved going through several steps of deductive and inductive analysis, which are described in this section.

4.6.1 Pre-analysis stage

This process involved arranging the raw data by transcribing the interview, which is the process of converting the audio recordings into textual documentation data (Creswell, 2015). For the

teachers' pre- and post-interviews, participants were asked about aspects related to their beliefs and knowledge about LA, their engagement while learning the dCPD, their views about the dCPD, as well as HoD interviews and informal interviews. These interviews resulted in a significant amount of recorded speech, for which I used the produced Microsoft Team transcription files for the online interview. This data represented a raw initial transcription that required several rounds of deep editing and re-listening to the audio, as well as using the speech-to-text function via Microsoft Ward for the face-to-face interview and for the informal interview's audio.

This process was followed by the final editing of the transcripts to ensure that all of them were wholly accurate. Additionally, since the main aim was to focus on the content and the meaning of the participants' speech, I worked on producing a clean transcript type. According to Elliott (2005), a clean transcript is a type of transcription that cares for the content of what is said to make written speech easy to read and understand by excluding pauses, turn-taking, and the prosodic features of speech. For that, I worked on deleting the repetitions of fillers such as 'umm,' 'aha,' 'like,' and 'you know,' and deleting repetitive errors and pauses. I also excluded some of the minor irrelevant digressions (Gillham, 2000), such as deleting when participants were correcting themselves, when they were asked to repeat the questions, and when there were connectivity issues. According to Taylor (2001) and Riessman (2008), in transcription, selecting the feature that the analyst has decided is relevant to what counts as data depends on the substantive interest, underpinning theoretical perspectives, and methodological orientation.

This process resulted in a massive number of transcription pages ready to be analysed. The interviews were conducted in English based on participants' preferences. However, there were times when they spoke a mix of Arabic and English. During the transcription, I transcribed the Arabic words/sentences in English and coloured them in red, writing the translation in italics right after the Arabic production. As these transcriptions were considered original copies, another copy was produced for the analysis, where the Arabic speech in red was deleted, and the italic-styled translation was kept. Other data sources, such as teachers' answers to the tasks, reflections, learner analytics within the dCPD, the teacher observational profile, and researcher's journal were categorised and arranged into files for each teacher and saved as PDFs to be ready for analysis.

This process of arranging and transcribing the data helped me to familiarise myself with and immerse myself in the large amount of data that was generated. I kept my notebook next to me to write memos, reflect, and relate events to my journal document that I produced during each week of the data collection of the fieldwork, even in informal and non-recorded chats with the

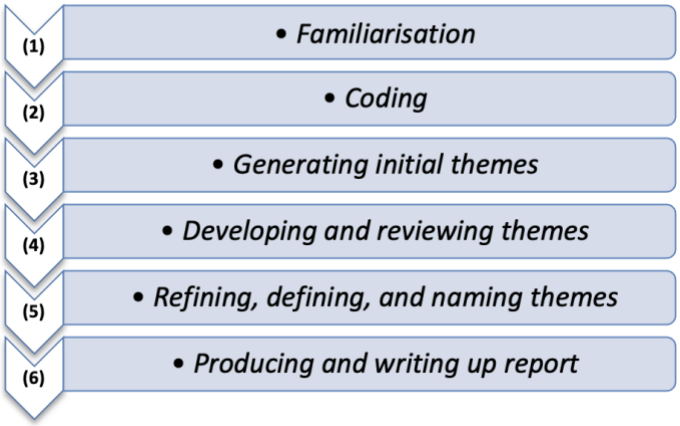
participants. Any notes or realizations that I had during the process of arranging the data aided in providing a thick description of the case study. For example, this helped in adding extra information to the teachers' observational profile, and summarise interviews to record initial impressions and reflections related to the research questions.

4.6.2 Determining analysis method

The second step of data analysis involved deciding how to analyse and code the data using the appropriate data analysis method to make sense of the data and relate the findings to the literature. In a case study, the choice of data analysis is flexible, and the researcher's interpretation plays an integral role in interpreting the data (Yin, 2014). As such, I chose the reflexive thematic analysis (Bran & Clark, 2022). The method is suitable for the interpretive paradigm and the qualitative case study approach, and for rigorously analysing the qualitative data using text and visual materials. Accordingly, the main objective behind using the thematic analysis was to help me generate themes from the data using flexible, critical reflexivity, which reflects the active engagement of the researcher with the data.

The process involved me reflecting deeply on the data and being reflexive during the analytical process as the researcher and their subjectivity is viewed as a central part of the interpretive process (Braun & Clark, 2022). Reflexivity involves a disciplined practice of critically integrating what we do, how and why we do it, and the impacts and influence of this integration on research. The researchers in this reflexive thematic analysis strive to understand and acknowledge their perspectives (Braun & Clark, 2022). Subsequently, my analysis followed these six phases based on Bran and Clark (2022): (1) familiarisation; (2) coding; (3) generating initial themes; (4) developing and reviewing themes; (5) refining, defining and naming themes; and (6) producing and writing up the report. The pre-stage of analysis helped me to achieve the first phase and become familiarised with the data, and the following stage involved discussing the rest of the thematic analysis phases. The following is a figure displaying these phases.

Figure 5: Reflexive thematic analysis phases



4.6.3 The coding processes

First level of data coding

This stage involved generating codes; after familiarising myself with the data, I had to generate codes and themes. According to Maxwell (2013), categorising data is a strategy used in qualitative research to code meaningful data segments and group them into categories and themes. Codes are defined as words that the researcher generates to capture the meaning of the data and facilitate interpretation (Bran & Clark, 2022). I engaged in this process to explore the diversity and patterning of the meaning from the dataset and develop and apply code labels to specific segments of each data item (Bran & Clark, 2022).

At first, I decided to create an initial label of codes to be applied to the data and then returned to my research questions, the theoretical/conceptual framework, and the literature to look for predetermined codes, which is the deductive coding method, or using pre-existing or prior codes that guide the coding process (Creswell & Poth, 2018). I began this process by looking for codes related to my study that were generated and by looking at the theoretical framework. This process was to create a simple codebook as a guide of tentative codes that helped me not to get lost in the data, look at previous studies to decipher their coding frameworks, and adopt the frameworks as a starting point to find more new codes and themes inductively. I found some related frameworks in some of the literature on similar subjects (Benson, 1977; Oxford, 2003; Basri, 2020; Howard, 2021; Ludwig & Tassinari, 2021; Alhujaili, 2020; Baz & Cephe, 2018; Intraboonsom et al., 2020; Lin & Reinders, 2019; Delgado, 2019; Vazquez, 2021; Cova, 2021). Also, I used with some adaptations for exploring teacher engagement and the learning process was that of Park and Yun (2017), who explored students' engagement during online learning based on three types of engagement, namely cognitive, behavioural, and emotional engagement. I found this deductive approach to be limiting, as some studies only provide examples of their coding frameworks, and many codes were not relevant. Creswell and Poth (2018) explain that this process serves to limit the analysis to the predefined codes rather than opening up the codes to reflect the views of the participants and to be opened to the additional code that emerges during the analysis.

Second level of data coding

Since qualitative research produces data that may be unexpected, analytical procedures may often evolve even while researchers are in the field (Creswell & Poth, 2018). I decided to combine the deductive coding method with the inductive coding method, which means some theme categorisation was not predetermined, instead being driven inductively (Dornyei, 2007), as my analysis can have both orientations as long as they fit my purpose (Bran & Clark, 2022). This process began by reading the scripts as hard copies and producing inductive codes.

Moreover, computer software was used to help facilitate the process of the analysis (Creswell & Poth, 2018), by uploading the transcripts and PDF files to the qualitative software tool MAXQDA. This software was used to support my inductive method and arrange the generated code to gain a comprehensive idea of the data and codes, and organise applying the codes to data and categorising the emerged themes. The two coding approaches could make a holistic hybrid coding framework adopted deductively from other studies, from the theoretical/conceptual framework, and through the generation of new codes. When the deductive and inductive coding framework were ready, I started applying the codes to the data consistently and systematically. Some further iterations of coding were done because recursive coding is central to this approach and involves deep reflection and being reflexive during the analytical process. This process involves the researcher being immersed in the data coding process to generate themes (Bran & Clark, 2022).

4.6.4 Generating themes

This part involved the three phases of generating initial themes, developing and reviewing themes, and refining, defining, and naming themes. I gathered the final versions of the codes to be synthesised into meaningful groups and sub-themes with shared patterns of meaning. Accordingly, after the deductive and inductive coding approaches had been implemented, I started to go back to the research questions and pull out the initial themes to answer each research question. I also decided to look at recurring themes in the data across the pre- and post-interviews and across all participants systematically to find themes and explore the comparison between the participants by going back to another set of data, such as teachers' profiles. The same was done when looking at the dCPD tasks and the informal interview. This method is the process of finding a pattern first and then trying to explain the pattern. According to Bran and Clark (2022), the process of generating new themes involves the process of refining, separating, joining and discarding, which are part of developing themes. Finally, the codebook of codes and themes generated was created, the sample is in Appendixes (H).

In short, it is worth noting that the iterative process of thematic generation, which was both inductive and deductive in nature, helped strengthen the validity of the study by ensuring that themes were both data and concept-driven. The refinement that took place during the regular compression of the data and the initially identified themes also further strengthened the validity, which enhanced the credibility and trustworthiness of the findings. The following examples demonstrate how some of the initial themes became more refined throughout this process:

Table 5: Some examples of the refined themes

Initial themes	Refined themes
Teachers' perceptions about LA (Before and after) training	The dCPD' s impact on Teachers' understanding of LA
Teachers' perceptions about the practical principles of LA and strategies (Before and after) training	The dCPD' s impacts on Teachers' understanding of the LA pedagogical principles
Perceptions about LA constrains	The acknowledged constraints hindering LA's promotion
Teacher engagement in the dCPD learning process	The teachers' variability in engagement levels
The teacher view about the different activities of the dCPD	Teachers' attitudes towards individual and social learning types
The teacher view about the different aspects of the dCPD	Teachers' attitudes towards the dCPD' s design and content

Since coding and thematic generation was chosen as an analytical process, it is worth presenting an overview of the analytical procedure regarding generation and development of codes and themes from the multiple data sources. For instance, the pre, post and informal interview data were analysed to compare the pre- and post-interview responses regarding the teachers' conceptual and pedagogical understanding of LA to identify the main impacts of the dCPD, which I ultimately divided into three categories labelled (1) validation, (2) new learning, and (3) enhancement. I also used the interviews data to explore the teachers' background variables, to understand the main constraints in the context, and to evaluate the teachers' emotional engagement. In addition to the interviews, the study employed several documentary tools: platform tasks, platform survey, platform learner analytics, teachers' observational profiles, and a researcher's journal. The resulting data were mainly analysed as follows:

The platform task data, specifically the reflective posts task, were triangulated with the data of the stimulated recall part within the post-interview regarding support understanding of the dCPD impacts. Furthermore, both the platform tasks and platform learner analytics data were analysed to explore the level and quality of engagement. The adequacy of teachers' performance (in terms of achieving both the behavioural and cognitive engagement requirements) was tracked and recorded to give a holistic picture regarding the overall quality and level of teachers' engagement in each learning type. As for each learning type -within its

corresponding tasks- teachers had to show behavioural and cognitive engagement according to certain indicators/requirements of achievement that should be done by teachers; the intensity of these indicators' performance formed the quality measurement of the teachers' participation. That measurement, in turn, allowed for giving a qualitative label (judgment) of teachers' level of engagement as high, moderate, or low. A label of 'high' reflects a complete and adequate performance, 'moderate' reflects a modest or fair achievement, and 'low' refers to a poor or lacking performance, see (Table 12). Exploring each teacher's level of engagement per learning type helped to reveal each teacher's pattern of engagement, and to reveal what learning type that showed the domination in engagement. More extended details on the behavioural/cogitative requirements and the levels of engagement are in the findings Section (6.2), and (Table 13) shows demonstrated details regarding the engagement data interpretation and measurements. Also, within the platforms, a final survey was used and provided the expressed preference regarding the learning types from each teacher, which was triangulated with the data of the stimulated recall part within the post-interview for exploring and evaluating the emotional engagement.

Furthermore, the researcher's journal was mainly used as a reflective tool for recording the data collection process. From the start to the end of the data collection phases, the journal noted all the phases and procedures and any issues that arose, see Section (4.5). It also helped in balancing the researcher's positionality regarding insider and outsider roles, which helped ensure the study's trustworthiness, see Sections (4.8 & 4.9). In the second phase of the data collection, the researcher's journal also offered an opportunity to collect useful qualitative data that helped in analysing and tracking the teachers' behavioural/cognitive engagement. Namely, the journal allowed the researcher to record details that the main platforms did not record, such as from the external task performance (e.g., on WhatsApp and Padlet tasks) to be linked to the behavioural and cognitive engagement requirements of the learning types by collaboration and practices, see Sections (6.2.2 & 6.2.3). Also, for collecting the observable dynamic aspects among the teachers. These details supplemented the teachers' observational profiles tool as well.

Additionally, the teachers' observational profile data provided a recorded holistic data set of each teacher's engagement. This data set was triangulated with the platform tasks data regarding the teachers' behavioural and cognitive engagement, with the learner analytics data, and with the researcher's journal data. This collective data set helped to explain the teachers' regular activity throughout the dCPD weeks. It also covered teachers' enrolment, tasks completion, status, progress, absences, drop-offs, and several other dynamic aspects that shed light on the teachers' patterns of engagement.

4.6.5 Producing and writing up report

This phase was the final phase of the analysis and involved presenting interpreted data to draw conclusions about the themes. Data should be represented and visualised to reach the accounted findings (Dornyei, 2007). The themes and sub-themes are presented in the findings (Chapter 5 & Chapter 6) before being elaborated in relation to my research questions in the discussion (Chapter 7).

Since this study is qualitative research based on multiple case studies, the narrative structure was generally based on combining a case-by-case analysis with a thematic analysis. The analysis first took the pattern of cross-sectional pattern for each case and phase separately. Later, each case was analysed in comparison with others on emerging themes. According to Yin (2014), the cross-case synthesis is a robust strategy compared to focusing only on presenting one case at a time. As such, the aim of following these two levels was to conduct case analysis across all seven cases to offer detailed comparison and contrast between the cases, look for shared themes, shared patterns of responses, agreement and disagreement, compare individuals, and summarise the data (Cohen et al., 2018). This process aimed to avoid the risk of losing what thematic analysis might bring in terms of enriching the data rather than focusing only on presenting each case in isolation. The narrative was structured according to the themes that emerged among the cases of this study.

4.7 Ethical considerations

Ethical considerations were in place before the study commenced. Firstly, ethical approval from the University of Southampton (ERGO) was optioned; after that, piloting and expert review of the interviews took place. Furthermore, the Saudi Cultural Bureau's permission to travel to Saudi Arabia and conduct the study was obtained. In the same line, permission was also obtained from the study site, UQU, to conduct the study in their departments and recruit the voluntary participants. Following these approvals, the information sheets and consent forms were sent to the participants who agreed to be part of this study as the data collection journey started in December 2022. The participants' identities were protected with a pseudonym because only I, as the researcher of this study, was able to identify the participants during data collection, which is the key principle of data management to ensure anonymity (Creswell & Poth, 2018).

Furthermore, this is related to maintaining the confidentiality of the data by not sharing the participants' personal details. I also worked on storing the data in secure and protected storage without allowing any access except for me and my supervisors. Furthermore, additional permissions were optioned from participants, such as when recording their audio and placing them in WhatsApp groups. Participants were informed of the process of hiding their identities

and maintaining secure storage, as well as their right to withdraw from their participation at any time.

4.8 Research trustworthiness

It is necessary to ensure a study's trustworthiness in terms of its reliability and validity. According to Yin (2014) and Dornyei (2007), the trustworthiness of a study may be determined by assuring its validity, reliability, and generalisability, which means making the following considerations: Firstly, in terms of validity, this study followed a triangulation method of data collection and data analysis, using several instruments to draw on different sources of information, facilitating an in-depth comprehension of participants' perceptions and behaviours (Burns, 2009). This method strengthens the research validity and reduces bias because using multiple sources of data collection aids in justifying the data (Dornyei, 2007). Secondly, the study instruments were checked through an expert review procedure which validates the instruments and aids in correcting errors, adding further information, or determining adequacy (Cohen et al., 2018). That was followed by piloting the interviews, which were carried out before starting the first phase of data collection. According to Dornyei (2007), piloting is crucial in avoiding issues that may arise during data collection and ensuring an acceptable level of validity.

To help reduce subjectivity and increase the reliability of the coding process, I utilised the process of the independent expert/reviewer to act as a second coder regarding checking the generated codes and themes. Accordingly, this second coder, who is an expert in the field of EFL, read through some anonymised data and my initial coding and themes. Rather than independently coding the data, the second coder acted upon the following roles and provided feedback by: (1) reviewing the initial codes and themes, (2) refining the language and ensuring the consistency of the coding, (3) ensuring the themes addressed the study's research questions, (4) ensuring the captured meaning of the data, and (5) generating new codes or themes if any arose.

No formal measurement was applied to the second coder assessment; instead, the feedback generated an informal iterative discussion on how to make improvements. Accordingly, in terms of agreement between me and my second coder, we mainly focused on judging the suitability and reliability of the codes and themes for answering the research questions. We emphasised the alignment of the codes and themes with the study's aims as well. There was therefore no need to produce additional codes and themes.

Our areas of disagreement concerned how to refine the phrasing of the codes and themes to ensure appropriate interpretation. Some examples of the second coder recommendations are

as follows: (1) Suggesting labelling the different views of LA deductively, where then I decided that Benson's (1977) and Oxford's (2003) categorisation (e.g., technical autonomy and political autonomy, etc.) to be the suitable categorisation choice for the LA views labelling. (2) Changing the impact labels to be clearer, as the chosen ones did not reflect the exact interpretation of the dCPD impacts on teachers' learning outcomes, (e.g., suggesting changing 'realisation' to 'validation' and 'influence' to 'new learning'). (3) Removing some irrelevant codes such as (appreciating instructor), as they did not add noteworthy meaning to the data concerning the participants' views of the training designs. (4) Changing the code (correct requirements) to something that would better indicate the correct cognitive performance based on the LCF and Bloom's taxonomy (e.g., using terms like 'evaluating, understanding, analysing, and applying').

In our iterative informal discussion, we considered all these recommendations while referring to the original dataset to ensure that the modifications would not affect the integrity of the data. Ultimately, I addressed all these changes by revising the coding framework once more. Generally, this process helped in enhancing the clarity of codes and the defined themes, reducing any ambiguity regarding the data interpretation. Another step for ensuring trustworthiness occurred when I participated in the conference to present part of my findings in the form of a poster in April 2024. The received feedback was insightful and valuable to this version of the thesis.

Yin (2014) explains that reliability is the study's ability to be replicated by other researchers using the same methods to obtain the same findings. However, reliability cannot be established easily for qualitative research, particularly in studies concerned with exploring, enhancing, or changing beliefs and practices. Dornyei (2007) explains that it is not easy to replicate qualitative research because participants' personal responses and researchers' subjectivity will affect results. Also related to maintaining reliability is the importance of ensuring the reader's confidence in the research methodology process. According to Creswell (2014) and Dornyei (2007), this confidence could be attained by providing a thick, thorough description and illustrating in detail the research process and how results are obtained.

Furthermore, greater confidence could be related to the importance of maintaining researchers' positionality and reflexivity. Creswell and Poth (2018) argue that the researcher's positionality in qualitative research is required to cover how said researcher collects the data or conducts the interviews. Therefore, reflexivity in this study is explained clearly within the stages of the study tools, the data collection, and the use of the researchers' journal starting at the beginning of the data collection, as explained in the following section.

It has been argued that generalisability is not considered significant because of the small sample size of qualitative research. Therefore, what is important here is that I obtain significant

findings from the sample in an insightful way, which could be asserted by a thick explanation of the process of obtaining the findings within the chosen context, which allowed me to compare situations to make a transferable judgement of applicability to another context (Dornyei, 2007; Cohen et al., 2018). To ensure that I met this standard, I provided extensive details of my roles as researcher, information about the participants and recruiting them, and a description of the data collection stages and action plan with their duration and tools.

4.9 Reflexivity and positionality: The researcher's roles

Reflexivity and positionality are related to understanding my roles in the research. According to Cohen et al. (2018), reflexivity is related to a researcher's process of defining positionality. Positionality refers to the view of the research world via the researcher's position. This consideration allowed me to clarify my roles and engagement in all aspects of the research. I played an outsider role to interact with participants to implement all of the research instruments. I also was designer of the dCPD and instructor to facilitate all steps and tasks. Moreover, the epistemological perspective of this study encouraged me to play an insider role (Creswell, 2013), which is related to my primary role as a doctoral researcher and my engagement with the data for constructing social interactions to understand and interpret multiple realities. This insider role was played since I and the participants had a co-worker relationship in that we are all Saudi lecturers in the EFL methodology and instruction department in the same educational institution. I found my insider role to be advantageous in the sense that we are colleagues in the same institution, allowing me to understand participants' responses and the different aspects of the contexts, such as when they made reference to a specific issue.

I was able to build trust and empathetic relationships with participants by reassuring them at the beginning of the interviews that all information was confidential, that their identity was anonymous, that I would not judge their answers, and that Arabic could be used. I also built trust when visiting most of the participants in person to enrol them on the platform with an informal conversation; I also expressed that I was almost always available. Moreover, my work during the English for Academic Purposes (EAP) pre-sessional programme during the summer 2023 at the University of Southampton allowed me to understand participants' responses more clearly since the pre-sessional learning process was based on LA with international students from contexts that may not rely on encouraging LA. My role as a teacher enabled me to experience what participants explained to me during interviews because I could see it in practice. This process developed my confidence in interpreting the data and discussing how learning style background is significant.

It is essential to be aware of these two roles and critically reflect on these identities with a balance. Bran and Clark (2022) state that this balance could potentially impact decision-making and interaction with participants during the phases of data collection. According to Hellawell (2006), it may also be difficult to distinguish between insider and outsider roles during research. However, to maintain criticality, mitigate potential bias, and avoid the effect of the researcher's values, assumptions, and beliefs on research aspects, it is important to work on using the researcher's journal and reflect regularly on the research journey (Mann, 2016). I used my journal to record decisions taken throughout the study to ensure critical reflection and reflexivity to balance my insider and outsider identities. Through journaling, I found myself suppressing emotions while redesigning dCPD weeks, when conducting interviews, or during tasks to make sense of what participants said and ensure that I did not let emotions affect my professional perspectives and focus on responses. This process gave me awareness of my two roles while implementing research instruments, collecting and analysing data, building a holistic picture of participants, and ensuring more transparent inquiry.

4.10 Conclusion

This chapter presented the methodology of this study, starting by restating the general aims of the research and presenting a suitable paradigm for the exploration of this study. I then presented the qualitative case study design as appropriate, the study setting, and the sampling method. The chapter then described data collection stages, methods, dCPD design, study tools, and action plan, as well as the rationale behind these choices, followed by a summary of each research question and data-driven sources. Throughout the chapter, I attempted to explain how each research question was answered by using a variety of data resources. Finally, I presented my role and positionality as a researcher and explained how I considered trustworthiness and ethical considerations.

Chapter 5 The impact of dCPD on teachers' understanding of LA

5.1 Introduction

Chapters 5 and 6 present the findings of this study and focus on exploring and understanding the effect of the dCPD programme on teachers' conceptual and pedagogical understanding of LA promotion. Furthermore, this chapter presents data which informs us about the teacher-learning process concerning TLA. These findings provide valuable insights regarding the study's aims and address the research questions. The data was coded and the themes were generated across all seven participants (teachers) via a cross-case analysis, as explained in Section (4.6.5). Teachers' cases produced a complete dataset that encompasses the primary data. Secondary data was also coded to support the primary data collected from three HoDs and from five other teachers who withdrew from the study intending to understand the reasons for withdrawal which, in turn, might inform the aims of this study. As such, Chapters 5 and 6 present the findings that attempt to address the following research questions:

> ***RQ1:*** *To what extent does a targeted programme of dCPD affect teachers' conceptual and pedagogical knowledge about learner autonomy?*
>
> ***RQ2:*** *To what extent did the teachers engage with the dCPD and how, if at all, did this impact their learning?*
>
> ***RQ3:*** *What kinds of favourable aspects, challenges, and recommended solutions did teachers report from learning through the dCPD?*

Chapter five presents only the findings of answering the first research question, which explores the outcome of teachers' learning regarding LA to provide an understanding of the impact the dCPD had. It is worth mentioning that due to the large amount of data coded from each tool, the presented examples in the findings chapters are selected because they are the most representative and straightforward articulation.

5.2 Teachers' profiles

To prepare the reader to review the findings, this section provides a brief background of each teacher as a study participant, the information was obtained during pre-training interviews. Understanding participants via more in-depth descriptions will help inform interpretations of

their actions and opinions. This process contributes to supporting the answer to the research questions and meeting the study aims. This section also sheds light on the teachers' original views about LA and their previous autonomous learning experiences. Furthermore, it presents teachers' views and background about CPDs.

Teachers varied in their qualifications; they all held an MA degree, but only a few had a PhD degree. Five of the teachers had experience studying abroad for higher education studies, and one was an English native who had completed all her public and higher education abroad. In terms of teaching experience duration, there was a variety of novice, mid-career, and very experienced teachers. Teachers reported 5 years or less, 5 to 10 years, or 15 to 20 years of experience. There were only two outliers: one with 20 years of experience and one with 1 year of experience. Furthermore, most of the participants expressed confidence in trying different teaching methodologies; only three expressed any reluctance. Also, five teachers had attended CPDs regularly. Interestingly, teachers also expressed a variety of opinions related to their original knowledge regarding LA and their previous autonomous learning experience. The following table offers an overview of all the previously mentioned variables.

Table 6: Teachers' background variables

Teacher	Qualifications	Length of experience	Confidence with new methodology	Attending CPDs	Originality of LA knowledge	Reported experience of LA
Alice	BA = Saudi MA = Saudi	20 years	Confident	Regular	Training courses Adopting self-learning style	Personal willingness
Maya	BA = Saudi MA = Saudi PhD = UK	13 years	Confident	Irregular	Adopting self-learning style	Personal willingness
Lana	BA = Saudi MA= Australia	Five years	Reluctant	Irregular	No knowledge	Personal willingness
Ivy	BA = Saudi MA = Saudi PhD = Saudi	Two years	Reluctant	Regular	Higher education-LA related PhD	Personal willingness
Jane	BA = Saudi MA = Australia PhD = UK	One year	Confident	Regular	Higher education studies-LA related PhD	Influenced by studying abroad
Lora	BA = USA MA = UK	10 years	Reluctant	Regular	Higher education studies	Influenced by studying abroad

Rose	BA = Saudi MA = USA	Six years	Confident	Regular	Adopting self-learning style	Personal willingness

The explanation of teachers' backgrounds in the previous table is important in understanding the whole image of each participant. For example, Rose earned a BA in English from a university in Saudi Arabia and an MA in Curriculum and Instruction from a university in the USA. She has not yet pursued a PhD. Rose has almost six years of experience in teaching English, and she teaches English modules only with the ELC. She reported feeling confident about trying different methodologies in teaching and attending CPDs regularly:

> "I consider myself confident in teaching and using different kinds of teaching styles and so on" [Rose: pre-interview]- [Ex-1]

Additionally, it was shown that all teachers expressed their views about some of the rooted knowledge that they possessed of LA. For example, only Lana reported that she had never been introduced to this concept before. Alice, Maya, and Rose acknowledged and expressed that they did not have much knowledge about LA, only they started to understand it when they found themselves involved in self-learning behaviour for learning the language beforehand. Alice added that she also acquired knowledge of LA from her personal decision to attend training courses. An example of what Alice reported:

> "Alice: Yeah, I took some courses in cooperative learning"
> Researcher: Yeah, I agree. So, is this view about learner autonomy and your belief about it, have you developed it during your pre-service training or during your teaching when you are an in-service teacher?
> Alice: I don't know, probably throughout my life [..] I do believe in that, I really do believe in self-teaching. Yeah" [Alice, Pre-interview]- [Ex-2]

Furthermore, only Ivy, Jane and Lora reported that they were introduced to the idea of LA during their higher education. For Ivy and Jane, this introduction was during their PhD, and for Lora, during her MA. As Jane mentioned:

> "I know about it because as I told you, my PhD was about the communicative language approach. Yes, and it's all about learner autonomy" [Jane, Pre-interview]- [Ex-3]

In terms of understanding the teachers' previous autonomous learning experiences, all seven participants felt that they were involved in an autonomous experience as learners in the past, during many types of learning processes within their educational journey. The teachers explained that they took personal initiatives to teach themselves and improve their skills as part

of their self-learning efforts. This autonomy was partly due to a lack of teaching support and driven by a personal desire to improve. For example, Maya agreed that she worked by herself to improve her language when she was a student:

> "I learned the language myself; I went into the English department and I already had the language, and what I did with myself is that I constantly read, I constantly explored, I constantly watch movies. And I had the desire to learn and to improve and to imitate the American accent, and I I've never been abroad before" [Maya, Pre-interview]- [Ex-4]

Unlike the rest, both Lora and Jane revealed that they did not experience LA in the Saudi context. Lora and Jane explicitly explained how studying abroad in different educational systems affected their understanding and experience of LA. Lora completed all her studies abroad; she is a Native English speaker and mentioned that she had the experience of autonomous learning from the USA and the UK. Jane mentioned that she was not autonomous during school or college, but when she travelled to Canada to learn English, she started to be autonomous:

> "No, During college or during school no. But then when I started learning English after I graduated from college, I learned in some language schools in Canada, maybe then I started to be a more autonomous learner, because I had to prepare for the IELTS exam, for example. Then I started to be autonomous to depend on myself to teach myself the skills" [Jane, Pre-interview] - [Ex-5]

As such, all the presented different background variables reported by teachers could play a big role in their understanding of the concept of LA. such as their confidence, educational background, experience of being autonomous learner.

5.2.1 Teachers' evaluation and views of the CPDs

What related to understating the teachers' attendance, views, and evaluation regarding the available and the effective image of a CPD for teachers learning. At first, teachers were asked about their regularity in attending CPDs to improve their teaching, all teachers mentioned that they attend CPDs regularly either with the ELC or as a personal effort. Where only two teachers, namely Maya and Lana, do not attend CPDs regularly, see (Table 6). Interestingly, Maya explained that she is interested only in unique and different courses that do not follow the conventional style:

> "I would be open to the idea as long as it doesn't fall in the traditional realm [..] if I'm intrigued, I would attend the workshop" [Maya, pre-interview] - [Ex-6]

Furthermore, the data showed some contextual reality in terms of evaluating the available CPDs and their activities and tasks. Alice and Lana revealed that CPDs designed for LA promotion and ELT methods may not be available and appeared unaware of any professional development support offered. Lana stated the following:

> "I'm not sure about the main campus, but in our college now I don't see that. And if it happens during my scholarship, I'm not aware of that" [Lana, pre-interview]-[Ex-7]

Others agreed that there were a variety of professional development opportunities as a series of courses are offered by the ELC; however, the courses are in the lecture-based style, which is not active or dynamic. For example, Ivy, Jane, Lora, Rose, and Maya reported that the available training was only based on the online lecture style, which is online and has live sessions using online platforms such as Webex or Zoom. The teachers also reported that this approach is not active and did not provide great benefits. Therefore, these CPDs do not allow teachers to learn autonomously. Lora explained the following:

> "The ELC offers professional development workshops and sometimes they do bring in topics dealing with digital learning and digital education stuff like that, teaching methods a whole range of topics. If there's a topic that hasn't been covered and the teacher is interested in learning that style, they can suggest it to the ELC and the ELC could make a workshop based on that idea. Yeah. Umm, and if they don't provide any of that [..] During the discussion when the speaker is speaking, the speaker will ask questions, some of them are rhetorical questions, I feel sometimes, and people write in the chat whatever they have to say, and the speaker would read off what's that person said. But, like I said it is nothing that you really benefit from" [Lora, pre-interview]- [Ex-8]

Maya, Lora, and Jane agreed that traditional CPDs that are based on the lecture style could affect how teachers teach their students by using the same traditional and inactive methods. Jane added the following:

> "Most of the courses are in this style, the lecture style, somebody, gives you a points, or explain to you how certain things work, or how you can do certain things, and that's it, and this is a problem. They don't let you to be an autonomous learner in the course. So, how would you expect the teachers to be or to support their students to be autonomous learners, if they're not experiencing autonomy for themselves, either in professional development or otherwise" [Jane, pre-interview]. [Ex-9]

To understand the teacher's views regarding the activity's types and delivery modes of effective CPDs for teachers learning. The data showed that all seven teachers agreed on the importance of having active collaborative CPDs. Teachers mentioned that the active and collaborative CPDs are needed for knowledge sharing, collaboration, and discussion. Additionally, they should not be based on lecture styles. Ivy stated the following:

> "if there is peer teaching or if there is reflective journals for example, so that I can read what others achieved from applying and how they can overcame the difficulties, they will learn more and they will try and try to do the strategies again and again. So, learning alone it won't be good for preparing teachers to in-service learning. So, I believe that there should be group, peer working, or workshops can be community. We believe that community learnings it has more benefits to learn effectively" [Ivy, pre-interview]- [Ex-10]

In addition, most teachers agreed on the affordability of dCPDs and expressed a preference for them over face-to-face delivery for their flexibility and for the freedom of time and location. Jane commented:

> "Of course, because it depends on you and your time. You can do it on your own time. You're not restricted to a certain time and all the bureaucratic things that you have to do when we attend the training in person, when you're doing it online, I think it's easier. Yes, it's easier for the teacher and it depends on their time. They can do it on their time" [Jane, pre-interview]- [Ex-11]

Jane also suggested that a self-based CPD would be an opportunity for providing informal learning rather than having only one session lecturing:

> "It's an excellent opportunity to do some centred or self-based professional development more than the formal professional development given by the centre." [Jane, pre-interview] -[Ex-12]

Only Lora and Rose preferred the face-to-face option over the online approach and explained that face-to-face allows them to be involved, focus on the topic, and see people in the sessions, as Lora explained:

> "I would rather be face-to-face or in a group at least seeing the person, it makes it a little easier to focus on the task, then to have just a black screen and just voices from different people speaking" [Lora, pre-interview]-[Ex-13]

There were disagreements surrounding the freedom to undertake CPDs. Rose mentioned that CPDs should be compulsory, not optional because if it is optional, teachers will make excuses to not attend:

> "But I would say it has to be obligation, not optional.
> Researcher: if optional, no one will attend?
> Rose: Yes, they will make excuses for not attending" [Rose, pre-interview] -[Ex-14]

However, Lana suggested that training should not be compulsory, so it doesn't affect the balance between teachers improving themselves and achieving their professional and personal duties:

> "I'm saying it should be offered, but not as a compulsory thing. Yeah, so, putting that burden and extra pressure on a teacher will not help her to reflect properly with the programme she has to have time, she has to have the willingness, honestly, if I don't like what I'm doing, even if I learn it, I will not master it" [Lana, pre-interview] -[Ex-15]

In short, although that the majority of teachers reported that they attend regular CPDs, it was stated that what is available in the context is the lecture-based style of CPDs. Accordingly, teachers expressed their aspirational image of the type of CPDs that they wished for, such as providing simple and self-access digital platforms for online informal learning, that include input, materials, and provide colligating chances amongst teachers for sharing knowledge, experience, discussions, and practice.

5.3 The impact on teachers' learning outcomes following the dCPD

This section aims to answer the first research question: *To what extent does a targeted programme of dCPD affect teachers' conceptual and pedagogical knowledge about learner autonomy?*

Teachers' responses before, and after the training were examined to track and explore the shifts and impacts on teachers' understanding and implementation of autonomous teaching practices.

5.3.1 Impacts on conceptual understanding of LA

Before the dCPD, teachers were asked about their initial understanding of LA and how they conceptualised it. Then, during training, a comprehensive conceptualisation of LA was

presented to teachers to ensure their understanding of LA based on the definition of Benson (2013), who defines the concept as the capacity to take control of one's learning. Also, an explanation of what the concept implies, such as how it was detangled by Huang and Benson (2013) and Teng (2019), detailing the components that clarify and imply LA behaviours was provided. Additionally, I presented the notion of interdependence emphasised by Little (1991). These considerations were combined to explain the conceptualisation of LA to the participants holistically (for more details, see Chapter 2, Section 2.2).

During the post-interview, participants were asked the same questions to track the effect of the dCPD and explore changes in their conceptualisation of LA. The post-interview aimed to investigate who learned what, who changed their views, or who enhanced their initial understandings. The categorisation of LA types was used to more accurately present teachers' responses regarding their understanding of LA pre- and post-training and show a clear comparison in the analysis (Benson1977; Oxford, 2003). Accordingly, the conceptualisation of LA could be viewed from four perspectives as follows: (1) the technical view; (2) the political view; (3) the psychological view; and (4) the socio-cultural view. It is worth noting that these types are not hierarchical but rather complement one another, neither preceding nor succeeding one another, (for more details, see Chapter 2, Section 2.2). Accordingly, four teachers showed a shift (new learning) in understanding LA. Moreover, three teachers were able to enhance their knowledge by expressing a similar but deeper conceptualisation of LA. The following table clearly demonstrates the impact on teachers' pre- and post- LA concept and explains the impact of the dCPD.

Table 7: Impacts on the understanding of LA definition

Teachers	**Pre-training LA view**	**Post-training LA view**	**Impact type**
Alice	Socio-cultural	Technical	**New learning**
Maya	Phycological	Political	**New learning**
Lana	Technical	Technical	Enhancement
Ivy	Technical	Technical	Enhancement
Jane	Political / socio-cultural	Technical	**New learning**
Lora	Technical	Socio-cultural, phycological	**New learning**
Rose	Technical	Technical	Enhancement

Before the dCPD, most teachers expressed an understanding of LA that was largely technical. Following the dCPD and during the post-interview, one teacher shifted beyond this technical understanding. For example, Lora moved from looking at LA from a technical perspective and changed her understanding to include both sociocultural and psychological perspectives. The two following responses are from the pre-and post-interview:

> "What I understand, because I haven't researched it, but from what I understand, what learner autonomy might be is that we give them the tools and the skills at the beginning, or we can model it for example to them and it's up to them to put in the effort to learn. So that's I believe it is. I'm not sure if that's true or not" [Lora, pre-interview]- [Ex-16]

> "I had limited knowledge of what it was when we first started and, as I continued with the project, I realised that yes, the students were kind of moving in that direction without even me having to instruct them on what learner autonomy is. I think maybe it's just their nature, and maybe especially after COVID, they learned online and they were doing stuff by themselves, to begin with", "I think the males' value group work, because when I was speaking with my colleague who on the male side, and we're doing this new way of teaching writing, with the females I had contacted him and I told him I'm not getting cooperation with them, they really don't want to work together in a group", "I think they need, especially with the girls I think they need to be able to work as a group because this is part of the 21st-century skills that they need to learn" [Lora, post-interview]- [Ex-17]

In the post-interview, it became evident that Lora changed and mentioned new learning; she gave a different view to that from the pre-interview. Her new understanding of LA was more detailed and inclusive of both psychological and sociocultural aspects. She emphasised the importance of working collaboratively in learning to achieve higher-level skills, something that female students lack. This shift indicates that the dCPD is being delivered causing her to adopt a more structured psychological, sociocultural, and process-oriented approach to LA.

Three teachers expressed another understanding, other than the political, psychological, and socio-cultural understanding. For example, Jane changed her view from the political and socio-cultural perspective to be more technical. The following is an example of what Jane expressed pre- and post-training:

> "I feel that using the communicative language approach, these are activities or this is an approach that depends solely on learner autonomy and learners.

> Yes, this is another term or concept in learner autonomy, learner centeredness", "As I said, Translanguaging is all about learner autonomy. It's letting the learner decide in what language they want to express themselves in what language they want, or to choose in what way they want to answer specific questions or express specific ideas?" [Jane, pre-interview]-[Ex-18]

> "Learner autonomy, I think it's making or training the learners to be responsible of their own learning, making them aware of how they learn, not only acquiring knowledge, but also how do they acquire knowledge. This is learner autonomy in my point of view" [Jane, post-interview]- [Ex-17]

In the post-interview, the extracts show how Jane changed by mentioning new learning, offering a new answer to the one before training. Her understanding of LA became more technical because she mentioned the importance of training learners to take responsibility for their learning and understand how they learn, reflecting on a newer and different nuanced understanding of LA. This shift indicates that, just like Lora, the dCPD had an impact on Jane's perception, leading her to adopt another structured, process-oriented approach to learner autonomy.

With the pre-training understanding of the technical perspective, three teachers showed no change in understanding LA in terms of LA types. For example, Ivy's view remains technical, as can be seen by comparing her responses from the pre-and post-interview:

> "I believe that learner autonomy as a concept means how can we help learners to learn by themselves, or how can we teach learners to learn how to learn. Simply if I can explain it. So, to achieve this, most part comes from the teachers how to encourage the learners. Another part comes from the availability of the resources different resources that learners can go back and study from it" [Ivy, pre-interview]-[Ex-19]

> "So, after the training, The ideas of autonomous learners is becomes more clear for me, and I can sum it as how to make learners know how to learn. So how can I equip the learners with the right tools to be able to learn by themselves and to be able to be independent learners" [Ivy, post-interview]-[Ex-20]

In the post-interview, a deeper exploration of Ivy's comments shows that, although her understanding did not change, she was able to provide a clearer, deeper understanding of the teacher's role in promoting LA that still reflects the technical perspective to help learners learn autonomously.

Generally, four teachers (Alice, Maya, Jane, and Lora) showed a shift that explains the impact of the dCPD regarding the definition of LA after training. On the other hand, the other three teachers (Lana, Rose, and Ivy) did not show a shift, instead expressing similar/enhanced views of pre- and post-training, which explains the impact of enhancement. In other words, (Lana, Rose, and Ivy) did not have a shift in their perspectives. Instead, they enhanced their pre-existing views, indicating that the training reinforced and deepened their initial understanding rather than altering it. It could also be concluded that the technical view was still the dominant view of LA following training.

To further demonstrate teachers' conceptual understanding of LA, teachers were asked to describe the autonomous learners' characteristics presented during training. The characteristics presented to the teachers were driven from the previously presented conceptualisation as mentioned in Section (2.2 & 5.3.1), and were broadly grouped into four categories: (1) active/ collaborative learner; (2) motivated independent learner; (3) self-guided/controlled learner; and (4) critical-reflective learner. This categorisation was used to understand more accurately the teachers' responses to the characteristics pre- and post-training and to show clear comprehension in the analysis. Accordingly, the data of pre- and post-training showed that four teachers changed their views about what constituted LA characterises. In contrast, the other three teachers supplemented existing understandings with new knowledge. The following table presents a summary of the teacher's pre- and post-understanding of autonomous learners' characteristics and explains the impact that occurred.

Table 8: Impacts on the understanding of the autonomous learner characteristics

Teachers	**Pre-training characteristic**	**Post-training characteristic**	**Impact type**
Alice	Active-collaborative learner	Self-guided-controlled learner	**New learning**
Maya	Motivated independent learner	Motivated independent learner	Enhancement
Lana	Self-guided/controlled learner	Motivated independent learner	**New learning**
Ivy	Motivated independent learner	Self-guided/controlled learner	**New learning**
Jane	Motivated independent learner	Motivated independent learner	Enhancement
Lore	Active/collaborative learner &	Active-collaborative learner	Enhancement

	Self-guided/controlled learner		
Rose	Self-guided/controlled learner	Motivated independent learner	**New learning**

Prior to the dCPD, most teachers understood autonomous learner characteristics in terms of four categories except the final one (critical reflective learner). Following the dCPD and after the post-interview, the teachers' understanding was impacted to show either new learning or an enhancement of understanding of the categories. Four teachers showed a shift of change towards a new understanding. For example, Ivy did not express the same (motivated-independent learner) category that she provided in the pre-interview. Rather, she related to the category of (self-guided/controlled learner) during the post-interview. The following two responses from pre-and post-interview evidence this point:

> "I think one of the characteristics can say for the autonomous leaners they have the confidence of themselves, self-abilities that they can understand by themselves, and how to understand, and how to learn things. We can say one characteristic is self-esteem maybe, can take risks in applying to some activities online, and having the self-encouragement to know that all these can benefits their sleeves, or can be tools to be successful in their learning" [Ivy, pre-interview]-[Ex-21]

> "From what I have learned in the course, the learners should be able to know first about the ideas and what is the main aim of having this autonomous learners, and what are the benefit that they will they will gain by being autonomous learners [..] They should have choices, because different learning style need different strategies, so it needs to be different activities, So, there should be choices for the learners" [Ivy, post-interview]- [Ex-22]

In the pre-interview, Ivy focused on the idea that autonomous learners are learners who are self-motivated, independent, and encouraged learners. Whereas, in the post-interview, Ivy changed and mentioned a new understanding. She gave a different answer than in the pre-interview and was more detailed about autonomous learner characteristics. She mentioned that the autonomous learner is one who makes choices when completing activities related to their different learning styles when they are provided with these opportunities, and when they are provided with an orientation about the aims of the autonomous learner characteristics. This shift indicates that the dCPD had an impact on her perception, leading her to adopt a more structured, process-oriented approach to learner autonomous behaviours and characteristics.

Moreover, three teachers supplemented their views with additional understandings to describe enhancement. For example, Maya stated characteristics related to self-relying learners as

(motivated independent learners) who have the ambition and desire to learn and improve themselves independently and not wait for teachers, as seen in the following responses from the pre-and post-interview:

> “I would say that first utter, they need to have the curiosity, the desire to learn. This is the first step, the desire to improve, competitiveness, ambition. They need to want to be better. But ambition is not enough, I will go back to the desire, the desire to improve or to work on oneself, to learn, curiosity. These are the things that should be available in a student in order to be called an autonomous learner. Otherwise, they're gonna wait for the teacher to hand them in things to do, there isn't much to do here, they won't be able to go very far” [Maya, pre-interview]- [Ex-23]
>
> “here's something that students, young students in particular don't understand is that they believe that they could just enrol in a class, and this is something that I always tell people, it's like you can learn the language in any setting that is suitable for you, it doesn't have to necessarily be a class, but they believe that enrolling in a class is like the best thing that they could do because they could just be there and the teacher could just work her magic” [Maya, post-interview]- [Ex-24]

In the post-interview, Maya stressed the concept of how the autonomous learner should be independent and not always wait for the teacher to lead the class. Maya’s comment in the post-interview shows that, nonetheless, her understanding of LA became deeper and that she was able to provide a clearer sense of the learners’ characteristics that related to the characteristics category of (motivated independent learner).

Four teachers (Alice, Lana, Ivy, and Rose) showed a shift that explained the impact of new learning regarding autonomous learner characteristics after training. These teachers showed notable new learning in understanding autonomous learner categories/characteristics compared to reported pre-interview understandings. The other three teachers (Maya, Lora, and Jane) did not show a shift towards new learning, instead expressing similar/enhanced views during both pre-and post-training, which explains the impact of enhancement. In other words, these findings indicated that the training reinforced and deepened their initial understanding rather than altering it completely. It may be also concluded that the (motivated independent learner) category has been the most dominant post-training.

There were notable patterns of impacts on learning outcomes among teachers. Comparing both LA definition and autonomous learner characteristics in (Table 7 & Table 8), the in-depth analyses reveal two patterns of learning outcomes: consistency of new learning versus varied

impacts. The following table presents the pattern of the impacts of the dCPD on both two aspects.

Table 9: Pattern of impacts on (LA definition) and (autonomous learner characteristics)

Teacher	Impact on LA concept	Impact on autonomous learner characteristics	Pattern of impact on Teachers
Alice	New learning	New learning	Consistent (new learning)
Maya	New learning	Enhanced	Varied impacts
Lana	Enhanced	New learning	Varied impacts
Ivy	Enhanced	New learning	Varied impacts
Jane	New learning	Enhanced	Varied impacts
Lora	New learning	Enhanced	Varied impacts
Rose	Enhanced	New learning	Varied impacts

To explain these two patterns, it is helpful to consider teachers' backgrounds presented in (Table 6) & (Table 1). Firstly, only one teacher, Alice, showed a consistent pattern of change as new learning, which could be attributed to her teaching experience of 20 years in two different campuses, with regular attendance to different CPDs. Secondly, a pattern of variation of impacts (new learning/enhancement) was observed among six teachers, namely (Maya, Lana, Ivy, Jane, Lora, and Rose) regarding their understanding of the two aspects of the LA concept and characteristics of autonomous learners. According to the demographic data, Maya and Lana, for instance, do not attend CPDs regularly, which may have contributed to variations in their understanding of LA and autonomous learner characteristics, potentially affecting their openness to new ideas during the dCPD training. For Lora, Rose, Jane, and Ivy, who reported regular attendance of CPDs, the variation in their understanding may be linked to their years of teaching experience, which ranges from approximately 1 to 10 years. While regular CPD attendance is important, the length and depth of teaching experience also play a crucial role in shaping teachers' perspectives on LA and autonomous learning. To further clarify these factors and explain these suggestions. First, a long career in teaching could imply that the teacher understands the teaching process more in-depth. More experienced teachers may be better at finding gaps and discovering areas that need improvement. Those skills may also facilitate better integration of new ideas especially in contexts that do not focus on equipping teachers with a better understanding of LA. As of now, even more experienced teachers are warming to

the need to update their knowledge and transform accordingly given the national call in the country for educational reform.

Secondly, in accompanied to years of experience, regular CPD attendance could help teachers become more critical and open to new learning. Attending different styles of training could also help teachers gain clearer and more straightforward exposure to LA as a concept, rather than just attending the traditional (one-shot CPD style). In other words, having tendency of regularly attending CPDs could expose teachers to innovative training as well, prompting them to learn new knowledge about LA rather than simply polishing their prior knowledge or allowing them to resist new learning.

Given the above two factors in relation to my experience as an insider in this context, Alice may have been in a better position to learn by having a robust base of lengthy and varied experience, as that could raise her need for more knowledge updates. That likely assisted her in showing consistency in learning and integrating completely new ideas. The rest of the less experienced teachers, in contrast, showed inconsistency in their learning, perhaps because of their less contextual/practical understanding with less understanding of their development needs. Their teaching process is still undergoing refinement, which contributed to showing various impacts on their learning. This was especially the case if they had familiarity with less adequate CPD attendance, or had not attended CPD regularly, as with Lana and Maya.

Overall, there are two types of impact, namely new learning and enhancement in understanding both LA concept and autonomous learning characteristics. There are two patterns of the learning impacts, namely consistency of new learning and varied impact of change and enhancement. This finding indicates that, while one teacher experienced a clear and consistent shift in her understanding, the others displayed a more nuanced outcome, with both (new learning) in one area and (enhancements) in another.

5.3.2 Impacts on the pedagogical understanding of LA principles

Though this study did not explore teachers' actual teaching practices, it did strive to investigate how their understanding of LA principles was supported by how they reported teaching practices to develop LA in classrooms. Specifically, this study did not focus on observing and evaluating enacted teaching practices; instead, it evaluated reported teaching practices. Before training, teachers were asked about LA principles and their approach/practices to implementing and promoting LA in their practices. Then, during training, I presented the five principles to promote LA in language classrooms to the teachers (Dam, 2011). Each principle was presented and explained with provided modelling that translated practices (For further details about the principles, see Section (2.3.1.1.). For clarity, the principles are as follows: (1) fostering learner

involvement; (2) providing teacher support; (3) supporting learner reflection; (4) encouraging authenticity; and (5) providing clear instruction.

Afterwards, during training, the practical reflective tasks encouraged teachers to plan a practical implementation of the principles. Within the post-interview, teachers were stimulated to talk about the practices of the principles and their posted reflections. Interestingly, themes about the different impacts emerged; generally, the data for this part suggest there are three types of impact occurring across the five principles and across the seven teachers:

1- The impact of validation (V) shows how teachers were able to connect what they learned regarding LA principles to their original existing understanding of their implementation. In other words, teachers become able to validate what they were already implementing.
2- The impact of enhancement (E) shows how teachers expressed enhancement of deeper learning regarding their prior understanding of the principles' implementation by reporting similar or enriched ideas.
3- The impact of new learning (N) shows how teachers expressed a new understanding of the principles' implementation.

First, the following table provides a clear summary of the teachers who showed different patterns of impacts amongst the five principles, as well as the impact across the principles. In fact, providing this holistic demonstration should simplify the understanding of the data analysis in this chapter. Accordingly, for understanding the total consistency (the pattern) of the dominant impact type on each teacher across the five principles was presented by "moving horizontally": between (three to five times of a certain impact frequency) meaning that the impact type is the dominant as a pattern on teacher, either validation, enhancement, or new learning. Moreover, for understanding the total dominant impact type that occurred in total in each principle across the seven teachers was presented by "moving vertically": between (four to seven time of a certain impact frequency), meaning that the impact type is the dominant in the principle, either validation, enhancement, or new learning.

Table 10: Impact on understanding the five principles of LA

Teachers	Learner involvement	Learner reflection	Teacher support	Encouraging authenticity	Clear instruction	Teachers' impact pattern
Alice	Validation	Validation	Validation	Enhancement	Validation	**4 (V) = High (validation)**
Maya	Validation	New learning	Enhancement	Validation	Validation	**3 (V) = High(validation)**
Lana	Validation	Validation	Validation	Validation	Validation	**5 (V) = High(validation)**
Ivy	Enhancement	Validation	Enhancement	Validation	Validation	**3 (V) = High(validation)**
Jane	Enhancement	Enhancement	Enhancement	Enhancement	Validation	5 (E) = High(enhancement)
Lore	Enhancement	New learning	Enhancement	Validation	Validation	Varied
Rose	Validation	Validation	Validation	Validation	Enhancement	**4 (V) = High(validation)**
Impact on principles	**4 (V)= High validation)**	**4 (V) = High (validation)**	4 (E) = High (enhancement)	**5 (V) = High (validation)**	**6 (V) = High (validation)**	

5.3.2.1 The impact of validation

The first impact translated into how teachers were able to link their learning to teaching practice. This impact was consistent among some teachers across the principles. The post-training data show that teachers were already engaging in practices that foster LA by linking existing teaching to most principles. Teachers did not express an understanding of their implementation regarding these practices during the pre-training interviews. Accordingly, by examining each teacher horizontally from (Table 10), five teachers (Alice, Lana, Ivy, Maya and Rose) described that their existing understanding of the practices were validated highly and consistently by making links to most of the five pedagogic principles.

The introduction to the pedagogical principles through the dCPD validated Rose's existing practice of the principle of fostering learner involvement, as she involves learners in making choices to guarantee that they improve in their learning based on what they choose:

> "In this lesson I used practice 1: providing various options and choices. I asked them to choose the material they want to practice with. I gave them many options to describe in order to use the correct adjectives. I also asked them to practice with their partner and give feedback to each other" [Rose, 2nd week reflective plan]- [Ex-25]

Rose then contextualised this plan by making explicit links between her decision making and design alongside her developing understanding of this principle to promote LA in the post-interview. She also offered an explanation related to understanding learners' needs in order to involve them in suitable content:

> "This one here was about the speaking task. We give them options, they have to choose the topic that they will talk about; something they're interested in so they can do their best when they know that choice" [Rose, post-interview-stimulated recall part]- [Ex-26]
> "Researcher: You said that you already do this plan, so you did it before?
> Rose: Yeah, this course was in the last semester, so I did it then" [Rose, post-interview- stimulated recall part]- [Ex-27]

Furthermore, this impact occurred highly across four principles across teachers, when examining each principle vertically from (Table 10). These principles are as follows: (1) fostering learner involvement; (2) fostering learner reflection; (3) encouraging authenticity; and (4) providing clear instruction.

By showing another evident example of that, the introduction to the pedagogical principles through the dCPD validated Lana's existing practice of the principle of providing clear instruction by showing how she involves learners in evaluating their learning process based on modelled examples that she provided them with as a clear instruction:

> "The teacher will start by introducing the target Genre for the course, what features specified this genre, topics, structure, etc. The student will be given some examples to analyse at first. After that, they will be asked to start collecting ideas to write about a topic of their choice that meets the course requirements. After presenting their first draft, the teacher will represent another sample answer and ask the student to compare theirs with the sample to allocate mistakes and correct them, which could be done in groups. When they finish their second draft, the teacher will start correcting answers with each student individually. Finally, a final draft is to be submitted for grading [Lana, 2nd week reflective plan]- [Ex-28]

Lana then contextualised this plan by making explicit links between her decision making and design alongside her developing understanding of this principle in relation to promoting LA via the post-interview:

> "I wanted the student to be aware of what she's learning? and how to learn that? and why do it this way? why do we organise it this way? I want her to have a hand, and to have a voice in her decision, not just being given instructions [..] I always like to find examples, so I fully understand what I'm being asked to do. So, giving her example is very good way, then asking her to try to mimic that example to work with groups to see if she got it right, if she answered all the questions, if she have developed the paragraph very well. All that process give her the awareness of what she's doing right and what she's doing wrong. So, it will contribute to her autonomy improvement, so next time she has another genre, she knows how to write, where to start [..] these questions very critical if the students know the answers to these points, I think she would do it well. She, will have the enthusiastic to do it" [Lana, post-interview- stimulated recall part]-[Ex-29]
>
> "Researcher: Yeah, So, also this plan in progress and in process or still didn't apply it?
>
> Lana: We applied it since the first term of this year" [Lana, post-interview-stimulated recall part]- [Ex-30]

Some teachers showed sustained practical enactment in the informal interview, namely Ivy, Lana, Alice, Maya and Rose, who showed the practical implementation concerning three principles: (1) fostering learner involvement; (2) fostering learner reflection; (3) encouraging authenticity. For example, with the second principle (fostering learner reflection), Ivy mentioned that she would try the strategies of learner reflection again more systematically. In the informal interview, she mentioned her new implementation:

> "if you remember I said that I will work on the reflections with them. So, for me, the reflection exercise was the one I wanted to apply the most with the students, [..] Now as you are texting me, I am correcting their reflections and I am happy that I insisted that they do it honestly" [Ivy: delayed interview]- [Ex-30]

In short, five teachers (Alice, Lana, Ivy, Maya, and Rose) showed a pattern of validation impact consistently across most of the principals. This impact could be related to their background shown in (Table 6). The teachers all share teaching experience between 2-16, except for Alice, who has 20 years of experience. As the length of experience could contribute to explaining why these teachers have shown the validation impact. This pattern of impact could also be related to how Alice, Rose, and Ivy all mentioned that they attend CPDs regularly; the reasons could be related to the nature of the CPDs, that they are regularly attending that may not be effective in helping them put theory into practice. Where Lana and Maya reported their absence of attendance to CPDs.

In other words, to build on the critical discussion presented in Section (5.3.1), which argued that length of experience might be linked to teachers' better capacity and learning to understand teaching practice and context. The substantial variation in the teachers' lengths of experience could raise the question of whether it fully and solely explains the validation impact. From my insider perspective, I observed that the length of individual experience could raise a need for more learning and improvement, and it interacted with other factors in the context. Those other factors included mainly (1) the nature of teachers' engagement with the available CPD in the context and (2) the contextual factors hindering LA promotion. The first factor could relate to the nature of the CPD that the teachers are attending, some initiatives in the context may not be effective in connecting theory to practice regarding LA. In the case of the dCPD in the present study, however, the teachers' engagement with the provided dCPD and its innovative designs was beneficial for the teachers – whether the teachers were experienced or not – in validating what they already knew and did regarding LA principles. That offers some evidence that teachers, especially less experienced ones, are facing difficulties and tension when connecting theory to practice due to contextual factors that affect teachers' practice and learning when it

comes to LA. Thus, the validation impact cannot be attributed to the length of experience only. It is also associated with other interfering factors such as the teachers' attendance of inadequate CPDs that are common in the context, and contextual constraints on LA promotion and understanding. A more general explanation could be related to how most teachers reported that they have some original and varied ideas and experiences about LA. As such, dCPD could contribute to clarifying the link between what is LA according to them and how it could be translated into practice as a validation.

5.3.2.2 The impact of enhancement

After the training, some teachers expressed enhancement of learning in terms of their prior understanding of the principles' implementation, as that were mentioned and shown in the pre-interview. Teachers then explained that their plans were based on current or previous practice in the post-interview. By examining each teacher horizontally from (Table 10), interestingly, only one teacher (Jane) showed high enhancement in a consistent pattern across most of the five principles.

An evident example of that is related to the principle of fostering learner involvement. In the pre-interview, Jane explained how she uses the Translanguaging strategy to involve learners in choosing either L1 or L2 to evaluate their learning in the task and help them understand how they learn:

> "So, what I can think of now is again, the Translanguaging [..] I think it's a good idea to give the student the autonomy they need in class Translanguaging, and using it not only in speaking exercises. I'm trying to let them use it even in writing. So, they can write something in Arabic, and then maybe, uh write the same thing but in English, and I will let them and planning to let them reflect on the differences are or how they used their learning of Arabic language and their learning of English language to produce this writing either, in Arabic or in English" [Jane-pre interview]- [Ex-31]

After the introduction to the pedagogical principles through the dCPD, Jane's existing understanding regarding the implantation of this principle was enhanced, as evidenced by how she explained how she involves learners with this strategy in their writing tasks:

> "This term I planned to use a Translanguaging strategy in teaching writing. After, the first week of our writing syllabus I asked students to write a text in the same genre in their L1 (Arabic) using the input they learned in English and at the end of the term I asked them to reflect on the experience" [Jane, 2nd week reflective plan]- [Ex-32]

Jane then contextualised this plan by making explicit links between her decision making and design alongside her developing understanding of this principle in relation to promoting LA. During the post-interview, she added that this plan was related to understanding the learners' needs in order to give them more opportunities to become responsible learners:

> "I think this helps them to think about their learning. How do they learn? It's not the traditional view of language learning. Traditionally, people said we should have zero tolerance to using the first language because it interferes with the second language. They should use the second language all the time to learn faster and more quickly. But now when they used both languages, now they know how they learn, they know that when they have or face a problem, they can use both languages to solve this problem not only the second language they're learning in in class, they have the permission or they are safe when they use their first language. It's not like cheating or something. [Jane, post-interview- stimulated recall part]- [Ex-33]

Furthermore, this impact occurred highly in one principle only (providing teachers support) by four teachers, by examining each principle vertically from (Table 10). An evident example was during the pre-interview, which was related to the principle of providing teachers support. Maya explained that teachers' supported roles are related to motivating and encouraging them through words, treating them with kindness, and offer guidance:

> "Forcing doesn't actually work. I've tried forcing before, it doesn't work [..] So, sometimes incentives works, sometimes encouraging words, work. Sometimes warning them about the difficulties that they might experience in the future in a motherly way, not in a threatening way, works [..] we cannot enforce it anymore, forcing doesn't work. You have to be very gentle with them. But, again with little result. So, the only thing I can do to motivate or to give them an incentive to work on themselves", "I always tell the newcomers [..] I'm only here as a guidance in case you need help and I'm only here to provide you with the basics, once you have the basics you can build on them using whatever means that you find comfortable to yourself" [Maya, pre-interview]- [Ex-34]

The introduction to the pedagogical principles through the dCPD enhanced Maya's existing understanding of the practice of this principle, by demonstrating the supportive role that she mentioned in the pre-interview as part of her reflective plan:

> "Usually, students are required to write a paragraph or an essay, depending on the skill level, in class to ensure that every student does the writing herself. I

> remain in class to aid students IF they need guidance or help with a certain problem [..] The student has to go over the handout, understand how the mistake can be fixed, and then hand her assignment to me again after editing" [Maya, 2nd week reflective plan]- [Ex-35]

Maya then contextualised this plan by making explicit links between her decision making and design alongside her developing understanding of this principle in relation to promoting LA. During the post-interview, Maya then added an explanation that this plan was related to understanding the learners' needs by supporting them to learn by themselves, and be there for them when ask for guidance:

> "[..] there is no real learning if the student is just giving me exactly what I want. This is sort of like what we're doing in the school level, where the student memorizes everything and then she regurgitates it for you, and no real learning is taking here. It's like *Just tell me what you want, and I will put it for you.* Uh here? Yeah, but as I told you, this is what I started doing, I have a list of common mistakes [..] A lot of students are responding very well to this method because it has to do with clarity [..] OK, this is the list of common mistakes already specified what kind of mistakes you make, go back to the list, consult it, fix your assignments and then upload it back to me [..] If they don't know, they go back to the handout and they still don't understand, they usually come to me after the class and the like. Teacher. I need help. They still don't understand. And I sit with them, and I explain the rule to them. [Maya, post-interview- stimulated recall part]- [Ex-36]

In short, only Jane expressed a high level of enhancement in a consistent pattern across most of the principles. To explain the pattern of Jane's learning outcomes, it is worth returning to her background in (Table 6). Jane's consistent enhancement could be related to her reported confidence in trying different methodologies in her teaching, and her rooted knowledge of LA from her higher education studies related to LA aspects (recent PhD). Although Jane reported one year of teaching experience, there is a possibility that she still did not get a chance to engage in a longitudinal reflective practice to be more expert in finding gaps and need for improvement regarding her teaching in depth. Henceforth, the recently mentioned two factors might lead Jane to show high self-efficacy by believing and showing that she is very knowledgeable regarding LA practices, with limited need to perceive a consistent impact of neither new learning nor validation. Another factor could be related to how the enhancement impact might not be attributed to the available CPD in the context (the single-shot lecture style), but rather, to her self-directed development and improvement during her higher education

abroad. All the mentioned factors could help to reinforce her confidence and showed the enhancement impact.

5.3.2.3 The impact of new learning

After training, some teachers expressed new learning regarding understanding the principles' implementation, which had not been shown pre-training. By examining each teacher horizontally from (Table 10), only two teachers (Lora and Maya) had this impact in one principle only, though it was not consistent across all the seven teachers.

After the introduction to the pedagogical principles in the dCPD, Lora revealed her new learning by creating a plan related to the principle of fostering learner reflection and posted how she was planning to use journaling to increase the stages of reflections with the students. Lora also shared this plan with other teachers on Padlet:

> "I plan on using the level of reflection posted on padlet. I will explain to them why they should try to reflect and then send them the levels on WhatsApp. I will ask them to send me a private message about this reflection so that I can understand how well the lesson went. They may even mention something that I didn't do well enough for them [..] I will attempt this reflection with the writing lesson. I usually give great detail about what the topic is for them to understand the ideas of the writing [..] I will also explain the importance of reflection and how it can help them pinpoint any issues with their learning and how to work on improving this in the future" [Lora, 3rd week reflective plan]- [Ex-37]

Lora then contextualised this plan by making explicit links between her decision making and design alongside her developing understanding of the principle in relation to promoting LA. During the post-interview, she added an explanation related to understanding the importance of learning by completing reflections that would make her students more responsible about their learning:

> "Making them aware of the benefits of doing reflection might convince others to do it in the future [..] it also makes them accountable for their own learning. If they're going to reflect and I didn't have a lot of responses when I asked the students to reflect on this, the students that did reflect it was very interesting being able to read what their thoughts were and how they saw their learning and how they could improve their learning and what they still needed to work on" [Lora, post-interview- stimulated recall part]- [Ex-38]

> "Researcher: Yeah, you plan this like in the beginning of the third semester and during the third semester you tried this plan actually with some students? Lora: Yeah, I tried it. I think it was the second or third semester at the third week of the semester" [Lora, post-interview- stimulated recall part]- [Ex-39]

Secondly, this impact was seen at a low level across the principles by all teachers, by examining each principle vertically from (Table 10), it was shown with one principle only, namely that of (fostering learner reflection).

It is worth mentioning that only one teacher (Lora) performed a new practical implementation because of the impact (new learning). As mentioned previously, she mentioned in the post-interview her new learning of implementing strategies for promoting learner reflection right after when she was introduced to it in the platform. In the delayed interview, she gave a more detailed explanation of how this implementation occurred in her actual class.

> "Having the learners reflect on their own learning. I tried it with the group by asking them to write a short paragraph after they left class. I asked for them to write about what they learned in the lesson, what they understood or still did not understand, and I had them complete the paragraph with how they can improve on what they did during the lesson. I think it's so important for the students to learn to be self-aware. It will help them discover who they are as learners and what they need from the teacher to provide them as learners. Not all the students submitted this paragraph, but I think if it was made a mandatory part of the lesson, I think we would see a change in the way students learn" [Lora: delayed interview]- [Ex-40]

In short, only two teachers (Lora and Maya) showed this impact (new learning) in one principle that was new to them, which could explain the other teachers' general comfort with already known and established approaches. Additionally, the new learning was shown minimally and not in a dominant tendency such as the impact of validation. This suggests that teachers are already promoting LA in their practices but with less acknowledged awareness. The contextual factors and the less adequate quality of the available CPD in the context could show a disconnection between what LA could be in theory and application.

Furthermore, it was notable that only Lora showed a mix of all of the types of impacts, and not showing the consistency of one type in the same way as the rest of the six teachers, see (Table 10). Although Lora reported that she attends CPDs regularly, she still expressed reluctance in her confidence in applying different methods in teaching, even with 10 years of teaching experience, see (Table 6). As such, it may be concluded that, despite a decade of teaching

experience along with her efforts to engage in CPDs, Lora still lacks confidence due to different reasons, which may include the quality of CPDs attended; or how she never experienced being a student in a Saudi context before with no achieved PhD degree yet. In other words, all of that could contribute to affecting her professional development identity and cause her to struggle regarding contextual adaptation, especially with the constraints and factors that are available in the context regarding LA, not to mention the existence of the national call concerning the need of more effective educational reform is promoted. Moreover, even with Lora's long expertise in teaching that should support her with better certainty, it was accompanied by less effective CPDs attendance and low teaching confidence. That suggests how Lora is still experimenting and navigating what practice best explains LA for her to validate and trust. Accordingly, Lora could be seen as hesitant for not showing consistent validation or fully committing to learning new strategies. Nevertheless, this inconstancy could be an evident sign of her adequate engagement in the dCPD. Her cognitive flexibility with open eyes could have led her to observe visible effects across different areas rather than just the consistency of one learning type.

5.3.3 Critical acknowledgement of LA constraints

Based on the data, it appears that involving teachers in the three phases of this study, including the dCPD, aided in identifying three key issues that could affect the promotion of LA. These issues emerged frequently and repetitively throughout the study phases, including the pre-interview, during training, and the post-interview as the most common constraints. Due to the variety of constraints reported by teachers and HoDs, this section introduces only the most frequently mentioned constraints related to the teaching context. Moreover, the data demonstrate that all teachers offered suggestions to address these common challenges. Furthermore, the secondary data from the HoDs' interviews further support the findings on constraints and teachers' proposed solutions by the teachers. The data shows that the main issues revolved around three aspects: restrictions on grading flexibility due to the pacing system, time pressure caused by syllabus and semester schedules, large classes, and limited motivation to learn. The data also show a variety of teachers' solutions proposed to tackle these challenges.

The first issue highlighted by teachers was the restriction imposed by pacing, which limited their freedom to implement their own grading systems. This restriction was seen as demotivating, particularly when engaging learners with extracurricular activities, as expressed by Alice, Jane, Ivy, Lana, Lora, and Maya. For instance, Jane pointed out that the centre's policy does not allow teachers to assign marks to motivate students to be involved in activities outside of the allocated in the pacing and syllabus:

> “The only thing that I can think of in terms of the centre and it's policy, you don't have the ability to give marks outside of the activities that were allocated marks in the pacing and the syllabus the centre gave us” [Jane, post-interview]- [Ex-41]

Additionally, teachers emphasised the need for greater flexibility in grading, suggesting that allowing teachers to assign marks for extra activities could increase student motivation. Ivy stated the following:

> “We need full support from ELC by giving us 10 marks with my students according to the activity that I want them.. especially outside, really it's very important that the activities that do it inside and outside the classes it complement each other, and it's very important and maybe they can benefit from the outside more than the inside, this not supported by the ELC” [Ivy, post-interview]- [Ex-42]

This concern was expressed by C-3 HoD, who stressed the importance of the pacing system in guiding teachers while also cautioning against pressuring students with optional activities. This HoD shared an example of students feeling overwhelmed by additional activities, which were not graded and intended solely for their benefit. The C-3 HoD told a story of students who refused to participate in any extra activity as follows:

> “It's like the guidelines, the main lines for them just to direct their ways, but then they can just do whatever they want to do to help their students according to the needs of their students according to the levels of their students” , “they complained that this teacher is like torturing us, this teacher is being mean to us, and we all know this teacher [..] So, we told them that yes, this was extra given by the teacher and if you don't want it, just say we don't want it. That's it. It's not graded, it's for your benefit” [C-3: HoD interview]- [Ex-43]

The second issue was related to time pressure resulting from the syllabus and semester schedules, as Ivy, Lora, and Lana discussed. Lora, for example, noted that time constraints forced her to prioritise completing the course plan over focusing on additional learning activities:

> “I don't really focus too much because of the time issue. Because in the end, I need to finish the course plan” [Lora, post-interview]- [Ex-44]

The L-1 HoD agreed, acknowledging that completing required tasks within shortened semesters is challenging:

> “So, I wouldn't be idealistic. Sometimes we find it hard even to finish what we are asked to do in class particularly this time, when we have shorter semesters than usual” [L-1: HoD interview]- [Ex-45]

The data about this constraint did not show any direct solution to this issue. The third issue is related to the challenge of managing large class sizes, which Alice, Lana, Ivy, and Maya identified as a barrier to promoting LA. For example, like what Lana stated:

> “Having a very condensed schedule for me as a teacher, teaching 3, 4, 5 groups, each group with thirty students and more” [Lana, post-interview]- [Ex-46]

The L-1 HoD agreed with this concern, describing LA promotion as an idealistic idea when teaching large groups of 60 students:

> “Autonomous learning is an ideal situation sometimes. I'll give you an example I am teaching a group of 60 students, OK. So, number makes it very hard to me to be idealistic because it's a huge number, something that is not ideal, OK, speaking to every one of them or making sure that every one of them is learning autonomously would be a tall order indeed, *Something like that is impossible,* this is one thing” [L-1: HoD interview]- [Ex-47]

Alice and Lana suggested reducing class sizes to provide more personalised support, mentioning that studies recommend class sizes of 15 to 20 students. Alice suggested the following:

> “Studies show it's not our opinion; it's the studies show that the number should be between 15 to 20 maximum. And we've presented them with these numbers, but you know” [Alice, post-interview]- [Ex-48]

What also related to the third issue concerns the learners' low motivation to learn; all seven teachers agreed that it was a noteworthy barrier. Maya, for instance, noted that some students do not take language classes seriously because it is not their major, making it difficult to motivate them:

> “The students themselves are not taking the language classes seriously. Because it is not their major [..] they don't have this goal and when the learner does not have this goal to him or to her, the course is just something they get a

passing grade on and then get rid of. It is difficult to motivate them to learn" [Maya, post-interview]- [Ex-49]

The suggested solutions for this issue were directed to be solved on a class or department level or by the policymakers. Firstly, within the class, at the ELC level, Rose, Ivy, and Jane agreed that there was a need for the teachers to structure strategies in certain ways to make the activities interesting, emphasising the importance of these activities to students. For example, Jane stated that:

"But if you structure it in a certain way, think it will make it interesting for them. And if you make them feel what's the benefit for them to know how they learn, I think they will be interested to do it" [Jane, post-interview]- [Ex-50]

In relation to that, the three HoDs, agreed on the importance of the teachers' positive beliefs about LA promotion, noting that such beliefs could lead to creative teaching practices. C-3 HoD stated the following:

"It's also about the belief of its importance", "There's room for creativity for the teachers [..] If they want to do that, or if they are innovative enough, or if they have the time for that" [C-3: HoD interview]- [Ex-51]

Another solution that Lora, Ivy, and Jane suggested concerns raising learners' and teachers' awareness of LA. The teachers mentioned the need to focus on advising learners and increasing students' awareness of LA during the orientation sessions in the centre at the beginning of the semester, Specifically, Lora commented on the following:

"Usually, the English language centre has an orientation and it would be a good idea to have it during orientation to tell the students, OK, you're not in high school anymore, you're going to be college students now, and you need to learn on your own, you need to learn how to learn with other students in group settings. Even with taking notes" [Lora, post-interview] -[Ex-52]

Furthermore, Ivy and Jane suggested offering more CPD for teachers to train them on LA promotion for in-service teachers, but most importantly, offering training for the pre-service. Ivy commented on the following:

"I'm thinking that we needed more professional development not now, before as student's in-service or pre-service learning programs, we needed programs to build these concepts since we are students. After graduation, we can have more concentrated training about these aspects, because they are very important. We can bring the horse to the water but can't force it to drink it" [Ivy, post-interview]- [Ex-53]

While the C-3 HoD highlighted the existing CPD offerings at the English Language Center (ELC), which include sessions on LA, as the head stated:

> "Every term we run professional development sessions. Of course, it is planned. It's not just out of the blue we run this session. No, it is planned before the term starts. So, one of the topics that are recurrent in our plans for professional development at the English Language Centre is learner autonomy", "because this is one of the crucial themes in English language teaching field, and because I know that in the Arab world, it is something that is still missing or still misunderstood, if it's there it might be misunderstood" [C-3: HoD interview]- [Ex-54]

This contrasting view by teachers about the training need; suggests that the effectiveness of these CPDs may be limited by factors such as the nature of the training, which is often lecture-based, similar to what the teachers reported in Section (5.2.1).

In terms of what could be solved by policymakers concerning learners' low motivation level, some teachers, such as Lora and Maya, believed that increasing learner motivation should begin at the root by reforming the public education system to encourage autonomous learning from an early age:

> "as I told you that the problem is much deeper than simply fixing it in college [..] it cannot be targeted at the college that we can try to mitigate the situation, we can try to reduce the effects, but to get rid of the problem in an efficient manner, we have to go back to what the ministry is doing with them in our public education system" [Maya, post-interview]- [Ex-55]

All three HoDs, agreed that learners' resistance to LA may be formed from their traditional learning backgrounds, where the teacher is the centre of the learning process. Z-2 commented the following:

> "Maybe they are used to learn this way. The traditional way that the teacher is the centre of the learning process. That the teacher has to explain everything. So, they don't work at home. They wait until he explains everything and then he assigns exercises and homework, and then they will do their part in doing that homework. So, maybe because they this is the teaching method that they follow, since they were in elementary school" [Z-2: HoD interview]- [Ex-56]

Overall, the data indicate that teachers were able to critically identify and discuss key constraints during training, including a restriction on grading flexibility, time pressure, learners' low motivation, and large class sizes. The teachers also proposed solutions to address these

issues, demonstrating an ability to engage with and challenge the barriers to promoting LA in teaching contexts.

This critical navigation of the constraints could be interpreted concerning what the teachers learned from the dCPD and their classroom practice. Since two types of impacts emerged minimally among the teachers such as the enhancement and new learning which are likely to produce new classroom applications. Accordingly, the most dominant impact (validation) supports the interpretation of the interconnection between the reported constraints and the teachers' classroom practice from two different angles as follows: *First,* it suggests that the dCPD validated the teachers' pedagogical understanding regarding their actual LA implementation. This is an indication that the teachers are actually trying to implement LA in their classrooms despite having difficulties that are causing them to struggle. Teachers are urging policymakers to provide more support and remedies, to ensure better achievement of LA with fewer challenges. *Second,* the impact of validation also suggests that the contextual constraints marked the tension that arose as the teachers struggled to put theory into practice. The training helped the teachers to connect the dots, allowing them to validate what they already knew and did regarding LA promotion.

Generally, this connection suggests that teachers' learning from a CPD course may not necessarily result in new classroom practices, especially if there are many constraining factors in the context. Rather, such a course is perhaps more likely to help teachers validate what they actually do and, in turn, support how they negotiate the contextual constraints. That could lead to a better understanding of LA application, allowing teachers to refine their approaches for better promotion of LA.

In short, the findings presented in this chapter suggest that the dCPD has an impact on the learning outcome and varied effects on the conceptual and pedagogical understanding of LA, autonomous learner characteristics, and LA pedagogical principles. The chapter also highlighted the benefits of critically acknowledging and challenging LA constraints among the teachers.

Chapter 6 Teachers' Engagement within the dCPD

6.1 Introduction

This chapter addresses the answers to the other two research questions regarding exploring the teachers' learning process during the dCPD programme. The chapter also explores teachers' emotional reasoning and attitudes towards their learning process, the training affordances, challenges, and different aspects of dCPD. It explores all of these issues under the umbrella of the digital learning engagement typology (Fredricks et al., 2004), classified as cognitive, behavioural, and emotional engagement in online learning, as mentioned in Section (3.4.2). This process aids in understanding how the teachers exercise their autonomy in terms of TLA when learning about fostering LA. The following is a presentation of the findings that address the second and third research questions.

6.2 Teachers' cognitive/behavioural engagement within the six learning types

For answering the second research question: *To what extent did the teachers engage with the dCPD and how, if at all, did this impact their learning*?

The teachers took part in a dCPD programme that incorporated six learning types which are: acquisition, inquiry, practice, discussion, collaboration, and production, see section (3.4.1.1). Accordingly, the analysis regarding this second research question focuses on understanding the teachers' learning processes based on two aspects of engagement, namely cognitive and behavioural.

On the one hand, cognitive engagement involves thinking about and understanding the topic, as reflected by learners' task investment in terms of being strategic (Fredricks et al., 2004). As such, the analysis begins by showing to what extent the teachers took part in each of the six learning types outlined by the LCF (Laurillard, 2012). The analysis considers the learning types concerning teachers' responses to the tasks; in other words, the analysis explores whether the teachers engaged and did the cognitive tasks correctly to achieve the goal of the learning types and understand their level of cognitive engagement.

On the other hand, behavioural engagement refers to the performance of engaging in a variety of digital activities (Fredricks et al., 2004). Teachers' participation in an online activity may be evaluated by various factors, such as the number and type of posts and task performance (Hew

& Cheung, 2003). I presented both the cognitive and behavioural engagements together because of their interwoven relationship with one another. In addition, as explained in Section 3.4.2), measuring cognitive/behavioural engagement together could produce a holistic picture of how teachers learn and interact in online learning since both types are linked closely and sometimes occur together. Other observed dynamic aspects of teachers' engagement were also introduced. Each teacher's cognitive and behavioural engagement was explored by tracking and examining the platform task responses, the platform analytics, and the teachers' observational profile. Subsequently, all helped in exploring possible links between understanding teachers' engagement with the learning types, their variable backgrounds, and their learning outcomes presented in Chapter 5.

Before starting to present the data related to level of engagement, it is necessary to acknowledge how the dCPD tasks, and its performances translated into each learning type, the following table helps to demonstrate the translation process.

Table 11: The translation of the dCPD tasks into each learning type

Learning type	**Tasks and expected performance within the dCPD**
Acquisition (individual)	- Watching videos - Watching presentations
Inquiry (individual)	- Answering quizzes - Answering questions asked in the platform main group discussions
Discussion(social)	Being interactive/dynamic by posting in - The platform's main discussion group - The assigned peer-review task
Practice(individual)	Analysing and posting in Padlet: - Week 1: Teachers should follow the model for finding information related to the importance of LA - Weeks 2 and 3: Teachers should choose modelled practices or strategies in Padlet, analyse their implementation, and share another modelled practice to be applied in class
Production (individual)	Posting three reflections: - Week 1: Questioning the reality of their teaching/context - Weeks 2 and 3: Creating a plan based on the principles of LA and its practices

Collaboration (social)	WhatsApp collaboration - Interaction to negotiate the modelled strategies posted in Padlet - Interaction to create new posts about LA practices and share them on the collaborative Padlet

Teachers were required to participate an essential number of times regarding each task to identify their adequate behavioural performance. Moreover, to judge the quality of teachers' participation, the study also took into consideration the required cognitive indicators underpinned by the LCF. Also, the posts frequency or the number of posts was essential in validating teachers' cognitive performance in the digital learning setting; the teachers posting only a minimum number of times or even not at all, yielding no observable performance data, would have made it challenging to judge their cognitive performance indicators in depth. Taken together, the quality of behavioural and cognitive engagement, as determined by adequate achievement of requirements, led to a judgement regarding the level of engagement in each learning type. The following table outlines the specific behavioural and cognitive performance requirements tracked to determine the quality of engagement and, in turn, the level of engagement.

Table 12: The quality of engagement requirements

Learning types	**Behavioural performance requirements (minimum)**	**Cognitive performance requirements**
Inquiry	- 3 Quizzes. - 3 posts- answers in platform group discussion	- Exhibiting understanding (e.g., by making decisions based on independent research, providing answers, or evaluating obtained information). - Critically questioning information to explore further.
Discussion	- 3 posts interacting in the platform group discussion. - 3 peer reviews.	- Recalling information and demonstrating understanding of concepts and ideas. - Dynamically defining and reconsidering concepts and ideas considering challenges and exposure to someone else's thoughts. - Giving and receiving feedback from peers (e.g., by sharing critiques, ideas, comments, or answers).
Practice	- 3 posts in Padlet	- Exploring and analysing concepts by following a modelled practice.

		- Incorporating ideas into applicable practice and sharing these practices in Padlet.
Collaboration	- WhatsApp collaboration (several collaborative posts).	- Negotiating on current practice by understanding and evaluating different perspectives to create a joint outcome.
Production	- 3 reflective posts	- Reflecting on current teaching practices, connecting concepts to practice, and produced practical plans for classroom implementation as lesson plans.
Acquisition	- (passive) = watching videos, watching presentations	- Showing high engagement in the other learning types via discussions, inquiry, and practice. (Acquisition is closely connected to other learning types.)

It was shown in the data that there are three cognitive/behavioural engagement levels: high engagement (H); moderate engagement (M); and low engagement (L). The (Table 13) illustrates these three levels of engagement about the six learning types shown in the data across all three teachers. The level of engagement is judged depending on the teachers' performance regarding achieving the cognitive and behavioural requirements of each learning type shown in the previous table. As *(High)* reflects the complete performance, and adequately satisfied the behavioural/ cognitive performance requirements of each learning type. *(Moderate)* reflects modest/fair achievement, somewhat satisfied the behavioural/ cognitive performance requirements of each learning type. *(Low)* refers to the minimal/absence of such performance, minimally satisfied or did not at all satisfy the behavioural/ cognitive performance requirements of each learning type.

Interestingly, (Table 13) represents two aspects: (1) the learning types levels (vertically); and (2) the pattern of teachers' engagement (horizontally). Firstly, for understanding the total of the dominant level that occurred in each learning type across the seven teachers was presented by "moving vertically" between (four to seven times of a certain level frequency), means that the dominant level is either high, moderate, or low level. Secondly, to understand the teachers' pattern of engagement, the total of consistency of the dominant learning types levels shown by each teacher across the six learning types produce a pattern. This pattern was presented by "moving horizontally" between (four to six times of a certain level frequency), means that the level has become the dominant as a pattern, either high, moderate, or low.

Furthermore, as shown in (Table 14) it represents the behavioural engagement of teachers in all learning types tasks, which is related to the teachers' performance under the six learning types

and was measured in the form of posts performance in the dCPD tasks. The data in this table are supplementary, which provides more details about the behavioural engagement that supports the interpretation of the cognitive engagement.

Table 13: Teachers' overall engagement level in the six learning types (overall level and teachers' patterns)

Teacher	Acquisition	Inquiry	Discussion	Practice	Collaboration	Production	Pattern of teacher engagement
Alice	Moderate	Moderate	Moderate	Moderate	None	High	4 (M)= Moderate
Maya	Moderate	High	Moderate	Low	None	High	Varied= close to Moderate
Lana	Moderate	High	Moderate	None	None	High	Varied= close to Moderate
Ivy	High	High	Moderate	High	Moderate	High	**4 (H)= High**
Jane	High	High	Moderate	High	None	High	**4 (H)= High**
Lora	High	High	Moderate	High	High	High	**5 (H)= High**
Rose	High	High	High	High	Moderate	High	**5 (H)= High**
Total learning type level	**4(H) = High**	**6 (H)= High**	6 (M) =Moderate	**4 (h)= High**	4 (L)= Low	**7 (H)= High**	

Table 14: Teachers' tasks performance translating each learning types (supplementary)

Teachers	Acquisition (video & prestation)	Inquiry (Quizzes- Main) & (platform group discussion (GD))	Discussion (platform group discussion) & (peer review (PR))	Practice (Padlet)	Collaboration (WhatsApp)	Production (Reflections)

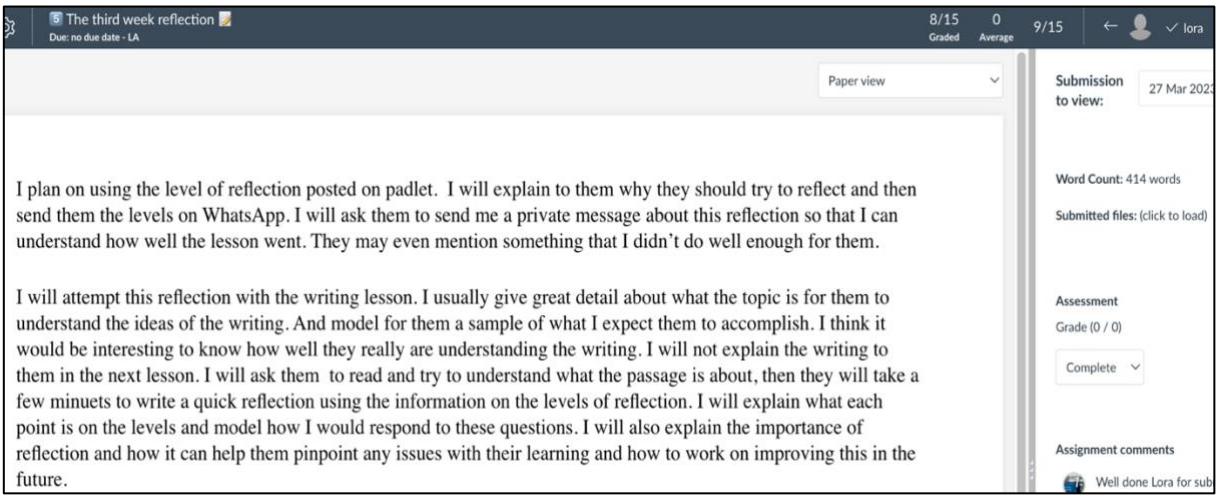
Alice	Passive	(3 quizzes) 1 post - GD	1 post GD 3 PR	2 posts	1 post	3 posts
Maya	Passive	(3 quizzes) 3 posts - GD	3 posts GD 3 PR	1 post	0 post	3 posts
Lana	Passive	(3 quizzes) 3 posts - GD	3 posts GD 3 PR	0 post	0 post	3 posts
Ivy	Passive	(3 quizzes) 3 posts - GD	3 posts GD 3 PR	6 posts	7 posts	3 posts
Jane	Passive	(3 quizzes) 3 posts - GD	3 posts GD 3 PR	3 posts	3 posts	3 posts
Lora	Passive	(3 quizzes) 3 posts - GD	3 posts GD 3 PR	6 posts	35 posts	3 posts
Rose	Passive	(3 quizzes) 3 posts - GD	5 posts GD 4 PR	3 posts	8 posts	3 posts

6.2.1 Teachers' high level of engagement

This section explores the high level of engagement in the learning types. Firstly, by looking at the learning types vertically from (Table 13), there are high levels of engagement within the learning types across the seven teachers, which was particularly salient in four key individual learning types: learning via acquisition; inquiry; practice; and production.

One example is learning type via production. All seven teachers achieved a high level of engagement in the learning type via production. The cognitive and behavioural requirements of the learning type via production required teachers to post three reflection posts. That allowed them to reflect on their teaching practices, connect concepts to practice, and produce practical plans for classroom implementation, such as lesson plans with learning outcomes. All seven teachers completed this task correctly and produced a reflective post based on prior/new understanding and implementation. Some teachers (Lora and Maya) were able to create a plan based on a new application for future attempts. Interestingly, this advanced understanding relates to the dCPD impact and demonstrates the impact of dCPD through new learning, see Section 5.3.2.3). An illustrative example from Lora's third reflective post is presented in the following screenshot:

Figure 6: Task screenshot (learning via production)



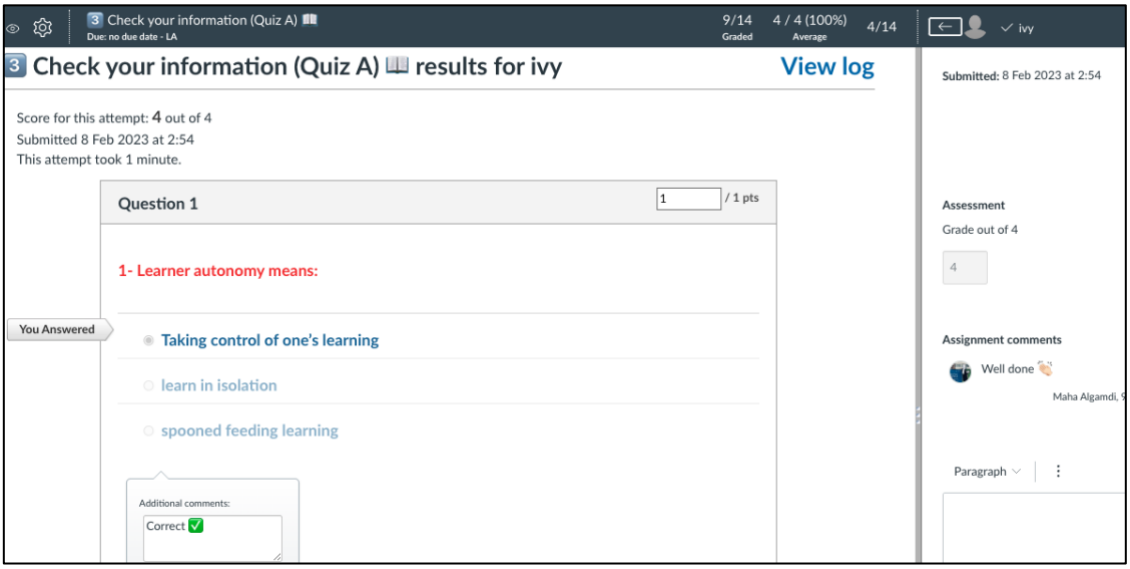
It can be concluded that all seven teachers produced a reflective post regarding the learning type of production. However, the posts varied; some teachers created a plan based on their prior knowledge, such as (Lana, Ivy, and Alice). Other teachers, such as (Lora and Maya), were able to create a plan based on new learning and for future applications.

Additionally, another type of learning that the teachers achieved a high level in was learning via acquisition. This type is closely connected to other learning types, such as inquiry, discussions,

and practice. This learning type aims to present information to teachers to acquire and remember it during their learning process to influence their conceptualisations of LA. This type is a kind of passive learning type that is difficult to identify in isolation because it overlaps with other learning types and is related to presenting information for learners and followed by other tasks that fall under other learning types. For example, during training, after the presentations of the slides, teachers took a quiz related to learning via inquiry; after watching some videos or analysing images, teachers had to engage in group discussions on the platform or posting in Padlet related to the learning via discussions and learning via practice. As such, the teachers who showed high engagement in the learning types via discussions, inquiry, and practice were the most engaged with this type of learning via acquisition. Accordingly, the majority of teachers engaged highly in this type of learning due to their majority of high engagement in the other connected learning types, see (Table 13).

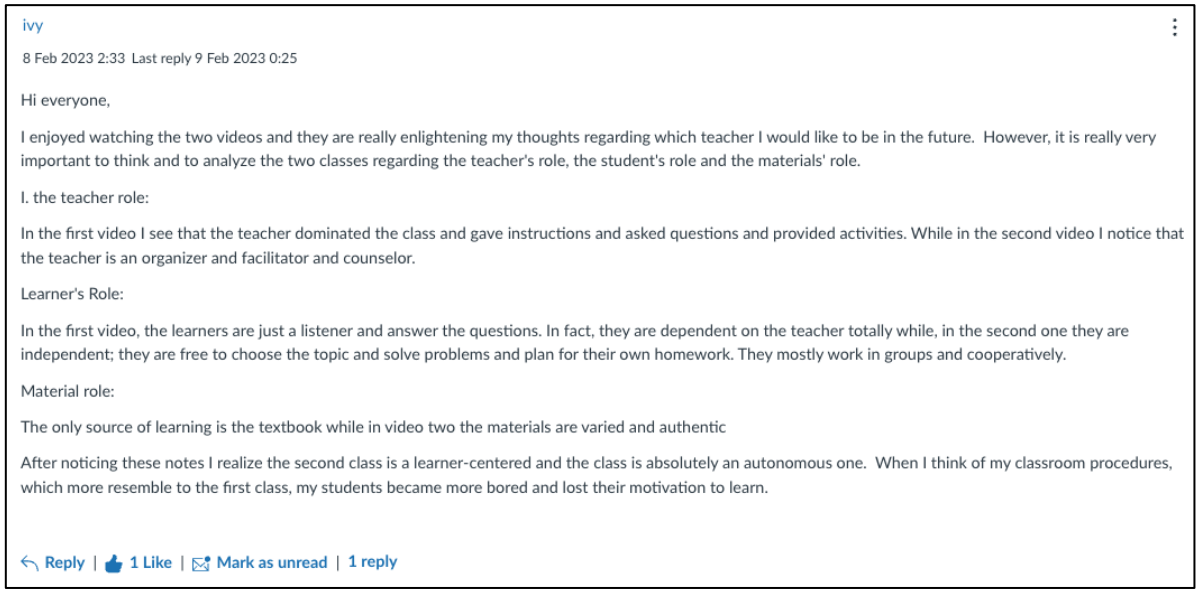
Secondly, as shown in (Table 13), by looking at teachers' pattern of engagement horizontally, there was a consistent pattern of high engagement by four teachers (Ivy, Jane, Lora, and Rose) across the six learning types. For instance, most of the teachers were highly engaged in the inquiry learning type. In fact, the cognitive and behavioural requirements of the learning type via inquiry required teachers to engage through understanding, making decisions by independently researching, providing answers, and evaluating obtained information. This process also required teachers to critically question the information and explore further. Therefore, one of the (inquiry) tasks in the dCPD was to answer three quizzes and answer the three questions asked on the platform's main discussion group. For example, the following image aims to demonstrate how Ivy achieved a high level of engagement in the Inquiry learning type. The data show that Ivy was able to answer all three quizzes; she was able to complete the tasks and answer the multilabel choices correctly in the following screenshot:

Figure 7: Task screenshot (learning via inquiry 1)



Furthermore, within the platform's main group discussions over the three weeks, questions were asked to support learners' understanding of LA and allow teachers to evaluate the information presented. Ivy showed understanding and made critical evaluations in all three weeks, as seen in the example from week one in the following screenshot:

Figure 8: Task screenshot (learning via inquiry 2)



Accordingly, Ivy's high engagement, both cognitively and behaviourally, in this learning type (inquiry) could be due to her motivation and willingness to learn within this learning type.

To conclude, it was shown that high engagement happened highly with four individual learning types: learning via production; accusation; inquiry; and practice. Teachers completed comprehensive fulfilment of cognitive and behavioural requirements of these learning types that could be interpreted as them being willing to participate with a high level of commitment. This finding may indicate that the teachers recognised the value and showed their appreciation for individual learning types. Furthermore, the data also show a strong (pattern) of high engagement across the six learning types, with most teachers maintaining consistently high engagement levels (Ivy, Jane, Lora, and Rose).

The data suggest that the reasons behind the pattern of high engagement across the learning types that were indicated in the data by four teachers could be related to other dynamic aspects that these four teachers showed during the dCPD. These aspects were generated from the basic learners' analytics of teachers' participation rate collected from the platform, the teachers' observation profile, and the researcher's journal. The findings show that some teachers shared some of these aspects, which may explain their overall engagement in learning types. These aspects were as follows: (1) total page views and posts in the platform tasks and WhatsApp. (2) showing eagerness to learn through posting introductions of themselves, (3) posting their

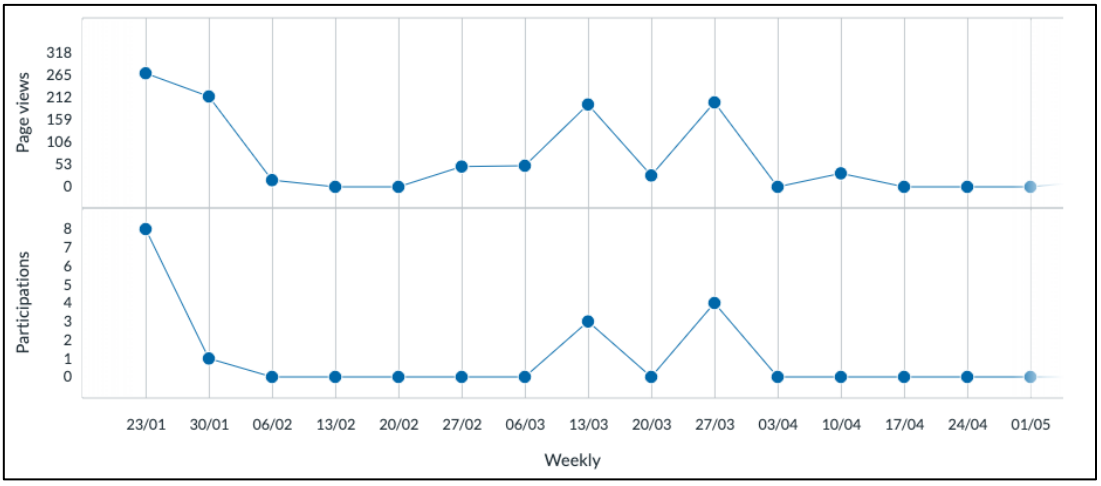
feelings about each week's learning, (4) and the rate of attendance and time spent in training. The following table demonstrates these aspects among the teachers.

Table 15: Dynamic aspects of highly engaged teachers

Dynamic aspects	**Ivy**	**Jane**	**Lora**	**Rose**
Total time spent	Eight hours and 30 minutes	Four hours and six minutes	Four hours and two minutes	Eight hours and 10 minutes
Total participation (individual and social learning types)	25	18	53	27
Total pages views	296	485	1065	752
Self-introductory	Yes	No	Yes	Yes
Weeks feeling expression	3 posts	2 posts	3 posts	2 posts

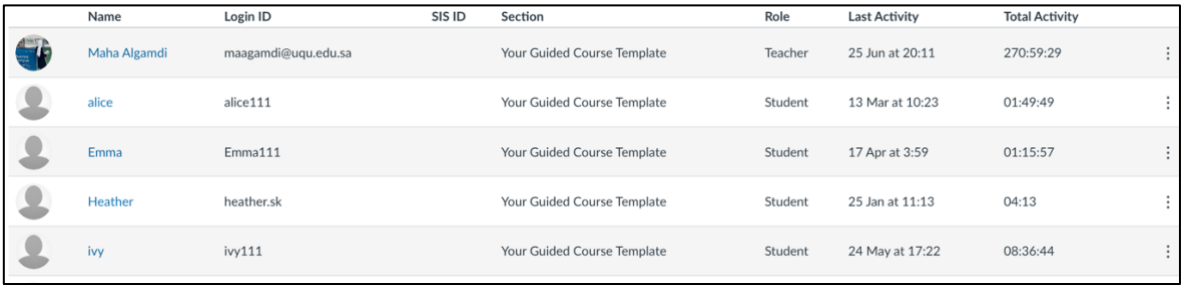
According to the previous table, teachers who are highly engaged and showed consistency of high cognitive/behavioural engagement in the different learning types were Ivy, Jane, Rose, and Lora. These teachers achieved high numbers within the observed dynamic aspects, Lora won first place for her outstanding activity rate with collaborative learning, though it was not the case with Jane because she achieved a high rate across most of the other learning types. The following screenshot is an example of Lora's learning analytics showing a sample of frequency in her page views and some of her recorded participation rates:

Figure 9: Learner analytics sample (1)



In terms of teachers' attendance and the time spent in the training, (Table 15) shows that, while Lora and Jane spent around four hours in duration, Ivy and Rose spent approximately eight hours. The following screenshot is an example of Ivy's time spent on the platform:

Figure 10: Teacher's time spent sample (1)



	Name	Login ID	SIS ID	Section	Role	Last Activity	Total Activity
	Maha Algamdi	maagamdi@uqu.edu.sa		Your Guided Course Template	Teacher	25 Jun at 20:11	270:59:29
	alice	alice111		Your Guided Course Template	Student	13 Mar at 10:23	01:49:49
	Emma	Emma111		Your Guided Course Template	Student	17 Apr at 3:59	01:15:57
	Heather	heather.sk		Your Guided Course Template	Student	25 Jan at 11:13	04:13
	ivy	ivy111		Your Guided Course Template	Student	24 May at 17:22	08:36:44

Furthermore, Ivy, Lora, and Rose introduced themselves and showed enthusiasm and eagerness to learn about LA. Additionally, Ivy, Lora, Rose, and Jane posted expressions about their feelings during training. The following screenshot is an example of Ivy's self-introductory post (part of her post was covered to protect her anonymity and confidentiality):

Figure 11: Teacher's self-introductory post

ivy
21 Jan 2023

Hello Everyone,

I am Ivy and I am a member

accepted to join the course because I like to learn about autonomy and I believe its effectiveness on learning and teaching EFL. So, I think this study will enrich my knowledge about this important topic, and will help me to be better professor.

Best Regards

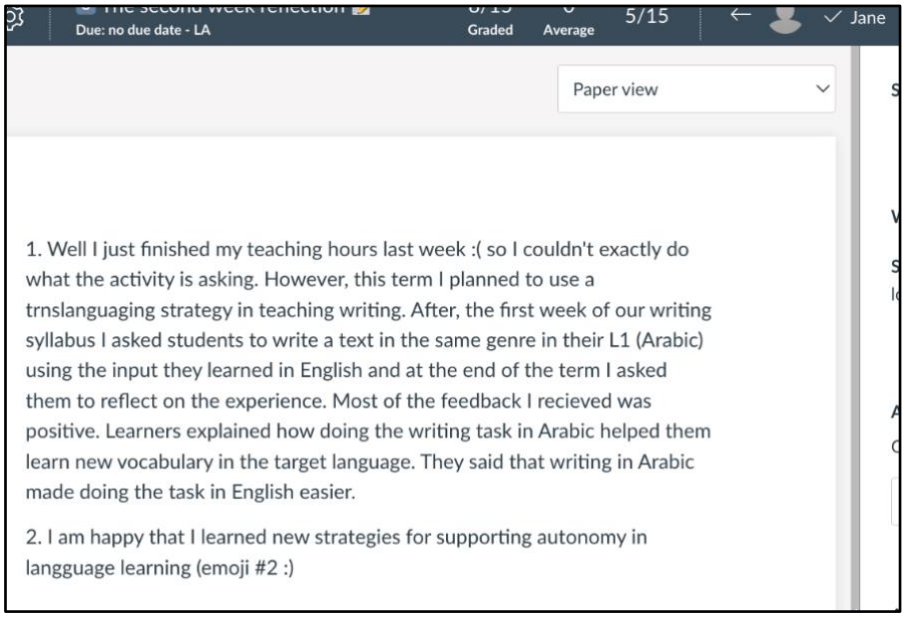
Ivy

Edited by ivy on 15 May 2023 at 11:55

Reply (1 likes)

Lora, Jane, Rose, and Ivy showed enthusiasm for learning about LA in training as they were excited; from the choice of emotions emojis that were presented to them, they either chose the first or second emoji that expressed happiness and excitement or reported their expressions through their words. Screenshot example of Jane's feeling post:

Figure 12: Teacher's feeling expression (1)



In short, it could be concluded that the dynamic aspects that the data reveal played a critical role in determining the four teachers' level of engagement pattern across the learning types. Teachers who introduced themselves, expressed their feelings, and showed enthusiasm were more likely to engage consistently across all learning types. Additionally, the data identifies a correlation between the time spent on the dCPD and the level of engagement. Teachers who invested more time and actively participated in tasks were more likely to achieve high levels of engagement patterns. These findings suggests that the dynamic aspects could be considered as drivers for understanding the teachers' engagement in a dCPD.

Furthermore, exploring and utilising these dynamic aspects supports understanding of the teachers' patterns of engagement and helps determine whether the teachers' engagement was active during the digital learning setting. For instance, the expressions of weak feelings. The goal of collecting these responses was to build a more holistic image of each teacher and to associate these aspects with the teachers' patterns of engagement. The discussion here concerned only with the overall dynamic aspects of the teachers' motivational and enthusiastic

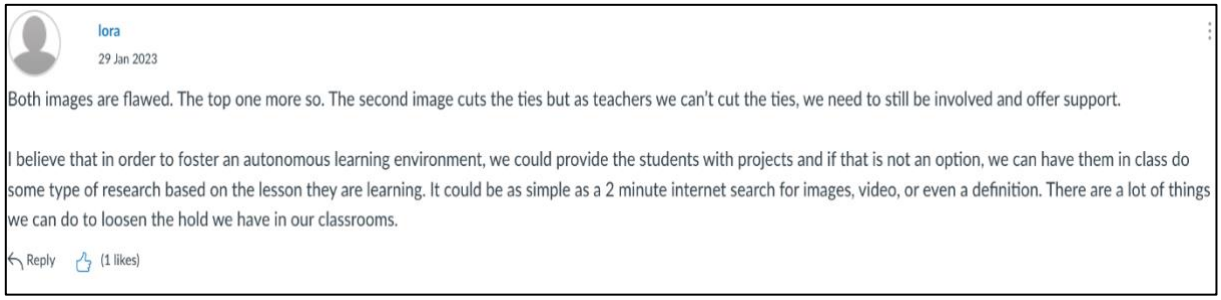
enactment with slight reference to the emotional elements. Moreover, it is worth noting that emotional engagement is the third component of the engagement framework (Fredricks et al., 2004), a more in-depth exploration regarding the teachers' emotional engagement appears in Section (6.3). This exploration will primarily focus on the teachers' reported feelings, attitudes, and emotional reasoning regarding each of the six central learning types of the LCF, and it will strive to understand the reasons behind the teachers' cognitive/behavioural engagement with each learning type.

6.2.2 Teachers' moderate level of engagement

This section explores the second category, namely the moderate level of engagement in the learning types. Firstly, by looking at the learning types vertically from (Table 13), it represents the moderate levels of engagement within the learning types across the seven teachers, which was particularly salient in one key learning type, namely learning via discussion. Only Rose was highly engaged in this learning type. This learning type of cognitive and behavioural engagement requires teachers to remember and show understanding of their concepts and ideas, define and reconsider them in light of challenging and evaluating someone else's ideas, develop their concepts further by receiving feedback from their peers, and offer critiques, ideas, comments, and answers to one another. Teachers should perform these tasks by actively posting in the platform discussions and conducting the assigned three peer-work tasks. To understand why most teachers achieved a moderate level and only one teacher achieved a high level in this learning type, platform discussions were analysed, Rose posted the highest number of posts by being dynamic and was the only teacher who replied to my feedback. In contrast, Alice posted the least by contributing only once, and the remaining teachers posted only three times each week without being dynamic in their responses.

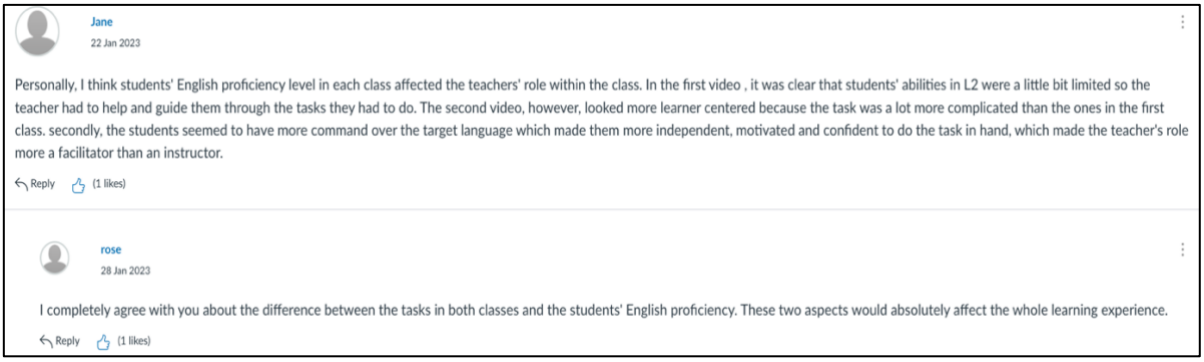
The six teachers did articulate their ideas and posted for the three weeks as required and showed understanding related to the topic of the discussion as required. A screenshot example of this posting is seen in Lora's post in Week 2:

Figure 13: Task screenshot (learning via discussion 1)



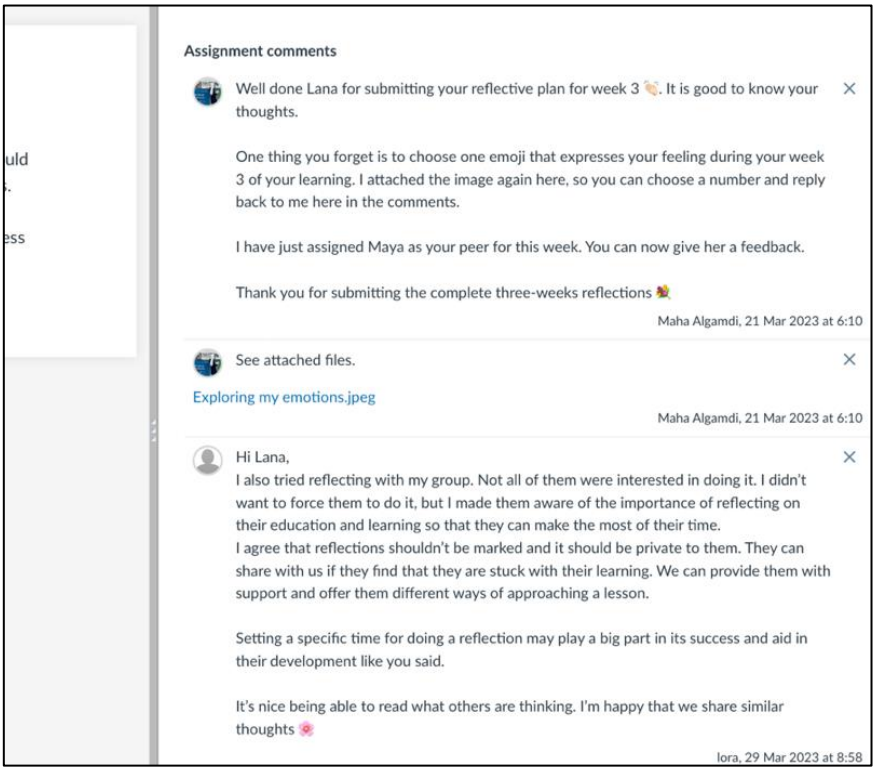
It was seen that the teachers did not challenge/comment on each other's ideas dynamically. Only Rose achieved that in Week 1 and 2 and created a discussion by replying to other teachers. This allowed Rose to be classified as highly engaged in this learning type, unlike the other teachers. The following screenshot is an example of Rose's discussion posts; she added comments replying to Jane's posts by creating threaded discussions:

Figure 14: Task screenshot (learning via discussion 2)



Another type of task falling under the discussion learning type is the peer review task, where each teacher reviewed three reflective posts of three different teachers. All 7 teachers completed this activity correctly and engaged in commenting with elaborate feedback. For example, Lora gave detailed feedback on Lana's reflective post in the following screenshot:

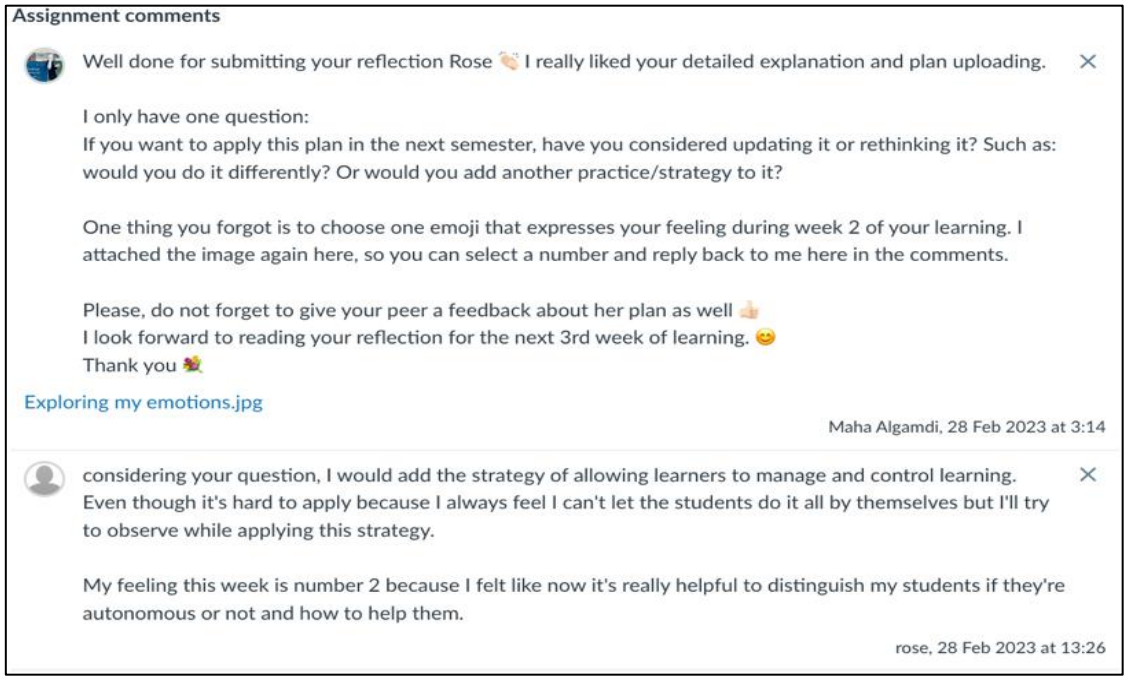
Figure 15: Task screenshot (learning via discussion 3)



Furthermore, all of the discussions and the reflective posts were followed by my feedback to reinforce that the teachers did a good job and ask more prompting questions. Rose responded

once to feedback by adding more information to what I asked her. However, the other teachers did not engage further with the feedback. The following screenshot is an example by Rose:

Figure 16: Task screenshot (learning via discussion 4)

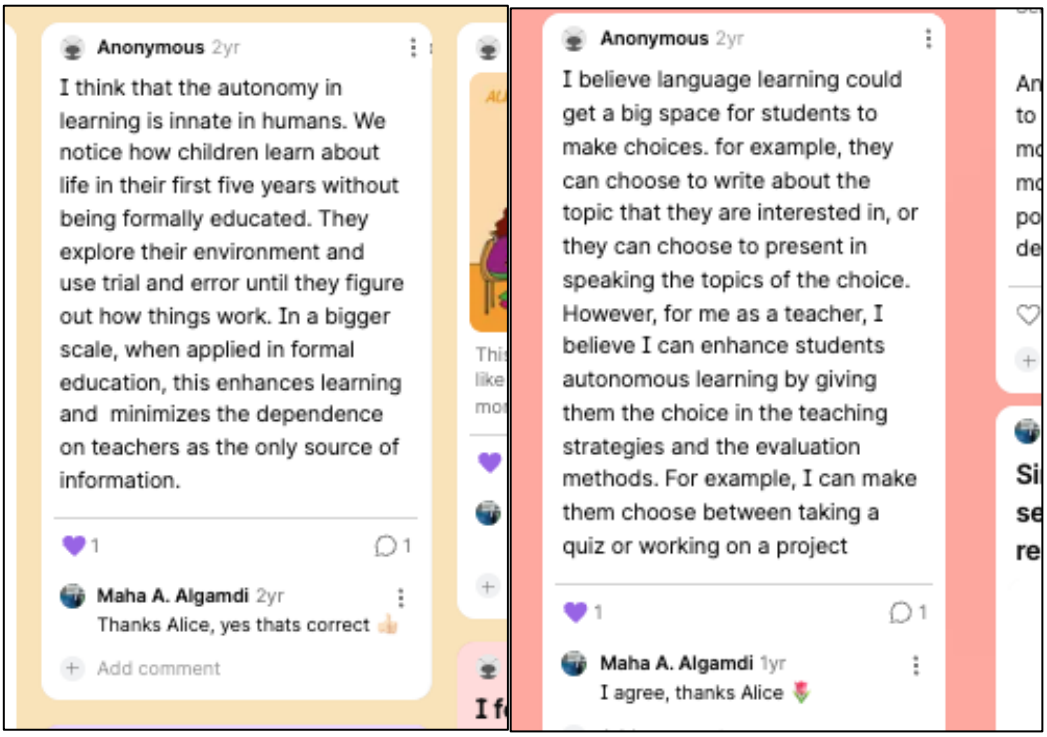


It could be concluded that six teachers had moderate engagement with the learning type via discussion and showed moderate cognitive and behavioural engagement when articulating their ideas and posting them for the three weeks, as well as achieving all the required peer reviews tasks. By doing so, they showed an understanding of the topic under discussion as required. Rose did the same but posted more by challenging or commenting on others' ideas and replying to my feedback. These action show Rose's dynamic participation, which allowed her engagement to be judged as high in this learning type.

Secondly, by looking at teachers' patterns of engagement horizontally from (Table 13), it reveals consistent patterns of moderate engagement by three teachers across the six learning types (Alice, Maya, and Lana). Although Lana and Maya showed varied levels, they were considered moderate -further explanation about them will be provided in this section. The occurrence of the moderate level with some of the learning types occasionally has contributed to the teacher's pattern of engagement to be judged as moderately engaged. Take for example, the learning type via practice; the data highlight that only Alice achieved a moderate level of engagement. The cognitive and behavioural requirements of the learning type via practice required teachers to explore and analyse concepts by following a modelled practice posted for them in the Padlet. Teachers then should put their ideas in the form of applicable practice and share these practices in the Padlet. Each teacher should share at least three posts. To understand how Alice achieved this moderate level, she showed the ability to analyse the posted models and apply a

related understanding of knowledge by posting only two posts in the Padlet during all three weeks. The following screenshot is an example of Alice's posts in Weeks 1 and 2:

Figure 17: Task screenshot (learning via practice)



Alice's moderate engagement in this learning type may be explained by her incomplete response to the task, which required her to post three posts at least. Therefore, her performance of the cognitive and behavioural learning underpinning this learning type was judged to be moderate, which could be related to her moderate interest in this task or to other difficulties that she may have encountered.

To sum up, the data remarkably showed that the moderate engagement level happened in consistency with one social learning type across teachers, which is the learning type via discussion; teachers did not fully complete the comprehensive fulfilment of cognitive and behavioural requirements of the learning type tasks for showing dynamic participation. This finding could be interpreted as teachers being willing to participate in the dCPD activities. While their engagement was not at the highest level of intensity in the discussion of the learning type. This finding may also indicate that teachers did not fully recognise its value for this social learning type. Furthermore, the data suggest a pattern of moderate engagement with some teachers across the six learning types (Alice, Maya, and Lana), by maintaining consistent engagement levels that were judged as moderate.

Like what was described earlier with the pattern of the highly engaged teachers; the reasons behind the pattern of moderate engagement across the learning types that were indicated in the

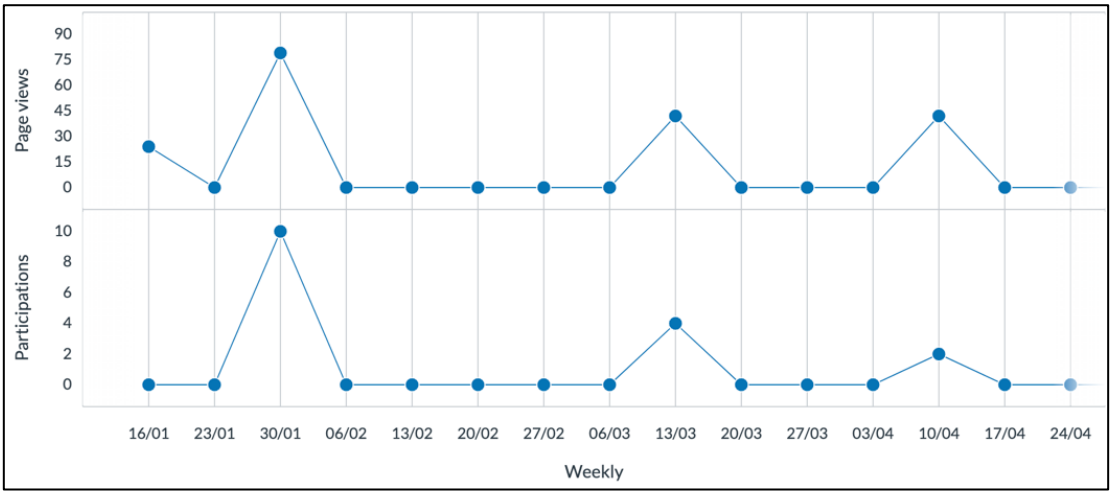
data by the three teachers; could also be related to the dynamic aspects that these three teachers showed and performed during the dCPD. It is worth noting that Lana and Maya showed a variation in the levels of engagement; however, they were both close to the moderate level for achieving two frequencies of high levels, two frequencies of moderate levels, and two frequencies for low levels across the learning types, see (Table 13). As such, describing these teachers' engagement as being moderately engaged was more appropriate. The following table presents these aspects of the three teachers.

Table 16: Dynamic aspects of moderately engaged teachers

Dynamic aspect	**Alice**	**Maya**	**Lana**
Total time spent	One hour and 49 minutes	Four hours	Three hours and 37 minutes
Total participation (individual and social learning types)	13	13	12
Total pages views	706	187	244
Self-introductory	No	No	No
Weeks feeling	1 post	0 posts	0 posts

Notably, these teachers shared similar dynamic aspects and actions to some degree on the platform. These aspects in the previous table seemed to be lower than those of the highly engaged teachers presented in (Table 15), such as showing a lower participation rate and lower page views rate. However, it is worth noting how Maya who spent four hours in the training (just like Lora and Jane who were classified as highly engaged teachers) still is categorised as moderately engaged. This is because Maya's total participation, page views, and enthusiasm are low. Significantly, the observed time spent in the training does not necessarily always mean high engagement. The following screenshot is an example of Maya's learning analytics showing a sample of frequency in her page views and some of her recorded participation rates:

Figure 18: Learner analytics sample (2)



Furthermore, in terms of teachers' attendance and the time spent in the training, the data show that Alice spent 1:49 hours on the platform. Maya spent 4 hours, and Lana spent 3 hours and 37 minutes. Following is a screenshot example of Alice's time spent:

Figure 19: Teacher's time spent sample (2)

	Name	Login ID	SIS ID	Section	Role	Last Activity	Total Activity
	Maha Algamdi	maagamdi@uqu.edu.sa		Your Guided Course Template	Teacher	25 Jun at 20:11	270:59:29
	alice	alice111		Your Guided Course Template	Student	13 Mar at 10:23	01:49:49
	Emma	Emma111		Your Guided Course Template	Student	17 Apr at 3:59	01:15:57
	Heather	heather.sk		Your Guided Course Template	Student	25 Jan at 11:13	04:13
	ivy	ivy111		Your Guided Course Template	Student	24 May at 17:22	08:36:44

The data also show that none of these moderately engaged teachers showed enthusiastic feelings and aspects as they did not post any introductory about themselves, they did not post any expressions about their feelings during the training, only for Alice who posted only once about her feelings.

In short, it could be concluded that the dynamic aspects of teachers on the platform played a critical role in describing the high and moderate levels of engagement pattern across the learning types. Moderate-level teachers were less likely to show these aspects, particularly less enthusiasm in sharing feelings. Also, they generally invested less time, and participated less actively in tasks, as that could be correlated to their pattern of engagement. Accordingly, these teachers' engagement was lower than the teachers who achieved a high pattern of level in Section (6.2.1). This finding suggests that the presented dynamic aspects could be considered as a driver for understanding the complexity of teachers' engagement in a dCPD.

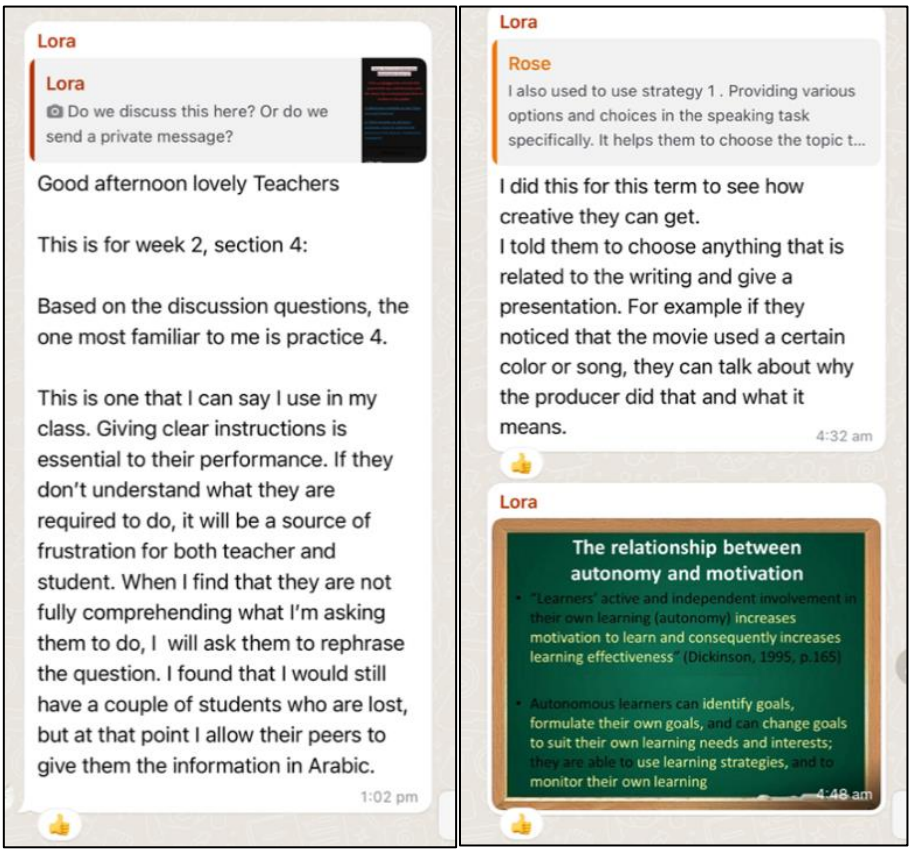
For relating the achievement of the pattern of engagement to the teachers' background variables in (Table 6). The regular attendance of CPDs was reported by most of the teachers who were highly engaged, except Lana and Maya who don't regularly attend any CPDs. That could have contributed to both of their engagement within the dCPD and showed a moderate engagement. Also, unlike the others, the extended length of teaching experience of Alice could have played a role in her engagement to be at a moderate level. Furthermore, many factors could lead to this variation in the pattern of engagement, such as the social tasks and delivery mode of the dCPD, which might appear unappealing to participants or the exitance of other external factors, such as time constraints and workload.

6.2.3 Teachers' low level of engagement

The third category of engagement is the low-level category. As seen in (Table 13), by looking at teachers' engagement horizontally, there was no consistent pattern of low engagement by teachers. However, examining the same table vertically, it is possible to identify low engagement within one learning type by the majority of teachers, which was seen particularly in the learning type via collaboration. The data on collaborative learning type engagement show that only Lora showed a high level of engagement. Ivy and Rose showed a moderate level of engagement, and there was no sign of engagement from the remaining four teachers.

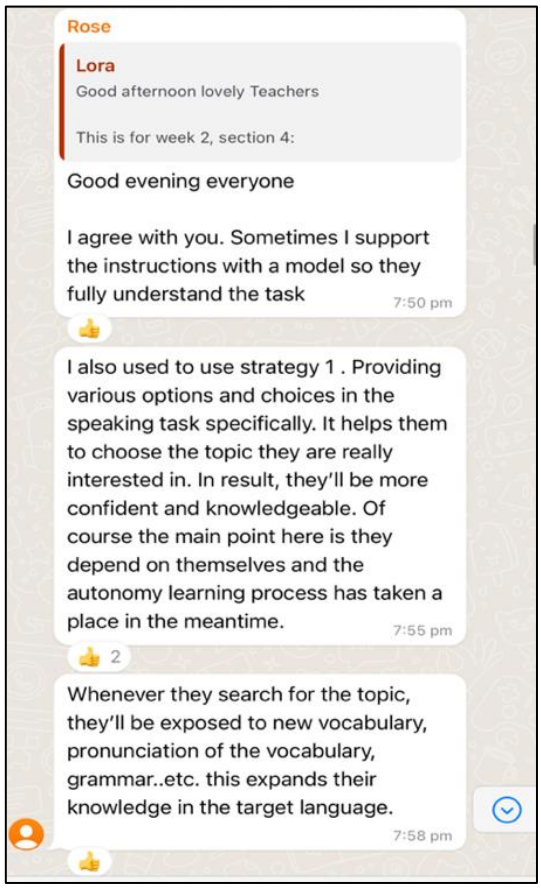
To understand the reason for this low level of engagement, it is important to understand how this requires teachers to be cognitively and behaviourally engaged by negotiating what they are doing in practice, and by understanding and evaluating different perspectives to create a joint outcome. Within the collaboration in the WhatsApp group, teachers were supposed to interact during the three weeks to negotiate the modelled strategies posted in Padlet, create new posts about LA practices, and share them in the collaborative Padlet. The collaborative initiatives were not met positively and with the same energy by these teachers, as Lora had the highest number of posts, with 35 posts in the WhatsApp group, which explained her exceptionally high level of engagement in the collaborative learning tasks. Meanwhile, approximately seven to eight posts were posted by Ivy and Rose, which reflects their moderate engagement in the collaborative learning tasks. Zero to three posts were seen from most of the teachers, which explains their low engagement in the collaborative learning type. For example, Lora, who showed exceptional performance in weeks two and three by negotiating the practices, then shared her post via the collaborative Padlet. The following screenshots are an example from Lora's WhatsApp posts about the week 2 task, showing how she engaged with Rose:

Figure 20: Task screenshot (learning via collaboration 1)



The teachers who showed moderate attempts at collaboration/interaction via WhatsApp were Ivy and Rose, reflecting moderate engagement. Ivy showed engagement in week two only, by discussing its practice and strategies. There were no contributions from anyone else except me to keep the conversation with her going, and then Ivy shared her post via Padlet. Rose showed engagement in week two, practices and strategies only. Lora was engaged in negotiating with her, and Rose then shared her post via the collaborative Padlet. An example screenshot from Rose's WhatsApp posts about the Week 2 task is as follows:

Figure 21: Task screenshot (learning via collaboration 2)



The teachers who showed no attempts to collaborate/interact via WhatsApp produced no understanding or evaluation of different perspectives to create a collective application in Padlet. These teachers were Maya, Lana, Jane, and Alice, who did not show any sign of negotiating the strategies and practices via WhatsApp. The low level of engagement in this learning type is reflected by a failure to contribute meaningfully to collaborative tasks, which limits teachers from benefiting from the affordances of these learning opportunities. In fact, this low engagement across the four teachers could be related to what they might be familiar with or used to during their daily teaching lives, but not necessarily applicable to their learning when undertaking dCPD due to its demanding neuter.

The TLA perspective emphasises that independent and collaborative teacher development is of equal importance in creating more effective and constructive learning opportunities. The observed social engagement among the teachers, however, was inadequate. This result could relate to how the teachers' autonomy, in terms of the social aspect, needs further activation. Fostering more activation in this area may better support and balance the TLA encouragement. Besides, as an insider researcher, I believe the inadequate social engagement could also reflect two features of the teachers' workplace. The first feature is the limited encouragement of collaborative exchange in the current available CPDs. The second stems from the cultural norms surrounding the existing expectations for collaboration, wherein communication is either

informal or exclusive to the administrative practice. These norms tend to limit teachers' opportunities to engage in professional dialogues because of the constraints of their workload and curriculum achievement time frame. It is worth noting that these factors were central to what the teachers reported regarding the reasons behind their low engagement in social activity. The next section on emotional engagement provides an in-depth demonstration and interpretation of this matter.

Based on the engagement with the six learning types, it appears that there were only two categories of engagement as a pattern among teachers (high and moderate), as presented earlier in Sections (6.2.1 & 6.2.2). To understand the relationship between these two patterns of engagement and the learning outcomes shown in the previous theme addressing the first research question, see Section (5.3), could be explained as follows. The findings demonstrate that teacher engagement within the six learning types of the dCPD is multifaceted, and influenced by various factors, including dynamic aspects, time constraints, the nature of the learning tasks and CPD mode of delivery. While high engagement generally leads to enhanced learning outcomes, this relationship may not always be straightforward because teachers in both highly or moderately engaged categories showed mixed patterns of learning impacts, see (Table 9) & (Table 10). In other words, both show positive and desired learning outcomes after training. Also, despite the occurrence of moderate and low engagement in the social learning types, the overall learning outcome and impacts were not negative. However, this issue could limit teachers' access to affordable, beneficial opportunities for learning socially.

6.3 Teachers' emotional engagement within their learning process in the dCPD

This section aims to answer the third research question, namely: *What kinds of favourable aspects, challenges, and recommended solutions did teachers report from learning through the dCPD?*

Accordingly, this part explores teachers' emotional reasoning and attitudes towards their learning within the dCPD. The interpretation of the findings is through the lens of emotional engagement, which is the third component of the typology of learner engagement in online learning, as well as cognitive and behavioural engagement (explained in previous sections). According to Fredricks et al. (2004), emotional engagement is related to a learner's effective reaction towards interactions with instructors (in this case the researcher), peers, and the learning environment. This approach was useful in exploring teachers' attitudes towards their involvement in the training's different learning types and activities. Each teacher's attitude was explored using the platform survey, post-interview, and WhatsApp poll. Moreover, this

exploration provides further justification for teachers' engagement patterns of their learning process explained through the previous themes.

6.3.1 dCPD activity types and tasks

This section explores teachers' preferences regarding the most preferred or disliked individual and social activities that they have been involved in during training. Additionally, the section explores the reasons for these preferences and explains how their preferences led them to learn more effectively or to be more or less engaged in certain learning types.

First, the individual tasks explored were answering quizzes, posting reflections, posting on Padlet, and watching presentations and videos. On one hand, the findings show that the participants' preferences were divided between two favoured individual activities, namely watching presentations/videos, which was favoured by four teachers; and posting reflections, which was favoured by three teachers. In fact, these two activities fall under the learning types, namely acquisition and production. On the other hand, in terms of social activities, the data show that only one type of social activities was favoured the most. Six teachers enjoyed the platform group discussions related to the learning type, whereas only one teacher favoured WhatsApp activities related to the learning type of collaboration. The rest of the six teachers did not show favourable feelings for this type of learning. Significantly, teachers were able to give reasons for their preferences and dislikes in terms of social activities, which are presented in the next two sections.

6.3.1.1 Positivity

This section discusses teachers' positivity regarding the individual activities of watching personations or videos. These two individual tasks were liked by Alice, Lana, Lora and Rose. For these participants, these activities helped them as supporting materials, matching their type of learning style as visual/auditory, or showing examples of modelled practices of what is going on in class from a different angle. Rose commented:

> "Because it shows me a live experience. So, I can see what happened in our classes, or let's say watching what's happened in our classes from a different lens. Sometimes we don't know what happens in our classes because we are in the middle of the process, but we don't know how to re-look at the situation" [Rose, post-interview]-[Ex-57]

For others, such as Maya, Ivy and Jane, the activity that they liked was posting reflections. The three teachers explained how this approach allowed them to think of their previous experience,

rethink what they had learned during the training, and how to apply it in future practice. Jane explained the following:

> "Well, we are applying the principles of I think autonomous learning. So, I listen to the videos, I read the information given on the webpage and then I relate the information you provided to my experience as a teacher, and the result of that comes in the form of the reflections. So, I try to relate the information to my own teaching experience". [Jane, post- interview]-[Ex-58]

On the other hand, in terms of social activities, namely platform group discussion, WhatsApp collaboration, and peer-review, all six participants chose that they liked the group discussion the most. They explained that this approach was effective, allowing reading about other experiences and share ideas. For example, Ivy stated the following:

> *"Group discussions help me see the other participant's experiences.* I can read what they have done and want to do. *I can see if the ideas are similar or if they have better ways of application. It was important for me to read their discussions"* [Ivy, post-interview]-[Ex-59]

Lora was the only one who preferred the WhatsApp collaboration but wished it was more interactive:

> "I would have liked it to be more discussion from the teachers and more interaction" [Lora, post-interview] -[Ex-60]

6.3.1.2 Dislikes and challenges

This section presents the reported dislikes and negative attitudes regarding individual tasks. Even though most teachers were discrete about their negative attitudes regarding the individual learning types, Alice was more open. She expressed that Padlet and answering quizzes were not that effective. Although Alice enjoyed posting reflections, but she reported that it requires a lot of time to think and post:

> "The reflection took me some time to think and post, and although I wish if I could have more time to elaborate. But I had limited time" "A Padlet is more open, you know?", "the quizzes were really easy". [Alice, post- interview]-[Ex-61]

In terms of social activities, only Lora favoured the collaborative WhatsApp activity, unlike the other six teachers, who all reported that they did not favour the WhatsApp cooperative activity. The teachers mentioned several reasons for their attitudes towards social activities. Although

Lora enjoyed the collaborative activities, she also contributed by providing potential reasons for the other teachers' dislikes.

All seven teachers provided reasons to explain their dislikes, which were related to several difficulties as follows: (1) the unsuitability of the WhatsApp tool; (2) the different speeds of each teacher in learning; the overload of life and teaching duties; (3) teachers not being familiar with one another's with different teaching timetables; (4) no familiarity of engagements in teachers community and being afraid to open up or unconsciously insult other ideas. For example, Lana stated that WhatsApp is now a place for crowded and bombarded messages from different groups:

> "You know, we have groups for everything, groups with students' groups where for the course where teaching groups for our departments, groups for our family, it became so crowded for me, yes, and our other responsibilities also we have groups for that. So, maybe that's part of the problem maybe, that we feel it's we are bombarded with groups for everything" [Lana, post-interview]- [Ex-62]

Notably, some reasons given by some teachers were related to a cultural issue, such as how they might be afraid to insult one another's ideas, and because of the absence of this kind of community involvement amongst teachers. Furthermore, the participants did not know one another and did not see one another on campus. This could be important in terms of work environment culture, specifically in the context of where they teach and what department or centre they belong to. For example, Jane stated the following:

> "I don't know who they are. And even if I do, we all have different schedules, different timings. I don't see anyone actually. Even the teachers who shared the same group with me. I haven't met any of them during the three terms I taught in for the English language centre. In the first term and in this term, I teach the same group for 14 hours and then for the two remaining hours, there is a (...) teaching them. I've never met them, never. They take their classes in different rooms, different buildings, they have different schedules. The only chance I get to meet people from the ELC, the English language centre, is during the final exams while doing the proctoring duties. So, this is the only chance I get to meet people from the ELC, other than that I don't see anyone" [Jane, post-interview]- [Ex-63]

Overall, in terms of individual learning types, teachers enjoyed learning via acquisition and production the most. In terms of social learning types, teachers enjoyed learning via discussion,

as they expressed the most dislikes with learning via collaboration activities. The relationship between these feelings connected strongly to the engagement level within the learning types as it was shown that learning via acquisition and learning via production achieved high levels by the teachers among the six learning types, and learning via discussions achieved a moderate level. This finding may also relate to how the learning via collaboration achieved the lowest level, see Sections (6.2.2 & 6.2.3).

The results indicate that the teachers' cognitive/behavioural engagement aligns with their stated emotional engagement concerning the learning types. However, some inconsistency did arise regarding learning type via discussion. Though all the teachers expressed a high preference for this learning type, which suggested there would be high engagement, only one teacher achieved a high level of cognitive/behavioural engagement with this learning type and the rest of the teachers achieved a moderate level. The levels of engagement were judged based on whether the teachers satisfied the performance requirements of cognitive and behavioural engagement for this learning type, i.e., whether they showed a dynamic performance during the discussion activities, see Section (6.2.2). The inconsistency observed with the rest of the teachers' engagement and stated preference could be attributed to several factors. For instance, some teachers might have misunderstood the task performance and neglected the need for dynamic communication. Some teachers might also have faced different social constraint. Being a dynamic communicator could require extra communicative effort; as a result, some social activities may be difficult for teachers to perform energetically. Not to mention the need to rethink ways to ensure more improved and enthusiastic action.

6.3.2 The dCPD design/content and learning experience

There were many affordances and challenges that teachers acknowledged and faced during training concerning the training learning style and its digital design. In terms of affordances, the dCPD delivery style and design affordances reported by the participants revolved around three aspects that all seven teachers agreed on as follows: First, how teachers admired the course design and appreciated how interesting it was, Second, how the training content was eye-opening, helping them understand LA and the behaviours that promote it. Third, how the training learning style helped them to manage and autonomously self-regulate their learning. The teachers also mentioned some challenges faced during their learning within the dCPD, which mostly revolved around three aspects related to the designs of the dCPD and other technical and time constraints related issues.

6.3.2.1 Positivity and affordances

This section presents examples collected from teachers' post-interviews and the platform survey related to the positivity expressed by participants and the dCPD affordances identified. All seven participants expressed admiration for the training; they liked how it was concise, well-structured and easy, straight to the point, clear and organised, offered interesting and enjoyable topics, eye-opening, flexible with a variety of activities, appreciating the effort put in the designs. For example, Rose commented the following:

> "I really enjoyed this training", "I think the structure is very easy to follow and flowed smoothly", "I think it's nice how you had questions, videos, quizzes and collaborations" [Rose, platform survey]-[Ex-64]

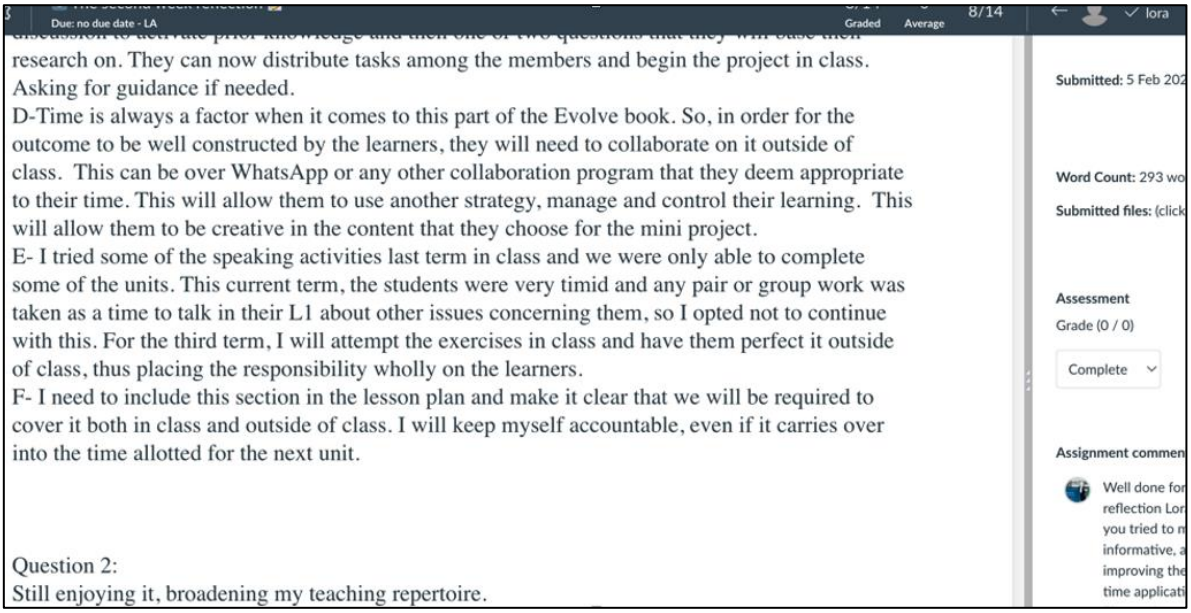
Additionally, all the teachers mentioned that training gave them opportunities to understand LA in depth. All participants reported the same expression of how this concept is now clearer to them as they can now put the theory into practice, even realising that they were already doing it. For instance, Maya and Rose commented the following:

> "But you know through the course this vision became more defined, more structured and more clear. I finally began to understand what I was doing and how I can make it better for the students, yeah" [Maya, post-interview] -[Ex-65]

> "First, I didn't know what it is exactly, but once I finished this program, I started to understand the whole idea of the learning autonomy. I found that some of the aspects are already known [Rose, post-interview] -[Ex-66]

Moreover, to enrich this data, the study also elicited the teachers' expressions regarding their overall learning about LA via the teachers' reflective posts. Although Sections (6.2.1 & 6.2.2) have already presented them under the weak feelings expressions about the teachers' dynamic/enthusiastic aspects, it is worth providing further related examples here. For instance, the following screenshot shows how Lora mentions in her reflective post of week 2 that she is still enjoying her learning as she feels that her teaching repertoire is expanding:

Figure 22: Teacher's feelings expressions (2)



Finally, teachers acknowledged their involvement in an autonomous learning experience during the dCPD training and how they found themselves involved in this experience. The findings show that all seven teachers agreed that, in this training, they were autonomous learners themselves and were able to manage their learning process independently. The teachers also explained how the dCPD helped them to self-regulate their learning on their own time.

Alice, Maya, and Lana all agreed on explaining their autonomous learner experience as them being independent and responsible for their learning and for doing the tasks. For example, Alice stated the following:

> “Alice: Yeah, that's true, because it was all done by myself. Yeah, I mean weekly.. a post, the videos, and the exams, and the reflections, but we don't meet in a classroom, we do the learning ourselves, so I just log in, do the work post the reflection take the exam. So yes, it was.
> Researcher: Being responsible for yourself.
> Alice: Being responsible. Exactly” [Alice, post interview]-[Ex-67]

Ivy, Lora, Jane, and Rose all explained their autonomous learner experience as follows: being involved in managing and controlling their learning process in a scaffolded task, taking notes, using dairies, doing reflection, and being able to organise their self-paced working time. Jane for example, expressed how the training about autonomous learning styles allowed her to experience the autonomous learner principles herself, such as by evaluating her own teaching in terms of involvement in the reflection process:

> “Yes, for sure. Because as we have just discussed, I am thinking about my own learning by relating what I learned to what I do, to my experience, my previous experience, my teaching now and it made me think about my own teaching. So, when I'm teaching, I think about the principles and the characteristics that techniques you provided in the training course [..] we are applying the principles of I think autonomous learning. So, I listen to the videos, I read the information given on the webpage and then I relate the information you provided to my experience as a teacher, and the result of that comes in the form of the reflections. So, I try to relate the information to my own teaching experience” [Jane, post interview] -[Ex-68]

Generally, this positivity expressed by participants regarding the dCPD could be related to how all of the teachers reported that they were autonomous learners themselves during their educational life, because they were willing to be independent learners in the form of a personal effort, see (Table 6). As well as it is also related to how two teachers (Lora and Jane) explicitly explained that their experience was related to studying in the UK, where the learning and teaching system depend heavily on autonomous learning.

6.3.2.2 Dislikes and issues

There were three main issues reported by the teachers concerning, dCPD design, some technical issues, and stress regarding their teaching duties. For example, Alice mentioned one dislike comment and reported that she was not comfortable with the design's interface and the colours:

> “I didn't like it, I didn't like the interface. It was a little bit childish.
> Researcher: What do you mean by the interface?
> Alice: Like there are many colours and many distracting, many icons, many fonts. So, it could work for uh secondary school, elementary school, but for me it was distracting. Like many, many colours” [Alice, post-interview] -[Ex-69]

There were many challenges related to some technical issues with the platform, as reported by Alice, Maya, Lora, and Rose. These challenges were mostly related to peer-review tasks and the Padlet as the teachers struggled technically with them. Alice explained that there was a technical issue with logging in as the mobile application did not allow her to see and participate in the peer review, for which we found an alternative method to do it. Maya also struggled with the peer review task:

> "The website was a bit confusing, the host website, it was confusing really. *like when you tell me* you need to provide peer review, I have to access it through e-mail because I can't find it on the website. So, sometimes I have to go and.. I felt like maybe because I'm getting old.. I don't know" [Maya, post-interview]- [Ex-70]

Another issue that the teachers (Lora, Jane, and Alice) mentioned is that teacher duties and tasks could affect their responses in training, how they were stressed during the exam period, and how they were overwhelmed with their tasks affecting their engagement with the tasks. For example, Alice reported the following:

> "I have a busy life. Yeah, cause I've I'm teacher and I have a work at home, and especially that's this happened during the exams, and then we had to break, and we have to go out and vacation and you know" [Alice, post- interview]- [Ex-71]

The workload and teacher duties issue were also reported by the other five secondary participants (Emma, Nancy, Jenny, Lucy, and Heather) who decided to withdraw from the training. I sent them a WhatsApp poll to elicit reasons for their drop-out or resistance to committing to training. These teachers mentioned that the main reason for dropping out was that they were busy with teaching and the demands of their job, and this training required a time commitment to be completed. Additionally, some mentioned having personal medical/family issues. Heather reported that the period of the training was long and interfered with her commuting trips to work:

> "The time period the training programme takes is a bit long which is not consistent with commuting circumstances and other life obligations. This was a commitment I wanted to choose; however, it was really hard to fulfil" [Heather- WhatsApp poll]- [Ex-72]

Jenny added that she was not able to complete her participation and had to quit due to how the course was rich and informative and needed a specific amount of time to comprehend and finish:

> "The course is very informative and rich in information on creating autonomous learners and enabling them with the required skills and techniques. The fact that the course was rich in information was one of the positive/negative aspects that did not aid me in finishing. When I say negative-I do not mean any bad aspect. I am referring to the amount of time needed to

> read, comprehend, and fulfil the tasks--which in my case is not a lot since I busy" [Jenny- WhatsApp poll]- [Ex-73]

6.3.3 Suggestions for overcoming the dCPD challenges

In the post-interview, teachers were asked if it was possible to provide suggestions related to what could improve this training and its content. The teachers' suggestions were mainly around solving these issues as follows: wishing for more content and another week; choosing a more appropriate platform; maintaining more efficient interactive collaboration with some live meetings; and starting early in the semester when the teachers have less pressure.

Rose recommended adding another week to training, and Alice suggested extra content about how to use digital tools to promote LA since it is now so popular:

> "What I would like, of course, it's not your responsibility, but what I'd like to read more about, is go find out how would technology promote learners' autonomy, what is there? What is out there that the students can use to help their learner's autonomy?" [Alice, post- interview] -[Ex-74]

To solve the technical problems, Maya suggested using another platform than Canvas, and recommending Blackboard:

> "Yeah. Blackboard. I can imagine doing.. if you post your course on Blackboard, I can imagine it would be extremely clear straight to the point, succinct and it wouldn't be confusing at all" [Maya, post-interview]- [Ex-75]

To solve the issue of maintaining interactive collaboration between the teachers, Lora hoped for an alternative method, and Ivy suggested holding a meeting once per week of the training to ensure a human element:

> "I wish there was a meeting to gather all of us, that's what I miss it in the classes. So, when we meet even each week, that would give us more push to listen to others, as we are in a situation, we need to think about what to do, *listen to the others' experiences. The human element is missing in E-learning* [..]*I think that your training is good* and gives flexibility to the learners, but there needs to be at least one meeting a week to give the trainees a push to achieve more" [Ivy, post- interview] -[Ex-76]

To solve the issues concerning teachers' time and workload, Rose suggested that timing of starting the training with teachers should be in the early period of the semester for the teachers to be more clear-minded:

> "As I said, if you just managed the time of implying so it comes at the beginning of the semester, you will find the teacher's minded clear so she can do better than what we did. I think so" [Rose, post-interview] -[Ex-77]

In short, during the dCPD, the teachers were able to discuss their attitudes regarding different aspects of their involvement in the training, such as admiration and favourable aspects, as well as disadvantages and challenges that they faced. They also became able to think about the constraining factors that might affect their engagement in the different tasks of the dCPD.

All in all, it is worth noting that the teacher's general views mentioned in Section (5.2.1) regarding the need for provisions of the effective CPD, contradict some of the results, such as wanting more content and at the same time mentioning the constraints of the workload, as well as showing the moderate and low level of the social learning type engagement. This contradiction between what the teachers say and do reflects some of the uncontrollable factors that might affect their engagement. As such, reaching an optimal image of CPD could be challenging, but it may be worth pursuing for a more comprehensive understanding of teachers' learning.

6.4 Conclusion

Chapters 5 and 6 presented the thematically analysed findings. Chapter 5 presented the findings of the impact of the dCPD on teacher learning about LA, the autonomous learning characteristics, and the principles of promoting LA. Chapter 6 presented results related to understanding the teachers' learning process in the dCPD based on their cognitive/behavioural engagement and their views on different aspects of the training based on emotional engagement. The next chapter discusses these findings, considering what was explored in the literature review, by highlighting the key findings and positioning them concerning the broader field of the study and supporting the study's contribution to the field.

Chapter 7 Discussion

7.1 Introduction

This qualitative study investigated the impact of a digital professional development course (dCPD) on Saudi EFL teachers' conceptual and pedagogical understanding regarding fostering LA with their students. The study tracked teachers throughout the dCPD programme, which focused on raising the participant's awareness about LA and pedagogy for autonomy. By engaging teachers in their autonomous learning within the dCPD, the study aimed to foster TLA and to understand how professional development affected and supported the teachers' learning (Smith, 2003a; Smith & Erdogan, 2008). This chapter situates the key findings presented in the previous two chapters in the existing literature in the field, offering insights into how the study contributes to the field of TLA and supports teachers' professional development and learning. Accordingly, this chapter addresses the three research questions by discussing the key findings presented in the previous two chapters, which revolve around the exploration of the dCPD impacts on teachers' conceptual and pedagogical understanding, their cognitive/behavioural engagement in the learning process within the dCPD, and finally their emotional engagement as a response to the training.

7.2 Teachers' learning outcomes following the dCPD

The theme of teachers' learning outcomes following the dCPD addresses the first research question. This corresponding section discusses the key findings on the dCPD's impact on teachers' conceptual and pedagogical understanding of LA. It also discusses contextual constraints that hinder the promotion of LA. The first research question was as follows:

Research question 1: *To what extent does a targeted programme of dCPD affect teachers' conceptual and pedagogical knowledge about learner autonomy?*

7.2.1 The dCPD's impact on teachers' understanding of LA

According to the findings in Section (5.3.1), teachers showed two types of impact on understanding LA. The dCPD influences were identified either by shifting to a new conceptual understanding or enhancing existing understanding. The training introduced teachers to learning aspects of LA through a holistic LA conceptual definition based on the four LA types, See Section (2.2). Furthermore, training introduced autonomous learning characteristics based on four categories, see Section (2.2). In terms of the LA definition, four teachers changed their

original views to a different understanding, and the remaining three teachers enhanced their original views, see (Table 7). In terms of autonomous learner characteristics, four teachers changed their original views from a specific category to shifting to another category. Three teachers kept their original views holding on to the categories they expressed before the training and only enhanced them after the training, see (Table 8). Accordingly, the data concluded that the dominant view of LA on which teachers held was the technical view of LA, resulting from two types of impact among the teachers, either through new learning or enhancement. This view was also dominant during pre-training. Similarly, another dominant LA characteristic category that teachers showed post-training (a motivated independent learner), also resulting from the two types of impact among the teachers, namely new learning or enhancement. This characteristic was less dominant in pre-training and became more dominant in post-training. To understand why the technical views of the LA definition and the view of motivated independent learner characteristics were easy for teachers to grasp, it is worth referring to the LTC framework in which Borg (2003, 2006) explains that teachers' cognition could be affected by prior schooling. For example, the dominance of the independent learner characteristic post-training could be related to a teacher's prior education. Based on the teachers' demographic data in (Table 6), most teachers described their original experience of being autonomous learners as self-independent learners who made extensive efforts to learn the language because of the absent role of teachers. This could explain the dominance of technical views of LA pre- and post-training as it stresses teachers' support for helping the learners learn how to learn. Therefore, teachers' backgrounds dictate and translate how they view LA concept and the autonomous learner characteristics.

Although the training offered a multi-faceted and comprehensive overview of concepts and behaviours (Benson, 2011; Huang & Benson, 2013; Teng, 2019; Little, 1991); nonetheless, no one could grasp a holistic view of both LA and its characteristics, types, and categories. Except for Lora, she was more inclusive in her view regarding LA than the others. That could be explained in relation to Lora background in (Table 6). Having previous higher educational knowledge of LA with length of teaching experience could have contributed to her wider view.

It is confirmed in the literature, which has found that teachers usually cannot manifest a holistic understanding of LA. Alnajjar and Altamimi (2016) explain that this issue is perhaps because LA is a complex concept to be understood fully. Similarly, Benson (2011), Oxford (2003), and Little (1990) claim that LA is not a single and easily describable behaviour and clarify that people could view LA from different angles and perspectives. Previous empirical studies in different context including Saudi context, have found that teachers responded differently to acknowledging and defining LA (Borg & Alshumaimeri, 2019; Halabi, 2018; Asiri &

Shukri, 2018; Al-Busaidi & Al-Maamari, 2014; Birouchi, 2015; Al-Busaidi & Al-Maamari. 2014; Birouchi, 2015).

The literature has also suggested that it is important to note that variations in the understanding and promotion of LA are normal and acceptable as LA is not an absolute concept. Nunan (1997) and Murase (2015) argue that there are degrees to the promotion of autonomy, and it is neither feasible nor desirable to enforce a rigid, 'all or nothing approach' to autonomy. Therefore, the fact that all teachers in the current study demonstrated a new understanding, even if not entirely comprehensive, contributed to a positive outcome of the dCPD. It is also because LA could require a more radical shift in attitudes and insights (Benson & Huang, 2008). Additionally, Richardson (2003) notes that changing deeply held beliefs can be difficult, particularly when these beliefs are idealistic or traditional.

Furthermore, the data provides a more detailed understanding of teachers' learning outcomes. All the teachers demonstrated a pattern of either new learning or enhancement regarding LA and its characteristics. These impacts on the two aspects of LA definition and the autonomous learner characteristics were compared to understand this pattern. According to (Table 9), the six teachers showed varied impacts of either new learning or enhancement between the LA definition and the autonomous learner characteristics. Only Alice showed a complete shift of understanding (new learning). For example, in terms of LA definition, Alice's view of a socio-cultural category of LA definition changed to a technical one. Similarly, her view on the active-collaborative learners' characteristics also changed to self-guided, controlled learners, see (Table 7) & (Table 8). Based on the LTC (Borg, 2003, 2006), teachers' background variable plays a significant role in understanding their conceptualisations of LA and its characteristics, see (Table 6). Alice, unlike the others, is the only one who reported having over two decades of teaching experience, which explains the pattern of changes in her views about both the LA definition and its characteristics. Although Krulatz et al. (2024) posit that teachers' length of experience in teaching could affect the training outcome and make teachers resistant to change, the pattern of change with Alice may suggest the opposite. In fact, some more experienced teachers may be better equipped to integrate new concepts into their practice.

Another justification for teachers' varied pattern could be related to how two teachers (Maya and Lana) who also have less teaching experience than Alice do not prefer attending regular CPDs, which could affect their acceptance of new ideas when undertaking training. This finding aligns with those of Harisman et al. (2019), who emphasised that teachers' regular attendance at CPD could explicate the teacher's improvement more than other factors to a larger extent than other factors such as length of teaching experience.

Consequently, this study contributed to explaining that the difficulty in conceptualising a holistic view of LA definition and learner autonomy characteristics may cause this pattern of varied impact on teachers learning outcome after the dCPD; besides making a relation to the teachers' background variables. In this study, all those possible explanations justify how some beliefs are resisting to be changed entirely.

7.2.2 The dCPD' s impacts on teachers' understanding of LA's pedagogical principles

Another area that showed an impact of the dCPD. Teachers were presented during the training with five pedagogical principles for promoting LA, see Section (2.3.1.1). Three types of impact occurred across the teachers and among the five principles after the training: (1) the impact of validation, which is related to how teachers showed the ability to connect what they learned regarding LA principles to their original existing practice; (2) the impact of enhancement, which relates to how teachers expressed enhancement of deeper learning regarding their prior understanding of the principles' implementation by reporting similar or enriched ideas; and (3) the impact of showing new learning, all of which were explained in Section (5.3.2). The data showed a pattern of these impacts which helps to understand the teacher's learning outcomes regarding the five principles. Accordingly, the dominant impact that occurred in a consistent pattern for five teachers across the presented five principles was seen to be the impact of validation (Table 10). The five teachers were able to connect what they learned in the dCPD on the LA principle to their original understanding of the implementation. For example, Rose grasped and showed the principle of learner involvement after training despite her inability to describe her practices before the training. In other words, during post-training, Rose was able to express her understanding of this concept and relate it to her reported practice, see Section (5.3.2.1). Accordingly, this research demonstrates that moving from theoretical/conceptual knowledge into expressing actual practical application could sometimes be considered problematic for teachers in terms of LA. This finding is in line with existing empirical studies that demonstrates challenges in putting theory into practice in terms of LA (Borg & Al-Busaidi, 2012; Balcikanli, 2010; Halabi, 2018; Szocs, 2017; Mansooji et al., 2022; Pham, 2023, Ostovar-Namaghi, 2012). Hence, this study is a response to Borg and Alshumaimeri's (2019) call to explore links between beliefs and practices for LA in Saudi contexts, see Section (2.2.1).

In other words, rather than generating new knowledge, it appears that dCPD has raised awareness and almost validated existing tacit understandings to be linked to practical understanding. Henceforth, with the help of the dCPD, teachers realised that they already had an implicit understanding regarding LA implementation, because they could link it directly to practices that they currently use in class. This finding is in line with those who found that teachers were able to develop a validation of what they already knew and implemented because

of their involvement in CPD training. Such studies include Farrell and Ives (2015), Borg, (2006), and Alharqan (2023) who found that teachers were able to put theory into practice that they had not connected before because of their involvement in reflective practices during the training. Moreover, other empirical studies such as the study of Razak et al. (2015) showed how involving teachers in digital CPD helped teachers to bridge the gap between their knowledge and practices, as they were able to put their learning to their reality. Also, many of the CPD initiatives regarding TLA such as Wang and Ma (2009), Raya and Viera (2015) and Trebbi (2008), mentioned in Section (2.3.2), have found that after training, teachers were able to connect what they learned regarding the theoretical understating of LA to be bridged into practice. Accordingly, this study adds to the already existing body of knowledge that providing teachers with opportunities to reconsider their existing practices will likely empower their sense of professionalism. This finding also contributed to supporting the teachers' pedagogical content knowledge (PCK), which aligns with Shulman (1987), who stated that it is important in teacher learning settings to provide the trainees with content and equip them with methods for teaching or transferring the content to classrooms. Accordingly, this process could help shape the teacher's personal practical knowledge (PPK), as their knowledge evolves via the experiences that they take and are involved in over time (Freeman, 2016). In this sense, allowing teachers to think about their existing practice and whether it aligned with the conceptualisations of LA and/or raised awareness of the knowledge of LA, encouraged their connection between theory and practice.

It is important to discuss the reasons behind the dominant occurrence of the impact of validation. This impact was the most dominant pattern from the dCPD on teachers' learning outcomes regarding the principled pedagogy of LA. Based on the LTC (Borg, 2003, 2006), most of the teachers have some original, varied knowledge and experience of LA, see (Table 6). However, the teachers struggled to connect what they already knew to the implementation. Their involvement in the dCPD helped to form this internalised and validated connection. The reasons for this struggle could be related to the existence of contextual constraints and other factors related to the teachers' own personal and past trajectories. This finding aligns with Borg (2006), Buehl and Beck (2015), and Li (2017), who also found that contextual constraints could influence a teacher's ability to connect theory with practice. Interestingly this study found that teachers reported some contextual constraints, which is presented in Section (5.3.3). Consequently, teachers' involvement in development training could solve this disconnection issue as mentioned earlier.

Another reason could be related to how some teachers are already experiencing difficulties connecting theory to practice, especially if they have less teaching experience. That's in line with those of Basturkmen (2012), Breen et al. (2001), and Sinprajakpol (2004), who explain that teachers' length of experience sometimes causes teachers confusion and tension in putting

theory into practice that more likely occurs with teachers with little teaching experience. That could explain how the dCPD positively affected Ivy, Rose, and Lana, as all three were, in a sense, novice/ mid-career teachers with limited teaching experience (from 2 to 10 years of experience per teacher), see (Table 6). The data also show that there are other reasons. For example, Maya and Lana reported that they did not attend any regular CPDs, and many teachers have reported on the ineffective lecture-based style of CPDs that they regularly attend, see Section (5.2.1). Accordingly, these findings also explain why teachers used to experience difficulties in putting theory into practice, which has also been documented by Ali and Ammar (2005) and McCarthy (2004), who state that low-quality, ineffective training could affect teachers' improvement. Importantly, involving teachers in the training allowed teachers to translate the theory into practice as the dCPD helped to mediate this disconnection.

The findings showed another two types of impacts amongst teachers that are worth discussing for providing more understanding of the impact of dCPDs. The two impacts are the enhancement of showing deeper learning, which occurred consistently as a pattern with only one teacher, see Section (5.3.2.2). The other impact is that of showing new learning, which occurred only with two teachers and was only seen in one principle, see Section (5.3.2.3). It is established in the literature that dCPD benefits teachers in enhancing their learning and could help teachers gain desirable assurance regarding their knowledge and practice. Similarly, it is also anticipated that the teachers to be involved in training to learn new knowledge and practices. These findings are confirmed and are in line with empirical studies like Zeichner and Liston's (2013) suggestion that CPD is deep self-directed learning that fosters teachers' skills and knowledge as well as enhances their understanding and thinking. Borg (2005) found that the training provided the teachers with a ground base of the needed knowledge and helped the teachers to enhance their pre-course beliefs, to remain elaborate and deepened after the training programme had finished. Accordingly, the dCPD of this study has also contributed to adding assured understanding regarding these valuable impacts on teachers learning and development.

To discuss and understand the pattern of the occurrence of these two impacts of enhancement and new learning, only one teacher showed a pattern of enhancement (Jane). No other teacher showed a consistent pattern of new learning across the principles. Instead, another pattern was shown by Lora, specifically a mix of all the impacts (validation, influence, and new learning), see (Table 10). Interestingly, Jane and Lora shared in common a knowledge of and experience with LA from their higher education studies, having both studied abroad in the UK or USA. However, they differed in the earned degree, in their length of teaching experience and their confidence in teaching. Jane has a PhD related to LA with recent arrival to Saudi, her confidence in teaching could play a role in explaining why her pattern showed enhancement in learning. That was also

evident in the study of Huangfu (2012), who explains that there is a relationship between teachers' confidence and self-efficacy and their adaptation of motivational strategies in their teaching.

After the dCPD, there was also some evidence regarding the new learning or validated conceptual understanding, which the teachers were willing to adopt by planning for future teaching implementation, see Sections (5.3.2.1 & 5.3.2.3). Therefore, two impacts of validation and new learning stimulated six teachers to show an impact on their enactment. This was best explained by Buehl & Beck (2015), Desimone (2009), Scher and O'Reilly (2009), and Teng (2019) that involving teachers in suitable CPDs could improve their practice of teaching. Moreover, that's in line with the studies of Mello et al. (2008), Vieira (2010), Galiniene (1999), and Alrabai (2021), who showed evidence of how teachers implemented LA practices in the classrooms after finishing training about fostering LA; their teaching competencies were influenced positively to be reflected in their classroom practice. Unlike the teacher who showed a consistent pattern of the enhancement impact, Jane did not report enactment compared to other teachers. This finding suggests that the impact of showing validation or new learning could stimulate teachers to apply their new learning or keep sustaining the application of their validated practice.

7.2.3 Acknowledged constraints hindering LA promotion

As mentioned in the previous section, translating theory into practice is likely to be affected by contextual factors beyond individual teacher characteristics (Borg, 2003, 2006). Consequently, for teachers to foster LA, there are many constraints that may exist in teaching contextual practice (McGrath, 2000; Benson, 2000). Benson and Huang (2008), Gao, (2018), and Smith, (2003a) state that it is important for teachers to acknowledge and challenge constraints, as their involvement in LA pedagogy training could contribute to supporting this acknowledgement and negotiation (Benson & Huang, 2008; Gao, 2018, Smith, 2003a). Accordingly, this study found that the key constraints were related to four aspects: (1) the large size class and learner motivation; (2) restriction on marking and pacing; and (3) time pressure. The study also found how teachers could provide solutions for those issues, and how the head of the department has agreed views regarding their existence, see Section (5.3.3).

Four teachers mentioned the first issue of large classes and suggested that the number needs to be reduced. The literature has already documented this issue such as Kuchah and Smith (2011) and Pham (2023) report that a large number of students per class could include many students with different needs in language and different backgrounds could affect whether teachers implement LA in their classrooms. All seven teachers mentioned the issue of

demotivated learners and suggested advising learners to raise their awareness about LA and the need for the policymakers to implement LA early with learners. This finding is in line with those of studies that have mentioned learners as a constraining factor for their low motivation and autonomy (Wisniewska, 2007). Studies have found that learners' demotivation could be related to their past experience in language learning, such as being dependent on teachers to learn to pass the exams. Also, what related to the effect of their background regarding their metacognition knowledge, their commitment to education and lifelong learning, their achievement and proficiency level, and engagement (Tayjasanant & Surartdecha, 2016; Intraboonsom et al., 2020; Baz et al., 2018; Wiraningsih & Santosa, 2020; Alonazi, 2017).

For the second issue, six teachers mentioned the restriction of marking because of the pacing and suggested that having more freedom would help support the learner's motivation. Previous research has noted the impact of a fixed curriculum (Al-Busaidi, 2012), non-flexible regulations among policymakers (Asiri & Shukri, 2018; Alrabai, 2016, 2017; Alonazi, 2017; Alzaharni, 2016), and workload (Al-Asmari, 2013; Asiri & Shukri, 2018; Alrabai, 2016, 2017; Alonazi, 2017; Alzaharni, 2016; Saad, 2024). The third issue was mentioned by three teachers regarding time pressure. However, these teachers did not offer a solution, which has been identified in several studies (Al-Asmari, 2013; Asiri & Shukri, 2018; Alrabai, 2016, 2017; Alonazi, 2017; Alzaharni, 2016; Saad, 2024) that have confirmed how the issues of the teachers' time and work overload could hinder LA promotion.

Accordingly, this study involved teachers in explaining the reasons behind the occurrence of the previously mentioned impact (validation). That evidences the reality of context with the existence of some constraints, where teachers' beliefs and practices could be disconnected because of them. Therefore, this proved what was mentioned before, that involving teachers in training helps them to understand the major issues in their contexts, and to have direct internalisation between the conceptual understanding to be related to the practical implementation, as that was shown by the impact of validation earlier, see Section (7.2.2). This means that CPDs should be contextually relevant and meaningful for teachers to support the perceived impact.

To sum up, the teacher learning outcomes from the dCPD were evident and demonstrated different types of impacts. Firstly, regarding teachers' learning outcomes in terms of LA and the autonomous learners' characteristics, it was shown that, with the LA conceptualisation, the technical view of LA was dominant pre-and post-training. In contrast, the characteristics of the autonomous learner as (motivated independent learner) became more dominant after the training. The dominance of these understandings of LA and its characteristics resulted from two types of impact, either new learning or enhancement. While acknowledging that the dCPD

successfully promoted some level of change in all participants- which was shown as a different pattern of impacts on teachers' learning, the degree and consistency of the patterns were influenced by factors. Such as prior experience, history of attending CPDs, and the inherently complex nature of the LA concept itself.

Secondly, regarding the teacher learning outcomes in terms of the five principles of promoting LA, the dominant pattern of impacts on teacher learning was the impact of validation of implementation. The other two types, namely enhancing deeper learning and showing new learning, were minor yet present. These three impacts were linked to prior teaching experience, prior engagement in CPD, teacher confidence, which appeared to influence CPD outcomes, and existing LA constraints. With the variety of impacts on teachers' learning, Almarza (1996), Borg (2005), Borg (2011), and Krulatz et al. (2024) argue that CPD outcomes and the learning process are individual and subjective; the findings of this study concur with this existing evidence. These insights into the different and subjective impacts contribute to a deeper understanding of the outcomes of professional development and make the factors that influence the teachers' learning outcomes more salient.

Furthermore, it could be concluded that the discussion of the first theme could contribute to existing literature by providing evidence of the CPD's power in teachers learning about LA and adding to the already existing accumulation of LA literature. Moreover, this study contributes even further by providing a detailed description of the types of valuable impacts that occur due to dCPD and by showing a pattern of learning outcomes among the teachers. In other words, involving teachers in this kind of training has proven effective at different levels for promoting a variety of impacts of (1) validation, (2) enhancement, and (2) new learning. While this study's findings align with those of previous empirical studies on how creating an initiative for teachers to learn about promoting LA and its pedagogy could cause positive changes (Manzano-Vazquez, 2021; Fabela-Cardenas, 2012; Galiniene, 1999; Mello et al., 2008; Alrabai, 2021; Trebbi, 2008; Li, 2023). The current research is a substantial addition in the sense that it provided an empirical understanding of the notion of TLA. To explain further, like other studies, see Section (2.3.2), the study developed professional growth and raised exploration of attitudes regarding LA by teachers. For example, a recent one by Li (2023) conducted in China is similar to my study, that's in terms of raising the teacher's conceptual and practical understanding of promoting LA via two weeks of digital CPD. He reported that the teachers became more aware of LA, its importance and practices. Yet, my study delved deeper into exploring the detailed types of the positive impacts that a dCPD of LA promotion could produce regarding the teacher's conceptual and pedagogical understanding of LA. Also, few studies have focused on this kind of training based on LA pedagogy. Thus, this study is among the few LA studies worldwide, particularly in the Saudi context.

Overall, it is worth mentioning how the findings of this study are a response to support filling the gap related to the overarching argument of this study regarding the need to involve teachers in the experience to learn about fostering LA (Little, 2007; Smith, 2003a). That is also for answering the call of several previous studies that have shed light on the need for training teachers about LA promotion, since research into LA promotion and its practical implementation is still in its infancy (Tamer, 2013; Asiri & Shukri, 2018; Mohammed, 2016; Almusharraf, 2018, 2020; Halabi, 2018; Alonazi, 2017; Alhujaili, 2020). Also, since it has been challenging to translate the development of autonomy into reality as educational practice, this study contributed to turning this translation into reality and addressing the need for further research on teacher education for autonomy (Manzano-Vazquez, 2018; Raya & Vieira, 2015).

7.3 Teachers' learning process within the dCPD

This section addresses the second research question and discusses the key findings of the teachers' cognitive and behavioural engagements in learning during the dCPDs. The teachers' performances and responses within the different learning types and activities were tracked to understand their learning process. To remind the reader, teachers were engaged in learning about the pedagogy for autonomy to promote LA in their classrooms. Simultaneously, the same teachers participated in a learning process within the dCPDs, which was guided by Laurillard's conversational framework (Laurillard's, 2011). This framework is based on six individual and social learning types, which is in line with the notion of Smith and Erdogan (2008) on how TLA includes teachers exercising their autonomy during their learning. The typology of the digital learning engagement of Fredricks et al. (2004) was followed to track and understand teachers' cognitive, behavioural, and emotional engagement. Accordingly, the second research question concerns understanding the teachers' learning process and engagement only from the cognitive and behavioural lenses:

Research question 2: *To what extent did the teachers engage with the dCPD and how, if at all, did this impact their learning?*

7.3.1 Teachers' variability in engagement levels

This section discusses two aspects of the findings to understand teachers' learning within the dCPD. Firstly, it discusses the six learning types covering the categories of individual and social types showing teacher engagement levels in them. Secondly, the findings also indicate that, across the six learning types that the teachers engaged in, they showed two engagement patterns, either high or moderate. These two engagement patterns were linked to two factors, namely the teacher's dynamic actions in the dCPD platform and their background variables.

Thirdly, the findings further demonstrate an attempt to correlate these engagement patterns to the extent of how the teachers exercise autonomy during their learning process. Finally, the findings attempted to correlate these two patterns of teachers' engagement with their learning outcomes about LA, which were discussed in terms of the first research questions.

7.3.1.1 Engagement levels within the dCPD's six learning types

From an analysis of teachers' engagement within the six learning types, it was observed that there were four individual learning types that showed the highest engagement across the seven teachers. On the other hand, the two social learning types showed moderate and low engagement across the seven teachers. First, for discussing the four individual learning types, they were learning via inquiry, acquisition, production, and practice. Within these four learning types, teachers were involved in the tasks that translate them, such as watching videos/presentations (acquisition), answering quizzes and asking questions (inquiry), posting on Padlet (practice), and creating reflective posts (production), see (Table 11). It was observed that the majority of teachers were engaged highly cognitively and behaviourally by showing how they achieved the goal, the required purpose, and the performed participation for these learning types, see (Table 13) & Section (6.2.1). Six of seven teachers showed a high understanding of the information and the questions that they were tackling within the inquiry learning tasks, as well as evaluated the sources for their answers. Furthermore, within the practice learning tasks, four teachers analysed the concept and applied their knowledge as a practice of understanding. Moreover, in the production learning tasks, all seven highly engaged teachers created a reflective practical plan by applying the knowledge they had gained. Finally, with the acquisition learning types tasks, four teachers showed the ability to remember the information and concepts required for other learning type's achievements after spending some of their learning time listening or reading. These cognitive requirements achieved by most of the teachers resonate with LCF by Laurillard (2011), which showed the indicator for the learning process within these individual learning types.

This achieved high engagement in the individual learning types confirms how they are essential and appealing for teacher learning. These learning types are underpinned theoretically by teacher learning conceptualisation, which was manifested in this study as being related to constructive cognitive learning. Consequently, these four individual learning types could support the first stance of gaining knowledge of practices to learn how to implement these practices independently (Cochran-Smith & Lytle, 1999; Kelly, 2006), see Section (3.2.1). Furthermore, existing literature has found that these individual learning types are needed for teachers' learning as they support teachers' problem solving, encouraging them to question and challenge their ideas and opinions, experimenting in their practice, and updating their

knowledge. Moreover, this study emphasises that the teachers' involvement in these individual learning types provided teachers with the opportunity for reflection, and exploration with attention to both practice and knowledge, offering appropriate feedback that enabled teachers to reflect on their practices, and providing the opportunity for implementation in classrooms and sustained reflection (Abdal-Haqq, 1998; Bergh et al. 2015; De Vries et al. 2014; Lydon & King, 2009; Borg, 2015; Teng, 2019).

For improved understanding of how the social learning types of engagement were lower than the individual types. The two social learning types that the teachers experienced in training were discussion and collaboration. To remind the reader, within these two learning types, teachers were involved in the platform group discussions and peer-review tasks that translated the learning type via discussion and were involved in WhatsApp tasks that translated the learning type via collaboration, see (Table 11). It was observed that most of the teachers engaged at a moderate /low level. That's because the required purpose for these learning types was not achieved adequately and sufficiently. For instance, within the discussion learning type, six teachers engaged at a moderate level cognitively and behaviourally to show how they remembered and understood the information presented to them and by evaluating alternative perspectives, see (Table 13) and Section (6.2.2). Within the other social type of collaboration learning, four teachers demonstrated low levels of both cognitive and behavioural engagement in understanding and evaluating different perspectives collaboratively to create a shared outcome that everyone took ownership of, see Section (6.2.3). The cognitive requirement of these two learning types aligns with the LCF (Laurillard, 2011), offering indicators for learning process within these two social learning types. However, these requirements were achieved insufficiently by the majority of teachers.

It was confirmed that these two social learning types are essential for teacher learning. They are underpinned theoretically by teacher learning conceptualisation, which is manifested in this study as being related to social constructive cognitive learning (Vygotsky, 1978). Consequently, these two social learning types support the stance of teachers' learning, in which teachers learn practical knowledge through social engagements with dialogue and experience sharing (Kelly, 2006; Cochran-Smith & Lytle, 1999), see Section (3.2.2). Furthermore, existing literature has found that these two types of social learning are required for teachers' learning and support the teachers' needs for these types of learning. They translate a variety of activities that the teachers should be highly engaged with to create opportunities to foster collaboration with communicative engagement through sharing, reflecting together, having group discussions or seminars, and allowing knowledge co-construction via the assistance of the scaffolding (Dille & Rokenes, 2021; Bergh et al., 2015; Huang & Spector, 2019; Borg, 2015).

In my study, despite the theoretical stress and literature emphasising the importance of high levels of engagement through collaboration and discussion, the actual outcomes of teachers' engagement in the dCPD did not align with these expectations. Teachers here showed only moderate to low levels of engagement with the two social learning types, suggesting that they did not establish a strong social framework for their learning. By comparing these findings with existing literature, I highlighted a recurring challenge in teacher professional development. Interestingly, many other empirical studies have obtained similar findings on how the teachers expressed inadequate social engagement in training (Afshar & Ghasemi, 2020; Smith and Erdogan, 2008). They found that one of the challenges within the EFL teacher professional development is the lack of cooperation with other colleagues, as how all of the studies of Liu and Kleinsasser (2014), Kenndey (2011), Li (2023), and Musanti and Pence (2010) found the same low level of collaborative engagement with teachers during the involvement within the training. Unlike the study of Cho and Rathbun (2013) who found that teachers were able to raise their level of social engagement, which was a result of the asynchronous environment that offered equal opportunity to everyone to participate in the discussion.

The teachers responding highly to individual learning types while showing resistance to the social types suggests that it could simply mean that the individual learning type is most suitable for them according to their engagement that they showed. Undoubtedly, there could be many reasons behind this performance as well. It is important to mention that teachers' actions and attitudes towards the dCPD in general and learning types are subjective to their personal trajectories, backgrounds, and teaching environments. Accordingly, the third research question theme explores this situation and the reasons behind the differences in the level of engagement within individual and social types based on the teachers reporting. It provides an in-depth understanding of the reasons behind this situation from the teachers' emotional reasoning regarding the individual and social learning types, as better understanding of the engagements levels is extended, see Section (7.4).

7.3.1.2 Teachers' Engagement Patterns: factors, autonomy, and educational outcomes

After discussing teachers' level of engagement with the six learning types and identifying the categories that showed the highest level of engagement by teachers, the data also showed a consistent pattern of teachers' engagement level within the six learning types underpinning the dCPD, see (Table 13). Teachers were classified into two patterns of engagement. Based on the analysis, it was evidenced that the first group of teachers (Ivy, Jane, Lora, and Rose) who were highly engaged with the six learning types as a pattern, fulfilled all of the cognitive and behavioural requirements for both the individual and social learning types to some degrees, see Section (6.2.1). In contrast, the second group of teachers who engaged moderately with the six

learning types as a pattern, did not fully complete the cognitive and behavioural requirements of both individual and social learning types, see Section (6.2.2).

This is in line with the study of Ji (2023), which found that teachers' engagement in the CPDs varied between the teachers, and it also varied across the different types of activities that the teachers undertake during the CPD. Many different factors can play roles in that such as the teachers' background variables and the individual needs of each teacher. In this study, the data suggested that there are factors that could contribute to explaining the teachers' pattern of engagement, which could be related to the observed teachers' dynamic aspects, and related to the teacher's background variables, as well as the teachers' preferences and emotional reasoning.

First, in terms of the dynamic aspects of the platform such as the time spent in the training, total page views, posting enthusiastic introductions, and sharing their weekly learning feelings, see (Table 15 & Table 16). Specifically, it was seen that the time spent in digital training could be considered as the key aspect in describing the teachers' engagement. Teachers who spent more time in training were seen as highly engaged, as more of the observed enthusiastic aspects were seen- compared to the moderately engaged teachers. Therefore, the data could suggest that the more time spent, the more that teachers showed higher cognitive and behavioural engagement achievement with learning types. That was also confirmed by the study of Patricia et al. (2014), Binmohsen and Abrahams, (2020), Kiddle and Prince, (2019) and McElearney et al. (2019) who found that the more time that teachers spend on digital training, the more that they engage in an in-depth learning. Although these studies also draw a correlation between time spent in the CPD and teachers' development, they seem to eschew the complex relationship between engagement intensity (high/moderate) and the time spent in the training. This complexity lies in the fact that the time spent in the dCPD platform could be affected by other aspects. For example, Maya who spent four hours in the training (like Lora and Jane), still classified as moderately engaged because spending time in the platform is insufficient when it is combined with little page views, rarely posting in the platform and low general enthusiasm shown. Comparing to Maya, Alice spent less hours yet showed more page views and no enthusiasm. This means that the correlation between time spent in a dCPD and engagement is neither linear, nor straightforward, see (Table 15 & Table 16).

Accordingly, a noteworthy contribution of this study is addressing the gap in the literature regarding the correlation between the depth of time spent in dCPD and teachers' engagement patterns. While previous studies have touched on these aspects, my research diverged by providing a critical examination of how the relation between engagement intensity within digital training environments and the time spent in the training is not simplistic. This contributes to

understanding the profound and meaningful learning experiences for teachers. By highlighting this relationship, my study offers valuable insights for designing more effective dCPD programs that encourage sustained, motivated participation, ultimately leading to improved and in-depth learning outcomes for educators.

Second, for improved understanding of the previously mentioned point regarding the teachers' pattern of engagement and the dynamic aspects. It is worth providing heightened support by attempting to make a relation to the teachers' backgrounds that could explain and affect their engagement intensity, see (Table 6). For example, the first group of highly engaged teachers (Ivy, Rose, Lora and Jane) reported a history of regular attendance of CPDs, which could explain their high engagement pattern. The other moderately engaged group (Lana, Maya, Alice) most of them reported that they do not attend CPDs regularly. Therefore, their history of attendance/absence in CPD trainings could affect engagement within this dCPD. That's in line with Harisman et al. (2019), who also demonstrated that teachers' regular experience of attending CPDs to improve themselves had a more significant influence on teacher professionalism than other factors such as the effect of the length of teaching experience. Regarding teachers' length of experience, Ji (2023) concluded that those with over 15 years of experience may show less engagement in professional development training than mid-career or novice teachers. This was also found in the current study as Alice, who has 20 years of experience, showed moderate engagement.

Furthermore, it is worth noting that other factors like the teachers' emotional reasoning, including their attitudes, likes, dislikes, and preferences towards the dCPD could also contribute to the intensity of their engagement as that will be discussed in depth in Section (7.4)

What is related also to the teachers' pattern of engagement, it is worth discussing how the teacher pattern of high and moderate engagement could help in understanding the extent to which teachers exercise their autonomy while learning in the dCPD. The teachers' pattern of engagement in the six individual/social learning types could be seen through the lens of TLA, which dictates that TLA concerns teachers developing themselves and acquiring LA knowledge, skills, and attitudes in the presence and cooperation with others (Smith, 2003a). Accordingly, TLA manifests the notion of teachers exercising autonomy in their learning as autonomous learners themselves (Smith and Erdogan, 2008). Therefore, teachers should be not only independent but also social and collaborative. Hence, to be considered an autonomous teacher-learner, a degree of both independence and socialisation should be seen through high engagement. This idea is underpinned by the LCF framework explained in Section (3.4.1.1), which includes the six learning types that underpin the autonomous and collaborative aspects

of learning. In other words, the LCF implicitly helps foster teachers' autonomous learning concerning their engagement in training (Bates, 2016; Tippins et al., 1993; Laurillard (2011). Therefore, the data on teachers' patterns may suggest that the teachers who showed a highly engaged pattern could be considered highly autonomous teacher learners, such as (Jane, Lora, Rose and Ivy). On the other hand, the teachers who showed a moderately engaged pattern could considered moderately autonomous teacher-learners. Accordingly, this study supports providing a theoretical insight of understand to what extent the teachers' pattern of engagement could reflect how they are described as highly or moderately autonomous teacher learners, see (Table 13). Correspondingly, my study contributes to add further understanding of teachers' learning process and how they exercised their own autonomy as learners themselves. Also, addressing filling the overarching gap of this concern (Little, 1995, 2007).
It is worth noting that few empirical studies (Smith & Erdogan, 2008; Vieira, 2010; Mello et al., 2008; Galiniene, 1999) have found evidence of teachers being autonomous in a teacher's training based on undertaking collaborative actions research, see Section (2.3.2). Their finding aligned with the aims of this study, which is an attempt to involve teachers in autonomous, independent, self-directed learning and social interdependence learning types within the dCPD, and embracing the need for teachers to be autonomous learners themselves. Henceforth, my study added in exploring the teachers exercising of their autonomy based on the incorporation of the individual and social learning types via the LCF in a dCPD.

Furthermore, from the teachers' pattern of engagement in the dCPD, it appears that teachers' engagement intensity could contribute to providing more understanding of the teachers' outcome after training. Fredricks et al. (2004) argue that there is a link between the learners' engagement and educational outcomes. Accordingly, the key finding here is how the teacher's overall high and moderate engagement patterns are linked to showing all different types of impacts, such as validation, enhancement, and new learning. Surprisingly, the relationship between engagement intensity and the learning outcome has proved to be non-linear and not straightforward in this study as both patterns of engagement produced positive impacts. This could be explained concerning how teacher learning can also happen through observation during the learning environment with less spotted action. This finding could be interpreted through the vicarious learning concept discussed by Bandura (1997) and Bandura et al. (1963) in Section (3.2.2). Also, it is confirmed that the occurrence of such learning could be enabled within a digital learning environment (Laurillard, 2021). Accordingly, this finding evident that with the context of the digital CPD, vicarious learning played an essential role in facilitating valuable learning outcomes by all teachers, even when they showed two different engagement patterns at high and moderate levels. This means that both highly and moderately engaged teachers have shown improvement, albeit to certain extents.

To sum up, the second theme, which offers answers to the second research question, could be considered evidence of the dCPD's powerful impact, which helps understand both the teachers' process of learning and engagement. This theme has helped in drawing links between teachers' engagement in the six learning types. The findings demonstrate the high engagement level of the individual types of learning and the moderate and low engagement levels of the social learning types. In other words, individual learning types could be more suitable for teachers in supporting their autonomy for the teachers in the context of this study. This finding contrasts with the LCF, which promotes both the independent and social aspects mentioned above. While Laurillard' s framework offers valuable insights into TLA, it presents certain limitations regarding the context of its use, see next Section (7.4)

Furthermore, this study aligns with the small number of empirical studies that have employed the digital delivery of teacher training regarding TLA, such as Raya (2011), Raya & Viera (2015), Trebbi (2008), Li (2023), and Ushioda et al. (2011), see Section (2.3.2.1). All these studies have come to agreement with the current study to explain that the use of digital mode benefits teachers due to the affordances of digital training that support teachers' social collaboration. However, this study argues that, alongside using digital technology to support teacher professional development through its affordances, technology may also act as an important tool for collecting specific data to monitor learning types. That's to support understanding the levels of engagement by teachers and track their responses to its tasks, and what could hinder this engagement. Accordingly, it served to understand the intensity of the engagement and the teachers' autonomous learning process. That was also obtained through the usage of the LCF (Laurillard, 2021), as it is confirmed by Teras (2016) and Howards (2021) that digital teacher-learning communities should utilise the effective use of design and theoretically driven learning frameworks. Accordingly, the findings contribute to giving more support for understanding teacher learning in the form of a dCPD on a global scale and in Saudi contexts specifically.

7.4 Teachers' favourable aspects and challenges/solutions concerning the dCPD

This section addresses the third research question and discusses teachers' emotional reasoning and attitudes towards their involvement in the digital professional development course. It aims to explain the key findings regarding the teachers' positive and negative (challenges) attitudes towards certain aspect and presents possible solutions that the teachers reported regarding dCPD challenges. For example, what related to the learning types, content, design, and experiencing autonomous learning. The scale of online learner engagement

(cognitive, behavioural, and emotional) was also used with a specific focus on emotional engagement (Fredricks et al., 2004), to understand teachers' feelings and attitudes.

Research question 3: *What kinds of favourable aspects, challenges and recommended solutions did teachers report from learning through the dCPD?*

7.4.1 Teachers' attitudes towards individual and social learning types

Based on the findings, the teachers reported favourable aspects, challenges, and solutions regarding the individual and social learning types that underpin the learning process of the dCPD. Generally, the data showed that the most preference goes to the individual learning types over the social learning types.

Firstly, regarding individual learning types, the findings indicate that the teachers favoured two individual tasks the most. The first favourable task was watching presentations/videos, which was favoured by four teachers. The second favoured task was posting reflections, which was the preference of three teachers, see Section (6.3.1.1). Teachers who preferred the first task reported that they considered it helpful and provided supportive material. One teacher also reported that this task matches her learning style as visual/auditory, and how it shows an example of watching model practices of what is going on in class from different angles. Since the first preferred task by teachers translates the learning type via acquisition (Table 11), these reported affordances are added and aligned to the LCF (Laurillard, 2012). That's related to how this learning type allows teachers to spend learning time listening or reading, which will give them the ability to contribute to upcoming tasks and learning types. This finding was linked to the other individual learning types in which the teachers achieved high engagement, such as the learning type via inquiry and practice, see Section (6.2.1) & (Table 13).

Additionally, with teachers' second preference regarding the posting reflection tasks, teachers reported its affordances by expressing how it allowed them to think of their previous experiences, rethink what they learned during training, and how to apply it in future practices, see Section (6.3.1.1). Since the second preferred task translates the learning type via production (Table 11), these reported affordances aligned with what is mentioned by Laurillard (2012), that is related to how this learning type helps teachers connect concepts and practice. By linking these findings to the LCF, I reinforced the importance of these foundational learning types in preparing teachers for deeper engagement with other learning tasks and for helping teachers produce work that shows what they have learnt and how they used it practically.

Besides, the findings indicate a relationship between satisfaction/attitude and the intensity of engagement in the second research question, see Section (7.3). Teachers' positive attitudes

regarding the learning types via acquisition and production reflected high engagement in both learning types. Furthermore, the high satisfaction and high engagement with the acquisition learning type could also lead to high engagement with other learning types, such as the inquiry and practice learning types, see Section (6.2.1). The findings in this study could be drawn back to those of Fredricks et al. (2004), who posit a link between learners' engagement with their satisfaction and determination, showing that, when teachers feel positive about their learning activities, they are more likely to engage deeply, mirroring the connection between emotional satisfaction and engagement levels. This study further contributes to the field by connecting teachers' engagement to the broader theoretical framework on the role of emotions. This was discussed by Borg (2019), Golombek and Dornan (2014) and Richardson et al. (2014), who stated that teachers' emotions could affect their behaviours and beliefs. Accordingly, this study provides empirical evidence that supports this theory, demonstrating that teachers' emotional responses to learning activities directly impact their engagement levels.

In terms of discussing the social learning types and activities, the findings indicate that the teachers favoured one social task the most, namely the platform group discussion, which six teachers favoured it see Section (6.3.1.1). The second favoured task mentioned was the WhatsApp group collaboration; though, it was interestingly favoured by one teacher only. The group discussion was the preference of most teachers, who reported its affordances by expressing how they consider it an effective way of learning and how it allows them the opportunity to read about other experiences and share ideas. Since this highly preferred task by teachers is translating the learning type via discussion. These reported affordances added and aligned with Laurillard (2012). That's related to how this learning type helps teachers develop their concepts interactively by negotiating critiques, ideas, comments, and answers to one another and receiving feedback. Thus, this finding reinforces the value of group discussions in professional development settings in fostering teachers' learning.

Nevertheless, the WhatsApp collaborative task was preferred by only one teacher, who reported that she wished there was more engagement with it by others, see Section (6.3.1.2). Since this task translated the learning type via collaboration, Laurillard (2012) suggests that online collaborative activities support teacher learning by affording interactive negotiation and creating a shared collective and joint product of knowledge. Despite that, it appeared that the teachers did not favour this learning type and did not mention any affordances regarding it in this study; instead, they all mentioned challenges regarding the collaborative learning type, see Section (6.3.1.2). These findings highlight a gap between theoretical expectations and actual experiences. The present study provides empirical evidence to explain this discrepancy, showing that, while Laurillard's framework posits the benefits of collaborative learning, teachers' experiences may not always align with these benefits.

Accordingly, the data showed that before the training, all teachers agreed on the importance of interactive and collaborative CPDs, see Section (5.2.1). This prior positivity was reflected in the teachers favouring the discussion learning type in achieving a moderate level of engagement only. However, this view was not entirely reflected in teachers' views regarding the collaborative learning type, which did not show favouring feelings nor adequate engagement. The teachers' contradicting (pre- and post-training) beliefs and inadequate performance were also documented in the literature on how teachers expressed positive views about collaborative learning, yet, at the same time, they showed an insufficient level of engagement (McElearney et al., 2019; Li, 2023; Musanti & Pence, 2010). This disconnection between what teachers think and what they actually perform in the dCPD could be related to the existence of many constraints in the context that could negatively influence their learning (Basturkmen, 2012; Graham et al., 2014; Shahsavare, 2015; Borg, 2006).

Consequently, the findings revealed that all seven teachers mentioned many challenges behind the high dislike that was reported regarding WhatsApp activities. They reported several reasons, such as (1) workload duties and family issues; (2) different individual pace of learning; (3) cultural issues regarding how they might be afraid to insult one another's ideas because of the absence of this kind of collaborative teacher-learning culture in their community; (4) they do not know each other and do not even see each other on campuses; and (5) how WhatsApp is considered a distracting application, see Section (6.3.1.2).

In line with that, many empirical studies have mentioned similar reasons that agreed with the teachers' reports. For example, the study of Smith (2003a), Kennedy (2011), and Li (2023) all found that the teachers' work overload, limited time, and different learning speeds were also major challenges. Moreover, other research has found challenges related to teachers' cultural backgrounds. For instance, Afshra and Ghasemi (2020), Liu and Kleinsasser (2014), and Musanti and Pence (2010) found that teachers were afraid of sharing their thoughts with others; this fear could be related to a reluctance to expose their weaknesses to others, having low confidence of offering professional ideas to others and posting their personal opinion online. Furthermore, Liu and Kleinsasser (2014) confirm that, sometimes, teachers do not feel good about exposing their identities to one another because they do not perceive trust between themselves. Interestingly, that was found to be contrasting in the study of Ji (2023), as he found that teachers reported high engagement with the collaborative activities. As that was related to the cultural emphasis on the collective professional growth amongst teachers in China.

In addition to all these reasons, the findings revealed another new challenge that was not found within the previous studies, such as how teachers reported how WhatsApp is now considered a place for a multitude of messages from different groups that they are members in. That might

cause the majority of teachers to feel overwhelmed when using WhatsApp for collaboration, see Section (6.3.1.2). That gives more rethinking to how there should be further consideration of how WhatsApp may not be suitable for supporting the teachers' collaboration in a dCPD. Remarkably, one teacher suggested that better interactions could be obtained through regular live meetings, see Section (6.3.3), which aligns with prior research by McElearney et al. (2019) and Liu and Kleinsasser (2014). However, this issue can adversely affect accessibility, affordances, and flexibility that the dCPD provides as not all teachers might be able to attend at specified timeslots. Besides, such challenges showed that Laurillard's (2012) idea that online interaction facilitates negotiation of practice is not necessarily applicable in all contexts. For example, online collaboration in the Saudi context of this study was not always feasible due to time constraints and, more particularly, to cultural issues such as trust and difficulty in initiating and maintaining collegiality. Therefore, the current study contributes to the dCPD regarding TLA and LA literature by maintaining the cultural element of CPDs' design that needs a lot of reconsideration in the Saudi context.

Besides, there appears to be a relationship between the findings regarding the social learning types and teachers' level of engagement in the second research question, see Section (7.3). Teachers' positive attitudes regarding the learning types reported via discussion reflected how they were moderately engaged, see Section (6.2.2). The teachers' dislike of the collaborative learning type was reflected by the fact that this learning type showed the majority of the lowest engagement levels, see Section (6.2.3). That's related to what was discussed earlier about the relationship between the teachers' satisfaction and emotion that could affect the teacher's beliefs and behaviours (Fredricks et al., 2004; Borg, 2019; Golombek & Dornan, 2014; Richardson et al., 2014). Accordingly, my study delved deeper into the engagement with the six learning types and attitudes to produce informative links between the two. This connection offers a more comprehensive understanding of the factors influencing teacher engagement in CPD, contributing to the literature by demonstrating how emotional and attitudinal factors shape teachers' participation in professional development.

In short, it was found that social interaction is complex and requires careful support, approach, and nurturing. Some teachers favoured the discussion learning type over collaborative learning even though both were classified under the social learning type. That is probably because the collaboration learning types are more demanding and time-consuming, and they were put with external tools out of the main platform, such as WhatsApp. These factors could cause the teachers to feel more pressure. Furthermore, involving teachers in collaboration requires building more trust and confidence between them to engage in true collaboration, which could require more time and bonding interactive activities prior to the CPD. That's in line with what a

systematic review by Vangrieken et al. (2017) found regarding the successful teachers' communities. The success of these communities depends mainly on a strong and balanced leadership that foster facilitation and flexibility for such a community to work out. As well as supporting the cultural risks to foster more trust for sharing and negotiating by creating of open and positive atmosphere that encourages teachers to collaborate. For that, it could be concluded that more facilitation is needed to maintain more engagement due to the difficulties, demanding nature of collaboration learning. Additionally, presenting teachers with one social learning type could be sufficient, with a greater focus on scaffolding it. Accordingly, that might be more suitable for teachers due to the reported constraints regarding the collaborative social learning type. Though the literature has placed significant emphasis on the inclusion of social learning types for teacher learning, it is worth investigating first possible ways and suitable methods to foster these social activities that involve interaction, discussion, and collaboration to overcome the constraints that hinder engagement. This means that teacher learning literature has focused heavily on promoting social teacher learning and eschewed finding plausible approaches to encourage social tasks.

7.4.2 Teachers' attitudes towards dCPD design and content

Based on the findings, the teachers reported other favourable aspects, challenges, and solutions regarding dCPD design and content. Firstly, all the teachers' attitudes towards the course design and its content were favourable except for one teacher, who did not like the colours and the interface. This finding is in line with the study of Hulon et al. (2020), they found that delivering the CPDs online resulted in teachers feeling satisfied, see Section (6.3.2.1).

Furthermore, teachers reported challenges within the dCPD concerning two specific aspects: technical and platform-related issues and content and workload concerns. In terms of the first issue, four teachers reported technical issues regarding peer-review tasks and the Padlet. Furthermore, one teacher suggested finding another platform for the training, see Section (6.3.3). Although I maintained close support to help solve any encountered issue, these problems are common in digital professional development (Binmohsen & Abrahams, 2020; Zhou & Eslami, 2023; Su et al., 2023; McElearney et al., 2019). These authors suggest that engaging in digital training could require teachers to have a level of digital literacy to leverage the use of digital tools. Accordingly, this study emphasises that assessing teachers' digital literacy may be useful before engaging in any form of dCPD. In my study, I immersed myself in the platform to accompany teachers and provide technical assistance concerning digital literacy. Based on previous studies in the literature encouraged providing scaffolded support to digitally delivered CPDs (Binmohsen & Abrahams, 2020; Zhou & Eslami, 2023; Su et al., 2023; Xie et al., 2017, Cho & Rathbun, 2013).

The second issues are related to the content of the dCPD, the teachers' workload and time constraints. Two teachers stated that they wished to see an extra topic and additional weeks of input, see Section (6.3.3). This finding is in line with the study of Gliniene (1999) and Li (2023), who found that teachers who were engaged with CPD content wanted to continue learning through additional resources. However, the other challenges that the teachers mentioned could contradict this willingness to be provided with more content. Three teachers reported that they were struggling to complete the training due to the workload and pressure of their duties. Furthermore, the findings showed that there were another five secondary teachers who started the training but withdrew later. These teachers reported that dropout was because of the feeling of the workload pressures and life duties, see Section (6.3.2.2). This was confirmed by both Al-Mutlaq (2018) and Kenndey (2011), who found in their studies that the teachers' time and workload were influential in CPD accessibility. Similarly, Xie et al. (2017) and Cho and Rathbun (2013) argue that, with the dCPD, teachers might be active initially and drop out after a while.

This finding, however, challenges existing literature on struggling to confirm the most appropriate length for dCPD content to encourage engagement and minimise attrition. Accordingly, looking for the optimal duration could be challenging as there is a debate on understanding the suitable length for digital CPDs. However, this study emphasises that with teachers learning online, the balance between achieving the training goals and bearing in mind the teachers' workload should be considered to avoid withdrawal. That was supported by the studies of Xie et al. (2017), Cho and Rathbun (2013), as well as by Laurillard (2014). She advised not to exceed 5 hours of learning time of 4 weeks duration for a teachers' development MOOC course. Also, the scoping study of Singh (2022) confirms that teachers preferred completing and engaging with short-duration MOOC courses.

To ensure attendance, Cho and Rathbun (2013) mentioned in their study the importance of preparing teachers for what they are going to expect in training. Such as offering an introductory session as pre-orientation, where the expected learning duration of the turning should be declared earlier to prevent any surprises or drop-outs. This process was achieved successfully before starting the dCPD in this project. Nevertheless, one teacher offered an interesting suggestion, mentioning that, with this kind of dCPD, starting early during the first week of the semester when the teachers have less pressure would be more effective, see Section (6.3.3). This timing could provide more effective support for maintaining teachers' timeframe and workload as well as equip them to design their work duties and learning tasks with less stress.

A significant finding of the current research is that providing a longer duration CPD is not as important as making a suitable balance by being considerate of teachers' workload and context. As what is most important is caring for achieving beneficial design and well-structured content

that achieves the required learning outcomes for the teachers' needs (Lydon & King, 2009; Kalinowski et al., 2019; Patricia et al., 2014). Equally important is supporting teachers' digital literacy to avoid technical issues and prevent difficulties in the learning process.

7.4.3 Teachers' attitudes towards their autonomous learning experience in the dCPD

The training learning process depended on TLA, which is conceptualised in this study as teachers learning about promoting LA by developing their knowledge, skills, and abilities. This process includes learning self-direction and cooperation with others (Smith, 2000, 2003a; Smith & Erdogan, 2008). Moreover, the design of the dCPD supports the flexibility of learning regardless of the time and place. This implies providing a structured pathway of learning that supports both self-paced and self-directed learning. Accordingly, all of this can support teachers' autonomous and self-regulated learning that digital training can provide (Teras, 2016; Ranieri et al., 2017; Kiddle & Prince, 2019; Binmohsen & Abrahams, 2020; Rizzuto, 2016; Vu et al., 2014; Zeichner & Liston, 2013; Hulon, 2020; Alkhreshen & Asif, 2022), see Section (3.3.2.3.2). Hence, all the above-mentioned aspects were modelled via the dCPD and underpinned by LCF. As such, providing teachers with a digital learning environment gives them an autonomous learning experience by involving them in independent and social learning types.

Based on what was mentioned previously, all seven teachers reported that within the training, they felt that they were autonomous learning themselves, and were engaged in the autonomous learning experience, see Section (6.3.2). However, the teachers' reasoning for this experience differs as their answers are categorised into two groups. The first group of teachers (Alice, Maya, and Lana) related their autonomous experience in training to self-learning by being independent and responsible for their own learning. On the other hand, the other group of teachers (Ivy, Lora, Jane, and Rose) related their autonomous learning experience to the independent task involvement as well. They added the learning management/control aspects regarding the scaffolded self-paced opportunities that the activities offer.

Through linking the teachers' answers and their engagement patterns in the learning process during the training, it could be concluded that both groups focused on the independent aspect of autonomous learning without mentioning social tasks. Therefore, it appears that teachers perceived being an independent learner as what most accurately described their autonomy, showing a disregard for social aspects. Moreover, the second group who are the highly engaged teachers leaned more toward acknowledging the self-paced, self-regulation aspects of managing and controlling learning. That is in line with the previous literature, which has found that involving teachers in the digital training environment could provide them with learning experiences, with tasks designed that allow them to engage in regulated learning (Howard,

2021; Teras, 2016; Vieira, 2010). Even though this group of teachers added the self-paced and self-regulated options that the digital environment offered them, they still emphasise the independent role of the "self".

The teachers' background seemed to support their reasoning towards TLA, see (Table 6). All teachers agreed that their experience was related to independent learning, which could be related to how five teachers who reported that they experienced autonomous learning in their educational lives because of their willingness to be independent. Also, how two of them (Lora and Jane) relate their prior LA experience to studying abroad. Studying abroad could promote teachers' acknowledged autonomy more by mentioning another angle and offering a new perspective. Crucially, if teachers had spent time abroad in higher educational contexts that value autonomy (such as the UK), it could have influenced their attitudes towards their learning experience through the dCPD. This finding is supported by Pikos-Sallie (2018) and Barnawi and Ha (2014), who state that teachers' experience of studying abroad is linked to increasing their independence and pedagogical awareness.

Suitably, what teachers mentioned about their experiences and the aspects of TLA aligns with the conceptualisation of TLA and the training designs, which are primarily self-paced and self-access. However, the social aspect was missing from their views, which the dCPD attained and showed a lower engagement rate for the constraining factors that were mentioned earlier, see Sections (6.3.1.2). Generally, even with this missing aspect, the dCPD attempted to engage the teachers in a holistic experience of being in an autonomous learning environment to better learn about fostering LA with their students. Accordingly, that aligns with the overarching goal of this study, which strengthens the study's contribution to responding to the original call of Little (2007) for the need to involve teachers in first-hand autonomous learning experiences. That also contributed to the dCPDs design for better understanding of the teachers' learning experience and ability to learn autonomously since the LA promotion for the students depends on the development of the teacher autonomy.

In line with this perspective, Dewey's (1938) theory of experience places a great deal of emphasis on experiential learning involvement and reflection on this learning experience. Indeed, better behavioural development can occur when the teachers connect the learning experiences that they were involved in- to their teaching practice; this integrated reflection supports the teachers' practical knowledge more profoundly. Hence, the teachers' self-recognition of their autonomous learning experience went hand in hand with the training's theoretical and pedagogical input; through this mechanism, the training on LA granted the teachers themselves a holistic and immersive experiential learning opportunity for empowering their teaching. Although teachers did not explicitly state in what way this learning experience is

shaping their practice, their clear reflective acknowledgement showed a great deal of awareness about linking the similarity between their learning experience and the LA practices. Thus, with this awareness, teachers can be better at adapting their LA practices with their students. In short, allowing the teachers to experience LA as both a teacher and as a learner simultaneously is a unique approach that gives teachers a taste of being an autonomous learner for supporting understating the LA behaviours and implementation.

To sum up, it was notable that teacher attitudes varied considerably according to learning types as they favoured the independent types connected to their high engagement with them. Although only one social learning type was favoured, namely the discussion learning type, it had moderate engagement because it required more dynamic engagement. Not to mention how the collaborative learning type showed the lowest engagement. These findings suggest the suitability of the independent learning types for teachers' learning, as the social one, particularly collaboration, could have a secondary focus with more scaffolded facilitation regarding its difficulty and constraints. Furthermore, the findings show that all teachers expressed their admiration of the dCPD and mentioned various positive aspects, such as regarding content, the design, and its autonomous learning experience. Several challenges were mentioned, and solutions were offered, which aided in understanding what would make for a more effective dCPD design to support teachers' learning.

Generally, to show more emphasis on this study's contribution and support answering the research question. The findings revealed in Section (5.2.1) showed that five teachers stated that the available CPDs offered for EFL teachers were still based on the passive lecture-based mode. This finding aligned with those from existing literature, which has found that CPDs in the Saudi context may still use the formal top-down method, with the need for further modification, such as the establishment of a self-paced mode to enhance teacher training (Alqahtani, 2019; Butcher & Stoncel, 2012; Binmohsen & Abrahams, 2020; Rizzuto, 2017). Accordingly, all seven teachers who participated in this study agreed on how the CPD should be simplified and self-accessed, allowing for less formal learning, including a community for all teachers to incorporate input and knowledge sharing. Moreover, five teachers expressed positivity about the digital mode because of its accessibility and flexibility. This finding is in line with previous studies confirming the affordances of the digital mode over the face-to-face mode in terms of supporting teachers' learning flexibility, providing better opportunities for knowledge building with the utility of different digital tools (Kiddle & Prince, 2019; Hulon, 2020; Alkhreshen & Asif, 2022; Vivian, 2014), see Section (3.3.2.3).

Appropriately, the teachers' suggestions for more effective dCPD provisions aligned with this study's goal. It contributed to providing innovative teacher training that supports a more

comprehensive understanding of teachers exercising their autonomy while learning about fostering LA. However, it was acknowledged from the previously stated findings that many challenges and constraints appeared, such as difficulties with social learning, teachers' workload, and confusion regarding the suitable length and duration of the dCPD. Despite the general difficulty of reaching an ideal and optimal digital training from teacher learning that suits all teachers and contexts, this study serves to provide an attempt to reach the closest optimal mode for teachers' learning. Alongside, this study helps to highlight the need for more adaptive and inclusive approaches to professional development that can better support collaborative engagement, particularly in digital and asynchronous formats. Through this study, I emphasise the importance of rethinking and redesigning teacher training programs to improve the effectiveness of professional development initiatives. Surely by bearing in mind any similar constraint that could appear, especially cultural and contextual limitations, and utilising any needed solution and support. Accordingly, this method could contribute more to creating a better transformative change in teaching /learning in Saudi higher education institutions and promoting greater professional autonomy for teachers (Bachtiar, 2020; Kennedy, 2005, 2011; Borg, 2015; Kiddle & Prince, 2019).

7.5 Conclusion

This chapter discussed the key findings of the study presented in Chapters 5 and 6 in light of what was found in the literature review. It highlights the key findings and demonstrates a correlation with existing research to draw comparisons and address the contributions of this study. Consequently, the chapter opened by approaching the discussion of the first theme to answer the first research question on the impact of the dCPD on teachers' conceptual and pedagogical understanding of LA. The chapter then approached the dissuasion of the second theme to answer the second research question on teachers' learning within the variety of six individual and social learning types underpinned by the training design and LCF. Finally, this chapter also discussed the third theme, which addresses the third research question on teachers' preferred aspects and challenges/solutions regarding different aspects of the dCPD. Eventually, it further supports the third research question by offering findings on teachers' aspirations for higher-quality CPDs. The next final chapter provides a conclusion of this study, including the summary of findings, the study implications, contributions, limitations, lessons learned, and recommendations for future research.

Chapter 8 Conclusion

8.1 Introduction

This study investigated the impacts of a dCPD programme on Saudi EFL teachers' conceptual and pedagogical understanding of how to promote LA among their L2 students. Furthermore, it examined the teachers' learning process during the dCPD programme. The dCPD programme aimed to raise the teachers' awareness of the LA pedagogy for L2 learning. At the same time, it was designed to involve teachers in their own autonomous learning experience. Accordingly, this study also explored the teachers' views regarding their learning process and experience. This final chapter starts with a concise summary of the research findings. It then addresses each research question in terms of the themes discussed in the previous chapters. Afterwards the implications of this study in education and study contributions are presented. Finally, the limitations are discussed by providing a lesson learned from the dCPD designs, also with a provision of some suggestions for future research following it.

8.2 Summary of research findings

One aim of this study was to explore the impact of dCPD on teachers' learning outcomes, specifically their conceptual and pedagogical understanding of LA promotion. This study also aimed to explore the relationship between the training's impact on teachers' learning, their background and individual trajectories. Throughout the comparison process between: (1) what the teachers reported pre-training via the pre-interview, and (2) what the teachers reported post-training via the post-interviews. The resulting data helped to address the following (first) research question:

Research question 1: *To what extent does a targeted programme of dCPD affect teachers' conceptual and pedagogical knowledge about learner autonomy?*

First, the findings shed light on both the types and patterns of the impacts on teachers' conceptual and pedagogical understanding, see Sections (5.3). These findings relate to the teachers' learning regarding the definition of LA and the characteristics of autonomous learning. Notably, two types of impacts occurred with both aspects, which are either: (1) newer learning and understanding and (2) enhanced learning which shows a deeper understanding of already existing knowledge, see Section (5.3.1). It was shown that after the dCPD, one view of LA (technical one) was still the dominated. Also, how the category of the autonomous leaners' characteristics (motived- independent learner) become the dominant one. Moreover, only one

teacher was able to produce a more inclusive definition than the others. Besides, six teachers showed varied patterns of these two impact types regarding the LA definition and the autonomous learner characteristics. Only one teacher showed a repetitive pattern of the first type (i.e., new learning). These patterns were attributed to some of the teachers' variable backgrounds, such as the length of teaching experience, also to the complexity of the LA conceptualisation.

Second, the findings also shed light on the patterns of impact on the conceptual and pedagogical understanding of the five principles of LA promotion, see Section (5.3.2). It was noteworthy that three types of impacts occurred amongst the teachers, which are: (1) learning validation, by showing the ability to connect what they learned to their original existing understanding of the principles' implementation; (2) enhancement, by showing signs of deeper learning of the principles; and (3) new learning, by showing signs of a new understanding of the principles' implementation. The first pattern of the impact (validation) was the dominant impact across the teachers and across the five principles, as five teachers showed a repetitive pattern of validation. The second pattern (enhancement) emerged in a repetitive pattern but for only one teacher. One teacher also showed a mix of all three impact types. Finally, the (new learning) impact was present, but only at a minor level and only for two teachers on one principle; it did not occur as a pattern among the teachers. Generally, these various patterns of impact could be attributed to teachers' background, which is related to their prior schooling/ experiences, the course work of learning, and other contextual factors.

In addition, most teachers reported signs of enacting some practices in their classes after the dCPD programme. Moreover, all teachers were able to acknowledge, negotiate, and challenge the main contextual constraints of LA promotion, such as large class sizes, demotivated students, and the restrictions of the pacing guides in marking.

Overall, these different types of impacts and their patterns indicate that the dCPD programme did promote a beneficial power in contributing to the teachers' LA conceptual and pedagogical understanding. All the types of impacts seemed positive and desirable, contributing at least to a certain extent to teachers' theoretical and professional improvement concerning LA promotion. That includes raising the teachers' awareness about both the concept and implementation of LA by connecting their theoretical understanding of LA to its practical application while acknowledging the contextual constraining factors.

Another aim of this study was to understand both the teachers' engagement and their learning process within the different learning types and tasks of the dCPD. The study thus explored their levels/intensity of engagement and their learning processes and considered how those related, the impacts of the dCPD on their learning outcome. Namely, the study tracked and observed the

teachers' cognitive and behavioural engagement in their learning processes within the platform activity types via a variety of tasks, the platform analytics, and journaling. The resulting data helped to address the second research question:

Research question 2: *To what extent did the teachers engage with the dCPD and how, if at all, did this impact their learning?*

First, the findings shed light on teachers' cognitive and behavioural engagement levels (high, moderate, or low) occurring within both the individual and the social learning types. Furthermore, said findings illustrate the teachers' pattern of engagement across these six learning types. It is noteworthy that the seven teachers' engagement in four of the individual learning types was at a high level, namely learning via inquiry, acquisition, production, and practice, see Section (6.2.1). In contrast, the social learning types were at a moderate level, such as the learning type via discussion with six teachers and the learning type via collaboration at a low level with four teachers, see Section (6.2.2 & 6.2.3). Subsequently, that contributes to how the findings designate the teachers' two patterns of engagement across all six learning types, which are the pattern of consistency of high engagement with four teachers, or the other pattern of consistency of moderate engagement with only three teachers.

Second, the findings attempted to better explain the reasons behind these two engagement patterns, which could be related to the teachers' dynamic action in the dCPD and background variables. The findings showed that the first group of highly engaged teachers, who achieved a consistently high level of engagement, showed a higher total participation rate, higher time spent, and a greater eagerness to learn compared to the second group of moderately engaged teachers. Importantly, it was also concluded that the relationship between time spent in the training and levels of engagement could not always be unidirectional. Moreover, the teachers' background variables related to their teaching experience and prior experience in attending CPDs could also explain the high and moderate engagement levels. Furthermore, teachers' overall high and moderate engagement could be linked to dCPD' s impact on teachers learning outcomes, by showing mixed types of impacts that were considered positive from the dCPD. Accordingly, no specific association was attributed to a specific level of engagement as all teachers were affected positively by the dCPD.

Overall, despite the findings showing varying levels of engagement among teachers within the independent and the social learning types, there was notably higher engagement with the individual learning types. The findings also suggest that the dCPD could have the power to offer a detailed understanding of teachers' patterns of engagement across the learning types, attempt to understand the reasons behind these patterns of engagement and determine its association with teachers' learning outcomes. The findings also showed how the dCPD offered

various engagement opportunities for teachers' learning and allowed them to exercise autonomy.

The final aim of this study is to explore teachers' attitudes towards their involvement in the dCPD concerning different aspects of training. This study aimed to explore whether there was a relationship between teachers' attitudes and engagement in terms of their learning process during the training. That was investigated through a platform survey and the post-interview. The resulting data helped to address the following third research question:

Research question 3: *What kinds of favourable aspects, challenges and recommended solutions did teachers report from learning through the dCPD?*

First, the findings shed light on teachers' attitudes regarding individual and social activities, see Section (6.3.1) and indicate that the teachers favoured many individual activities. Learning via acquisition was favoured by four teachers, and learning via production was favoured by three teachers. Accordingly, the findings show a link between teachers' positive attitudes regarding the learning types via acquisition and via production, which was reflected in their achievement of the majority of high levels of engagement with both learning types. Among the social learning types, most teachers enjoyed the learning type via discussion. However, only one teacher favoured learning via collaboration; the other six teachers did not show positive feelings towards this type of learning, even mentioning its challenges. The findings show a link between teachers' positive attitudes regarding the learning types via discussion, which is related to how they achieved a moderate level of engagement. For the other social learning types of collaboration, only one teacher achieved remarkable engagement, which could be related to her preference for this type of learning.

Second, the findings also revealed that teachers' attitudes regarding dCPD designs, content, and learning style, see Section (6.3.2). Notably, all seven teachers admired the course design and its content, reporting how the dCPD was enjoyable and eye-opening. Moreover, teachers not only reported challenges that they mostly faced, such as technical issues with the chosen platform, work overload, and limited timeframe. Hence, they suggested solutions, such as offering the course at an appropriate time during the semester. Furthermore, all teachers reported that the training learning style helped them acknowledge how the dCPD helped them to feel that they were engaged in an autonomous learning experience, mostly by being independent learners and when they self-regulate their learning by working on self-paced tasks. Likewise, teachers prior training offered suggestions for more effective CPD in general as an aspirational image of CPD provision, which was concerned with the following aspects: providing simple and self-access online CPDs for less formal learning, such as reading and involve colligating, having online platforms as a community for all teachers that include input,

materials, a chance to share knowledge, experience, discussions, and practice. Even though this image matched what was presented in the dCPD, teachers' engagement and uttered attitude that showed some contradiction that helped in understanding the need for rethinking better dCPD for teachers learning, such as scaffolding better social learning engagement.

Overall, teachers' positive attitude regarding the different aspects of the dCPD, as well as their reported challenges and dislikes, were all associated with their engagement, which was mainly high in individual learning types. This finding also helped to understand what could facilitate or hinder teachers' engagement within the dCPD and its learning types. Moreover, the teachers' aspirational image of the dCPD aligned with the dCPD presented to them based on the criteria of effective CPD. However, teachers' engagement offered some contradictory findings, which were useful in reconsidering to create a better transformative approach for teachers' learning, which could promote more teachers' autonomy and development.

8.3 Research implications

Concerning what this study found, it is notable that the findings could be employed in a way that produces a beneficial implication for the educational context, including for other parties and bodies and enhancing the optimisation of the EFL teaching and learning process. Accordingly, this section considers three areas of practical implications, namely the implications for educational policymakers, implications for educational institutions, and implications for EFL teachers.

8.3.1 Implications for educational policymakers

Since SV2030 calls for investing heavily in educational transformation by targeting EFL learners' improvement, the ultimate aim is to achieve a more economical knowledge-based society. These goals are closely linked with the educational potential of LA. SV2030 also calls for reforming teachers' education in ways that take more innovative approaches to teachers' learning, see Sections (1.2.3.1 &1.2.3.2). Accordingly, the present study has directly contributed to operationalising these SV2030 educational goals by creating an innovative dCPD course and testing it via an empirical application. The dCPD in this study aimed to raise teachers' conceptual and pedagogical awareness of how to promote LA among EFL learners, and the study examined what facilitated and hindered the teachers' learning regarding better LA promotion. Consequently, implementing more LA strategies with learners and improving teachers' CPD channels contributes directly to educational advancement in the Saudi context.

Furthermore, this study relates to the teachers' perspectives on LA, their beliefs, and their conceptual and pedagogical understanding, providing a set of recommendations for practical implementation for educational policymakers in general and at the Saudi Ministry of Education. These implications correspond to and align well with the Saudi Economic Vision 2023 outlines, see Section (1.2.3); which advocate for greater innovation and empowerment in the educational sector to foster more creativity and innovation, guaranteeing lifelong learning for teachers and learners, and encouraging excellence in education and research. Accordingly, this implication could offer more empowerment for both EFL learners and teachers.

For the learners, according to the findings of this study, it was seen that many of the teachers who participated in this study stressed the importance of implanting the notion of LA with the learners from an early age during their initial years of public education; autonomous learning should be enforced as early as possible within all the learning stages of the learners to avoid unwanted habit formation concerning the teacher-centred teaching style. Immersing the learners in a more condensed environment that promotes learner-centred teaching with less teacher-centred teaching will result in more motivated learners that can accept responsibility for their learning and work hard on their improvement. That could lead them to achieve success in higher education and with the workforce in future.

With regards to the EFL teachers in public education and higher education, Little (1999; 2007) highlights the importance of teachers having autonomous learning experiences themselves before being asked to promote them. This perspective is related to early autonomous education- as mentioned earlier- which would help learners acquire this experience were they to become EFL teachers in the future. Similarly, for current EFL teachers in the field, the study findings on the beneficial impact of teachers' engagement in the autonomous experience could implicate and encourage policymakers to increase awareness of LA amongst teachers and then aim to promote it with learners.

Since LA is less widely acknowledged in non-western countries such as Saudi Arabia, teachers need to be made aware and understand how to relate to its conceptual understanding and adopt it into their pedagogical practice; they also should attempt to become autonomous learners themselves to have an experience of what it looks like from their personal experimentation to be able to pass it on to learners. As such, policymakers need to support all higher educational institutions to provide teachers with different means of professional development courses in a variety of formats that appeal to the teachers and raise awareness of LA's conceptual and pedagogical understanding. In other words, there is a need to provide more training courses to involve teachers in the autonomous learning experience themselves and to experience all of its aspects.

8.3.2 Implications for educational institutions

Although this study was conducted with one single higher education institution in Saudi Arabia with only seven teachers, its implications could be readily transferable and applicable to different higher educational institutions and to the public education sector. Accordingly, to support the recommendation for policymakers, fundamental changes should be made. Higher education institutions could employ many initiatives for LA development for EFL learners and EFL teachers' professional development.

Firstly, several of the findings could be used in higher education investment for more effective LA promotion to learners. These findings are related to how some participants recommended involving the learners in an orientation session with the ELC or the English department, which would help raise learner's awareness and make them more responsible for their learning, moving away from the traditional teacher-centred learning style. It has been agreed that learners' resistance and lack of motivation could be related to their educational background. Moreover, these orientation sessions could help show learners the steps to being more autonomous learners for setting goals, more efficiently managing their EFL learning, reflecting and evaluating their learning, and being involved in more interdependent activities with their peers. Participants also recommended that there was a need to set some language advising support for the learners, which could help them overcome any difficulty that they faced and orient them towards other sources than the classroom teacher.

It was also recommended that educational institutions should work on solving several of the LA constraints that were mentioned by participants as they could affect the LA promotion. For instance, working on giving teachers more freedom in the pacing system and marking may increase learner motivation. Additionally, the curriculum completion timeframe should be designed to be more balanced with the teachers' workload and speed.

Another essential implication is related to teachers' training and professional development. It was acknowledged by most of the participants that they were provided with several CPD opportunities, though all these courses were lecture-based. According to the existing literature on effective teachers' CPD, this type of CPD that they have been offered may be categorised as a top-down formal provision, which may not be particularly effective in terms of influencing the teachers' knowledge, beliefs, and practice or promoting the professional autonomy of the teachers. As such, higher educations need to work on providing more innovative models of CPD, especially digital ones, that guarantee teachers' improvement. For example, it may be necessary to implement bottom-up, informal CPDs and listen to and examine teachers' needs and aspirations for the types of CPDs that they are looking for. Teachers expressed a desire to

see more CPDs including online/digital platforms as a teachers' community that provides teachers with simple, less formal opportunities for delivering inputs, materials, colligating, and sharing knowledge and practice.

Another recommendation related to CPD provision is how to make them more appealing and attractive for teachers because all the teachers admired the dCPD in which they participated. However, the findings showed less involvement with the social learning types by teachers, which is due to several constraints and challenges reported by teachers. Teachers' social engagement in the training requires careful design and more effective scaffolding to overcome all the difficulties and make it less demanding. Higher institution needs to give urgent attention to the nature of context when designing and delivering CPDs. Factors such as teachers' backgrounds, different work environment cultures, varied workloads and timetables should all be taken into consideration before and while designing a CPD. Therefore, the cultural element of teaching context is highly important as culture shapes how individuals receive and process information in light of social norms and values (of collegiality for example). Taking these elements into consideration would allow institutions to offer more inclusive dCPDs with social and individual elements that teachers should experience.

8.3.3 Implications for the EFL teachers

This study has several implications for EFL teachers in Saudi Arabia, both for higher education and public education teachers. For example, to address the constraints mentioned by participants as hindering LA promotion, teachers should work on finding ways to manoeuvre around them or challenge them by finding solutions that could work at least in their classrooms with their students. Teachers should also be more active in speaking to those who are at the top of the hierarchy to collaborate for more effective LA promotion for EFL learners. Existing literature has also found that teachers should work and involve themselves in fixing any issue that could affect LA promotion. In addition, teachers should work with their learners on a one-to-one basis to advise them about their needs to improve their LA and attempt to change the teacher-centred style they are used to from their early schooling background. That's because many of the teachers in this study noted that one of the factors that hindered LA promotion was learners' limited motivation.

EFL teachers need to work by themselves on their self-directed professional development to be involved in different types of CPDs within the institution and outside as a personal effort, to update themselves regularly, and to be able to put theoretical/conceptual knowledge into practice. Furthermore, there is a need for teachers to be more involved in social engagement and collaboration. That's because some teachers do not attend CPDs regularly, and there was

noticeable collaborative resistance amongst the teachers within the dCPD. It is important for teachers to deliver their needs to the HoDs and ELC, and ask for the type and content of CPDs that they wish for, such as what they reported about their aspirational image of the most effective CPD, report any difficulties that might hinder their engagement, and express in what way the social tasks are suitable for them to be implement. As the teachers' requests usually will be taken into consideration to be achieved in reality.

8.4 Research contributions

The study sheds light on theoretical/conceptual and practical/empirical contributions related to the theories and concepts underpinning this study, as well as the practicality of the pedagogical aspects of teacher learning and development.

TLA is related to teachers developing their knowledge, skills, and attitudes in cooperation with others to learn about LA pedagogy and exercise their autonomy as a learner (Smith, 2003a; Smith & Erdogan, 2008; Smith and Vieira, 2009). Accordingly, the first contribution is related to how this study was insightful in terms of how CPDs should promote both learner autonomy among students and foster autonomy among teachers as learners themselves. Therefore, this study articulated on all the aspects of TLA and empirically translated them into a practical, immersive dCPD. This programme extended the understanding of TLA, not only as a conceptual theory but also as a pedagogical guide. Therefore, this study enhances the theoretical framework by providing the following: (1) a more comprehensive understanding of the main theory of TA; and (2) a more accurate explanation of its practical dimensions, which concern TLA. (3) a more establishment of the link between LA and TA.

The theoretical originality of this study lies in the creation of synergy and triangulation between three theoretical frameworks, namely the TLA, the LTC, and the LCF, see Sections (2.3.1, 3.3 & 3.4.1). The link between TLA and LTC is related to how TLA concerns teachers' knowledge, skills, and attitudes, which are part of the teachers' cognition framework (LTC), (Borg, 2003; 2006). Additionally, the three elements of the LTC as the teachers' professional learning course, the contextual practice, and prior schooling/experiences were all associated with the TLA understanding in terms of how these three elements could be related to the impact on teachers' learning about LA. Moreover, TLA was linked to the LCF (Laurillard, 2011). Since TLA is concerned with how teachers exercise their autonomy in learning to develop their knowledge, skills, and attitudes, the LCF translates a variety of independent and social learning types that aid in understanding how to involve teachers in leading their autonomous learning engagements, as the online learning engagement framework of Fredrick et al.'s (2004) has helped in tracking and understanding this engagement. Accordingly, this consideration was

added to the combination of the two stances of teachers' learning, and involvement in the development of the teachers' (knowledge in and of practice) by Kelly (2006); which are based on the cognitive and social constructivist theories of learning. Additionally, Section (3.6) and (Figure 3) show a demonstration of this integrated synergy. Besides, it is worth noting how the key findings of this study have operationalised this framework's synergy which was fundamental in concluding the study's theoretical contributions as follows:

First, the findings regarding the teachers' conceptual and pedagogical learning of LA after dCPD engagement align with TLA. This result indicates that when teachers are involved in learning situations that incorporate LA, their awareness of LA increases. Accordingly, the impacts of the training on teachers' learning outcomes regarding LA were labelled into three categories: validation, new learning, and enhancement. Moreover, the findings regarding the variation in and the explored reasons behind the teachers' patterns of learning (impacts) align with the LTC. The LTC contains the main elements and variables that might shape and affect teachers' learning (e.g., involvement in effective professional coursework, background and prior experience, contextual practice and constraining factors).

Second, the findings about the teachers' levels of cognitive/behavioural engagement in the training (i.e., ranking the engagement as high, moderate, and low) connect to the two important teachers' learning stances: cognitive learning and social learning constructivism. These findings also connect to the individual and social learning tasks based on the LCF. The high engagement in the individual learning types aligns well with these frameworks. The inadequate engagement in the social learning types, however, challenges the social/collaborative learning importance for learning. The latter finding therefore demands careful application of social learning when implemented, including consideration of teachers' learning work environment and context.

Third, the findings regarding the teachers' cognitive/behavioural engagement connect to Fredrick et al.'s (2004) framework, addressing teachers' strategic learning and their performance in dCPD. Also, it is linked to understanding the teachers' emotional engagement findings. That includes explaining the teachers' emotional reasoning and feelings regarding different aspects of their learning process in the dCPD, and in relation to their cognitive/behavioural engagement levels within the learning types.

Moreover, in terms of highlighting the pedagogical contributions of this study, this study aided in promoting a substantial contribution to teacher learning about LA and their professional development in general. First, this study answered the need for more training to raise the teachers' awareness about LA as few studies have been conducted on teachers' learning about LA promotion worldwide, and even less so in the Saudi context. As such, this study was a response to Smith's (2003a) call for an understanding of how to prepare teachers for

engagement with pedagogical learning about LA promotion. Accordingly, this study helped to address the gap in understanding how to support teachers to link LA theory and its practice in classroom implementation. That's by presenting in detail the impact (validation) of the dCPD on teachers' learning of LA's conceptual and pedagogical understanding.

Another insightful pedagogical contribution was related to how the study worked in interpreting teachers' learning process within the dCPD and understanding what facilitates this process and what constrains it. Consequently, the study offers insights into the affordances and the issues created by digital training for teachers, which contributed to ensuring facilitation to overcome teachers' training constraints. The LCF was used as the underpinning framework for the dCPD design in this study to understand more of the teachers' learning process in terms of LA, and allow teachers to exercise their autonomy in learning in a digital setting. Additionally, how the usage of this framework was linked to the usage of Fredricks et al.'s (2004) scale of engagement in online learning was used for tracking and understanding teachers' learning in a dCPD and determining teachers' engagement with their learning process. Both the LCF and Fredricks et al.'s (2004) scale of engagement usage was popular for being addressed to understand students' learning. Hence, using these tools to understand teacher learning is considered to be a valuable addition to the field of teachers' professional development. Accordingly, the LCF could be considered as a modelled framework for designing and understanding teachers' learning CPDs in digital space. For example, there was a high engagement in individual activities and limited engagement in social activities, based on the teachers' responses. Accordingly, that helped in understating that it may be necessary to reconsider delivery and teachers' involvement in the social activities, by making them less demanding and more scaffolded to maintain higher levels of engagement.

Subsequently, in terms of pedagogical contributions as well, this study contributed to fulfilling the need to look for more effective innovative methods for CPD that do not follow the top-down approach and focus more on the bottom-up approach, particularly in the Saudi context. For this reason, I created digital self-access training focusing on transformation and more personalised, less informal training that promotes a stronger sense of professional autonomy and satisfaction among teachers. Opining the door for more rethinking of better designs for attaining better teacher engagement.

8.5 Limitations and lessons learned

This study examined the impact of dCPD on EFL teachers' conceptual and pedagogical understanding of L2 learner autonomy, teachers' process of engagement in the dCPD, and their

attitudes regarding it. However, due to the several difficulties that are usually accompanied by the research, such as the difficulty of constructing a dCPD, the difficulty in understanding and evaluating teachers' beliefs and knowledge pre-and post-training, the restricted timeframe, and the longitude of formal arrangements regarding the data collection for PhD research. Subsequently, this study has several limitations that should be addressed.

Data were collected from one university in Saudi Arabia from female-only departments. As all the teachers who participated shared several demographic similarities, though there were variations. Including other genders and another university could offer insights into other groups' trajectories and environments. Additionally, no other data were collected from another sample in the institution, such as administrators or students; only some secondary data were collected from the HoDs, which was limited in terms of how it was used to support teachers' acknowledgement of the constraints. Including the HoDs in the training would be useful in understanding the implications of the findings concerning higher education, and would allow them to see and experience closely the benefits of such content and design for teacher learning, and accordingly support the study implications.

Though including more samples and increasing the population could have yielded other types of data and explanations; yet, as explained in Section (4.8) on the research trustworthiness- a bigger sample size is required to ensure generalisability. In contrast, in the qualitative research and the case studies, a small and focused sample size is more appropriate and desirable. Namely, the smaller sample better serves the purpose of a case study design that was adopted in this study, which is to investigate with as much depth as possible the target phenomenon while treating each participant as an individual case. In turn, a smaller sample helps ensure transferability by contributing to providing a thick explanation. Accordingly, that helps in offering richness at all stages of analysis and findings presentation in which facilitates applicability to other contexts. In short, the small sample size of teachers and the single site of research in the present study could be limiting the generalisability of the results, hence this factor is also considered as a strength that supports transferability, which aligns well with the qualitative study goals that emphasise depth over breadth.

Another limitation of this study was related to the limited tools used, including pre-and post-interviews with stimulated recall sections, platform tasks such as teachers' reflective posts and the platform survey, platform analytics and reports, teachers' observational engagement profile, and the researcher's journal. Using other qualitative tools, such as conducting peer observations or performing micro-teaching, could contribute to exploring other dimensions that were not related to the study aims, such as the impact on teachers' practice. Hence, implementing longitudinal classroom observation sessions to spot any classroom applications,

may have served as a replacement for teachers' reports on their practice within the chosen tools. However, these subjects were avoided to not risk broadening the focus of this study. Furthermore, other quantitative tools such as questionnaires could be used as quantitative data collection methods might yield different insights, such as exploring broader overviews of the data from a wider sample of teachers.

Another limitation regarding the methodological tools was related to how the teachers' background variables were elicited. Namely, the teachers were asked directly about them in the pre-interviews only. The post-interviews did not explicitly invite the teachers to discuss the interplay between their background variables (e.g., length of teaching experience) and the dCPD's impacts on their conceptual and pedagogical understanding of LA and subsequent development. Future research should prompt participants to articulate how their background variables might affect their learning in the training. Such responses could lead to a richer contextual understanding of teachers' learning and engagement in dCPD initiatives promoting LA. Eliciting these reflections would also provide more insight into the teachers' points of view regarding their backgrounds and their learning processes, especially if done in an exploratory manner. In the present study, this limitation occurred because of prioritising the focus on exploring the dCPD learning outcome and impact patterns, attempting to draw immediate qualitative assumptions that would link what the teachers had produced in the pre-interview regarding their background variables. The long-term exploration of how teachers link their background variables to their learning outcomes would require another longitudinal delayed phase of the investigation, and achieving such a phase was challenging this study's capability and time frame.

In my role as researcher and educator in this study, designing the dCPD required flexibility to deal with any mandatory changes. Correspondingly, as a novice designer of CPD courses, I learnt several lessons from the design and the provision of the dCPD in this study. They are valuable lessons to be utilised by any educator running similar courses for teachers' development as well. For example, the original plan of the dCPD was to be undertaken within five weeks with five modules. However, due to the resistance of the participants recruitment, I decided that the modules were to be reduced to three modules only and not to restrict the finishing time to three weeks. Due to the recruitment delay and low responses, I had to spend extra time redesigning the shape and the content and start another round of recruitment. This second round was more successful in recruiting participants. However, at this point, it was already the middle of the semester, and teachers had a lot more pressure to complete the curriculum and a larger workload. As such, when designing CPD for teachers, it is important to consider both the starting point of the course, as well as the duration for guaranteeing better teachers' responses.

To present a more enhanced design of the content related to LA, conceptual and pedagogical knowledge. Although I present a relatively small amount of content yet informative, it appears that more slicing was needed when presenting content for teacher learning; particularly in terms of the definition of LA and autonomous learners' characteristics, which translate into several typologies and categories. Moreover, another type of LA principled framework could be used and experimented with, as discussed in Section 2.3.1.1. However, it may be necessary to consider separating each aspect of the LA principles alone in a balanced way. As for presenting more longitudinal content, assigning some topics or modules to be undertaken optionally would show different insights.

Moreover, another lesson learnt was related to maintaining more effective social engagement for teachers' learning, particularly in collaborative activities; the original plan was to hold synchronic live meetings with teachers, but this approach was replaced by the WhatsApp tool. This change was made to reduce the burden and replace synchronic tasks with asynchronous ones, and not overwhelm teachers with restricted-time tasks, which could lead them to drop-off. However, it turns out that the WhatsApp tools were not suitable either depending on what this study found regarding the low engagement in the collaborative learning type. As a lesson learnt, the WhatsApp tools for collaboration should be replaced with more effective and less demanding ones; and consider internalising within the platform without using external websites or tools that might pressure the teachers. Additionally, further consideration should be taken in terms of the scaffolding of social engagement with teachers by building a trustworthy relationship with one another to avoid cultural issues. Suitably, it is necessary to take into consideration the work environment culture and allow teachers to choose their peers and avoid random peering to ensure more interactions among teachers. Finally, extra care should be taken to orient the teachers in terms of the expected and required social performance in the training to achieve higher levels of engagement.

8.6 Recommendations

This study offers insights that may be useful when conducting further studies in the field of LA, TA, and EFL teachers' professional development. For example, other studies could include other samples, such as exploring the views of the EFL students about LA with a quantitative measure or including them in a designed orientation session/advising within the teachers' dCPD to increase teachers' conceptual and pedagogical understanding of LA. Also, involving HoDs may be included in the training to offer other insights regarding their positions. Additionally, conducting studies including male teachers and participants from other campuses, and including other samples from another university may allow to produce a more generalised

study. Furthermore, another longitudinal case study could be conducted to explore teachers' practice in the classrooms with more observational tools, using video recordings or peer observations.

Further studies should be conducted to raise awareness of LA to equip teachers with a more extended understanding of LA; the content could concern including the use of technological tools for suppurating students' LA, which was one of the suggestions offered by one of this study participants. Similarly, since artificial intelligence tools are now considered a key trend for studies in teaching and learning amongst both teachers and learners, considering it in the research around TA/LA is essential to determine the pedagogical and learning implications of these tools to promoting TA and LA. Additionally, research may consider how to increase teachers' awareness of methods to promote LA in other locations outside of the classrooms for more effective lifelong learning since this area requires further investigation.

Moreover, other studies could examine teachers' performance in social activities in the dCPD with different tools and different approaches considering the implications of the findings of this study. Future research could also use different platforms and consider examining a variety of other durations. Correspondingly, this study has opened the door for research on optimising EFL professional development, conducting more research and creating more efficient designs for CPDs that will ensure teachers' autonomy with less formal and more transformational approaches.

Appendix A Participants and data collection action plan

participants	status	started	Finished	Data collected
1- The Head of department (1)	*Done*	12/12/2022	12/12/2022	- HOD interview
2- *(Lana)*	*Done*	18/1/2023	08/04/2023	- Pre-interview - The 3 training weeks - The post-interview - delayed interview
3- *(Heather)*	Withdrew	10/1/2023	/	- Pre-interview - delayed interview
4- *(Nancy)*	Withdrew	8/1/2023	/	- Pre-interview - delayed interview
5- The Head of department (2)	*Done*	02/04/2023	02/04/2023	- HOD interview
6- *(Jenny)*	Withdrew	09/01/2023	/	- Pre-interview - The training weeks (only W1) - delayed interview
7- *(Alice)*	*Done*	01/01/2023	19/03/2023	- Pre-interview - The 3 training weeks - The post-interview - delayed interview
8- *(Maya)*	*Done*	10/01/2023	13/04/2023	- Pre-interview - The 3 training weeks - The post-interview
9- The Head of the centre (3)	*Done*	04/04/2023	04/04/2023	- HOD interview
10- (*Jane)*	*Done*	3/1/2023	27/03/2023	- Pre-interview - The 3 training weeks

				- The post-interview - delayed interview
11- (*Ivy)*	*Done*	8/1/2023	19/3/2013	- Pre-interview - The 3 training weeks - The post-interview - delayed interview
12- *(Emma)*	Withdrew	9/1/2023	17/04/2023	- Pre-interview - A few posts - delayed interview
13- *(Rose)*	*Done*	11/1/2023	22/03/2023	- Pre-interview - The 3 training weeks - The post-interview - delayed interview
14- *(Lora)*	*Done*	16/1/2023	14/04/2023	- Pre-interview - The 3 training weeks - The post-interview - delayed interview
15- *(Lucy)*	Withdrew	19/1/2023	19/03/2023	- Pre-interview - A few posts - delayed interview
Total of main participants	7 teachers			
Total of secondary participants	5 teachers 3 HoDs			

Appendix B Sample of Consent from for teachers' interviews

University of Southampton

CONSENT FORM: TEACHERS INTERVIEWS (PRE, POST -dCPD interviews, and informal/ delayed interview)

Study title:
Fostering Teacher and Learner Autonomy through Digital Professional Development for Saudi EFL University Teachers: An Exploration of Learning Processes and Outcomes

Researcher name: Maha Ali Algamdi
ERGO number: 78345
Participant Identification Number (if applicable):

Please initial the box(es) if you agree with the statement(s):

I have read and understood the information sheet [06/10/2022] [Version no. 1] and have had the opportunity to ask questions about the study.	
I agree to take part in this research project and agree for my data to be used for the purpose of this study.	
I understand my participation is voluntary, and I may withdraw (at any time) for any reason without my participation rights being affected.	
I understand that I will not be identified or identifiable in any report subsequently produced by the researcher, even though these data may be submitted for publication.	
I understand that I may be quoted directly in reports of the research but that I will not be directly identified (e.g. that my name will not be used).	
I understand that taking part in the study with the pre and post interviews involves recording using written notes/audio recordings through a digital voice recorder for (face to face interviews) or Microsoft Team (in case of online interviews) which will be transcribed and then destroyed for the purposes set out in the participation information sheet.	
I understand that taking part in the study with the informal/delayed interview involves recording using written notes/audio recordings through voice notes on What's App which will be transcribed and then destroyed for the purposes set out in the participation information sheet.	
I understand that in order to present comprehensive participation in this study, getting involved with the three phases totally: the pre-interviews, the dCPD weeks/tasks, and the post-interviews is needed for the purposes set out in the participation information sheet.	
I give permission for interviews that I provide to be deposited and held by the researcher as described in the participant information sheet so it can be used for future	

[06/10/2022] [Version no. 1] [Ethics no. 78345]

research and learning.	

Name of participant (print name) .....

Signature of participant.....

Date.....

Name of researcher (print name) Maha Ali Algamdi

Signature of researcher .....

Date.....

Appendix C Teachers' pre-interview guide

<u>Pre-semi-structured interview for teachers (the dCPD participants):</u> [approx. 30-45 min]

Name: ..... . rank: ..... Campus: .....

First: Teachers' background:

Prompts examples:

- **a-** Your qualifications, what English language qualifications or degrees do you have?
- **b-** Form where you received your qualification?
- **c-** Years of experience as an English language teacher, how long have you taught English?
- **d-** In what contexts have you taught English?
- **e-** What are the skills modules that you have taught in the department? And for what levels? What are the skills modules you teaching now?
- **f-** Do you attend professional development courses / workshops / seminars regularly? If yes, how often and in what topics/area?
- **g-** How do you see your confidence in applying various pedagogical strategies/ methodology for teaching English?

Second: The concept and practice of learner autonomy:

1- Let's start by talking about what 'learner autonomy' means to you. In a few simple words, how would you sum up your views and understanding on what learner autonomy is?

Prompts examples:

- **a.** Is it a new concept to you, or have you heard of it somewhere before?
- **b.** What are the features/characteristics of autonomous language learner?

2- How have you come to develop the views you hold now on learner autonomy and its value?

Prompts examples:

- **a.** What about your own experience as a language learner – do you recall yourself being an autonomous learner? What makes you think so? Can you give me an example of a situation where this was the case?
- **b.** Is it an issue you received a focus on it in your training (pre-service or in service) as a language teacher?

3- About the main principle/ elements of the pedagogy for fostering autonomy in the foreign language classroom?

Prompts examples:

- **a-** Can you recall if you implemented and found them useful for supporting your students' autonomy? Strategies? practices?

b- In what way you are implementing learner autonomy in your teaching?

c- What would you suggest/do for your students in order to further develop their autonomous learning?

Third: The desirability and feasibility of learner autonomy:

Prompts examples:

a. Do you think that the students you teach have a fair level of learner autonomy? Why do you feel this way?

b. Can you give examples of where you felt that your students were/were not able to develop autonomy?

c. Can you give examples of any other obstacles or barriers that might hinder learner autonomy development in your teaching context?

d. What can be done to overcome the obstacles you have mentioned? Or do you have any suggestions towered facilitating the development of learner autonomy in the classroom?

Fourth: The teacher learning and the digital CPD:

Prompts examples:

a- In your view, how do the teachers learn and improve their knowledge about teaching practices? Or what should the teachers do to improve their teaching?

b- What are the ways for that? professional development courses / workshops / seminars regularly?

c- What is your view about its activity/ learning types/styles that need to be included in it?

d- What if it includes peer work, collaboration, sharing knowledge, what is your view about them?

e- What is your view about the digital CPD/training for teacher learning? any affordances/advantages you can mention?

f- How often it is offered for you in the department, and in what topics?

4- Do you have any further comments on the topic?

Fifth: explaining the next step of involvement:

Prompts examples:

a. Reminding you kindly to attend the digital training programme as dCPD about (autonomous learning).

b. Explaining how to log in and view the home page and syllabus.

c. Reminding you kindly for involving in a follow-up interview after finishing the short course.

d. Checking for having all the needed contact information such as emails and What's App.

Appendix D Teachers' post-interviews guide

Post semi-structured interview for teachers (the dCPD participants): [approx. 30-45 min]

First: The concept and practice of learner autonomy:

1- After the training: the aim here is to explore the changes or enhancement of teachers' views on learner autonomy after the training:

Prompts examples:

- **a-** How would you sum up your views on what learner autonomy is?
- **b-** Could you tell me in simple words how you would describe an autonomous language learner and its characteristics?

2- Can you tell me what are the main principles for fostering autonomy in the foreign language classroom?

- **a.** In what way you are implementing learner autonomy in your teaching? Strategies, practices?
- **b.** What would you suggest/do for your students in order to further develop their autonomous learning?

3- Lets talk about your reflective logs of week (…):

- **a.** Can you tell me what are the purpose for applying this plan?
- **b.** How does it relate to improving learners' autonomy? In what why? What is the benefit of it?
- **c.** You were introduced to several practices in the PowerPoint slides or padlet, to which one would you consider it a translation to your plan?
- **d.** If you already did it, have you thought of updating the plan you applied or re-think it? Such as: would you do it differently? Or would you add another practice/strategy to it?

4- The desirability and feasibility of learner autonomy in the department/centre, from what have introduced to you during the training:

Prompts example:

- **a-** Do you think that there will be obstacles or barriers that might hinder you from applying what you learned during the training?
  For example, does the learners consider as one of the obstacles? Why?
- **b-** What can be done to overcome the obstacles you have mentioned?

Second: The nature of the training course and its activities:

Prompts/example:

- **a-** From your ranking of the activities in the platform, from the collaborative/interactive activities you liked (…) why?

b- talk more about your views and perspective about them?

c- To what extent do you think each one has helped you in your learning?

d- Have you tried to collaborate with your colleagues Via WhatsApp or on campus ?

e- Also, from the individual activities you liked (…) why?

f- Talk more about your views and perspective about them?

g- To what extent do you think each one has helped you in your learning?

h- You mentioned in the open question of the final evaluation of the activities that (…).

i- To what extent did you feel that you were involved in an overall autonomous learning experience during this programme? Talk about this experience.

j- Do you think this training is enough to help you learn to apply the pedagogy of autonomy?

k- If not, what other aspects do you think you would need to be trained about?

l- How could this training be improved? Should any improvement be made? Such as on the tasks, activities, content etc.?

m- Do you have anything to say about the training?

5- Do you have any further comments on the topic?

Third: explaining the next step of involvement:

e. Asking you kindly for further participation after a while (the end of the 3rd semester) within an instant short informal chat on WhatsApp.

Appendix E The delayed /informal interview guide

First: Questions for the 7 teachers (the main participants)

Question 1:

In general, let's imagine that you want to tell your friend about the course that you attended, how would you describe it and tell her about it?

Question 2:

How would you describe to her some of the strategies and practices you learned during the course? Tell her if you applied any during this 3rd semester with your students. And how did that go?

Question 3:

Generally, how would you tell her whether the course was beneficial? Also, would you recommend it for her to attend if it is available?

Second: WhatsApp poll for the 5 teachers (the withdrawal participants)

Since you were enrolled in the training, you might have finished some tasks, or maybe you did not get the chance to finish any. For both situations, I would like to get the reasons for the incompletion.

Please choose (one or more) of the reasons below:

1- I was very busy with teaching and the demands of my job
2- I had medical/family issues
3- I found the training not interesting me
4- I see no benefit to learn about promoting learner autonomy
5- I already know all the information provided
6- I do not like to join digital/online training
7- I found the topics very difficult to understand and to follow
8- None of the above

Are there any other reasons or comment you want to add about the course:

.....

Thank you so much for answering these simple questions.

Good luck.

Appendix F Samples of interviews transcription

Jane (pre-interview)

Researcher: Yeah. Do you have any examples or strategies that could be done in class for a promoting learner autonomy?

Jane: Strategies for promoting learner. Yep, I think.. I feel that using the communicative language approach, these are activities, or this is an approach that depends solely on learner autonomy and learners. Yes, this is another term or concept in learner autonomy, learner centeredness. So, what I can think of now is again, the Translanguaging. I am interested in this idea, especially this time I'm doing a study about it actually, and I'm reading about it. That's why I'm gonna use it. Yes, more often. Yes, I think it's a good idea to give the student the autonomy they need in class Translanguaging, and using it not only in speaking exercises. I'm trying to let them use it even in writing. So, they can write something in Arabic, and then maybe, uh write the same thing but in English, and I will let them and planning to let them reflect on the differences are or how they used their learning of Arabic language and their learning of English language to produce this writing either, in Arabic or in English. Because what we're doing now, they're learning how to, for example, write a reflective journal about a movie or a story. So, we learned the principles or the steps of writing a reflective journal in English. And I asked them as a homework, to write a reflective journal in Arabic using the same step they learned in English. So yeah, this is me allowing them to use, a language they feel more comfortable with which is the Arabic, using the learning they did that in English.

Researcher: Yeah, So, it's kind of a suggest that you follow for them to promote their learner autonomy is to use the Translanguaging.

Jane: Yes, yes.

Appendix G Sample of the teacher's observational profile

Teacher observational profile of participation: (Lora)

1- The course enrolment:

a) She was enrolled on 23 Jan 2023. The enrolment was done in person; I visited her in her shared office.

b) She liked the training pages, and she does not seem to have a problem with anything, and she asked some questions about the tasks.

2- Regular activity and engagement during the weeks:

a) She did post enthusiastic introductory and about herself.

b) She was active during the first and the second weeks within the platform and participated regularly.

c) From the learner analytics, I noticed that she was quiet for a while and did not log in after finishing week 2, after that I noticed that they started the exams.

d) she was absent during the exams period, the course was supposed to be closed by 2 Mar, during the last week of Feb I posted an announcement says that it will be closed by 22 of Mar, and I informed her about that, as she apologised because the stress of the exams and she will finish soon.

e) Her observed engagement in the tasks is as follow:

- For the inquiry learning tasks: she engaged in answering all the quizzes of all the three weeks, and she engaged in answering the raised questions in all the group discussions tasks. (3 posted quizzes, 3 answered questions in the platform discussion).
- For the discussions learning tasks: she engaged with the platform group discussions in posting for all the three weeks, however she just gave her opinion and did not engage in dynamic with others posts or to my comments. Also, with the peer- review task, she gave feedback to: W1= Rose, W2=Jane, W3=Lana on their reflective posts, same she did not reply back to my comments in her reflective posts. (3 posted peer - review, 3 posts the platform discussion).
- For the production learning tasks: she engaged in posting all the three reflective posts and created plan for the LA principles application (3 posted reflection).
- For the collaborative learning tasks: she engaged very well in it in all the three weeks and tried to negotiate her practices that she want to post in the platform, she only got interaction with me most of the time and from Rose in week 1 and 2 (35 posts).

- For the practice learning tasks: she engaged very well in it in all the three weeks, posted in Padlet a modelled practices that she attempted to analyse and create during WhatsApp collaboration. tried to negotiate her practices that she wanted to post them in the platform (6 posts).
- For the acquisitions learning tasks: since it is a passive task that I could not observe it, she seems engaged in very well for watching the videos and personations, as the reflected her performance in the other learning types and tasks.

f) The course was published on 16 Jan; her enrolment was on 23 Jan, by posting the final reflection on 27 Mar 2023, I could say she spent around 9 weeks for viewing the weeks and do the task.

g) The total hours she spent is around 4 hours and 2 minutes, with total page views 1065.

h) She expressed her feeling about learning in all the three weeks.

i) After each week's completion, I sent her an Amazon e-voucher.

j) She is awarded certificates of appreciation from the head of the college of education at Umm Al-Qura university during May 2023.

Appendix H Sample of code book

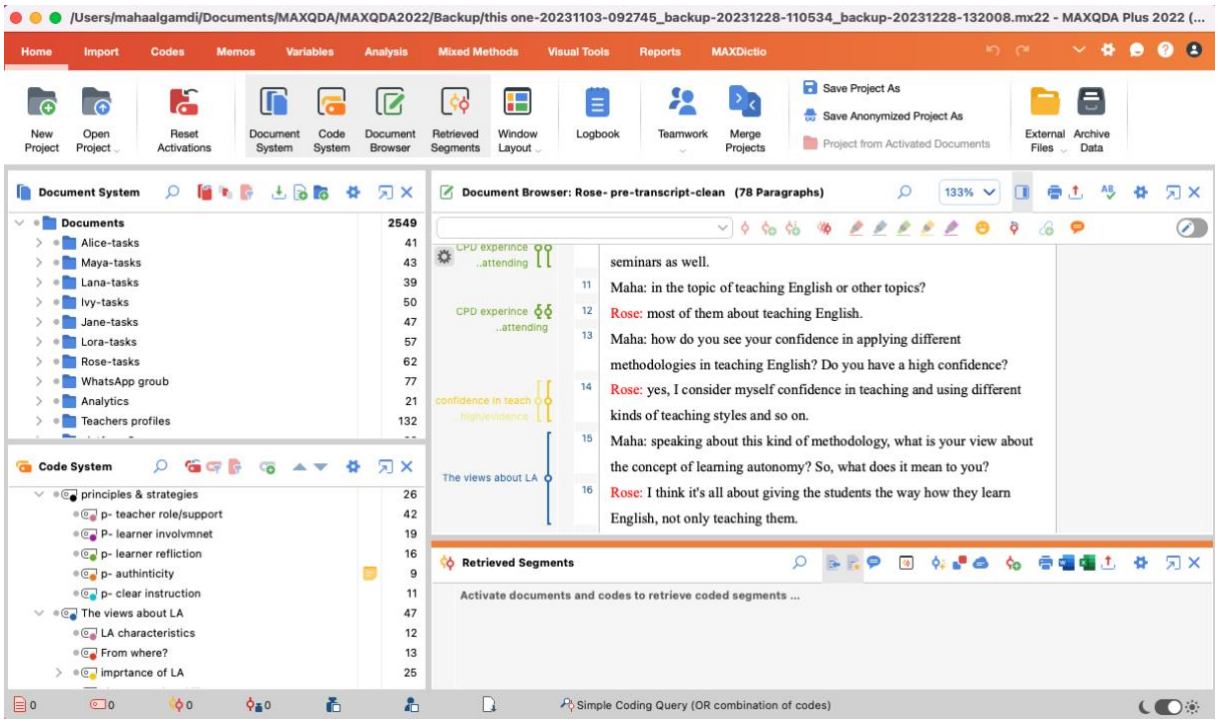
General category	Theme	Sub-theme	Example of Codes
1- Teachers' learning outcome following the dCPD	- The dCPD' s impact on Teachers' understanding of LA	- New learning - Enhancement	(LA type): - Technical autonomy - Political autonomy - Psychological autonomy - Socio-cultural autonomy
		- New learning - Enhancement	(Autonomous learner characteristics): - active/ collaborative learner - motivated-independent learner - self-guided/controlled learner
	- The dCPD' s impacts on Teachers' understanding of the LA pedagogical principles	- New learning - Enhancement - Validation	(Principles): - Learner involvement - Teacher supports - Learner reflection - Authenticity - Clear instruction

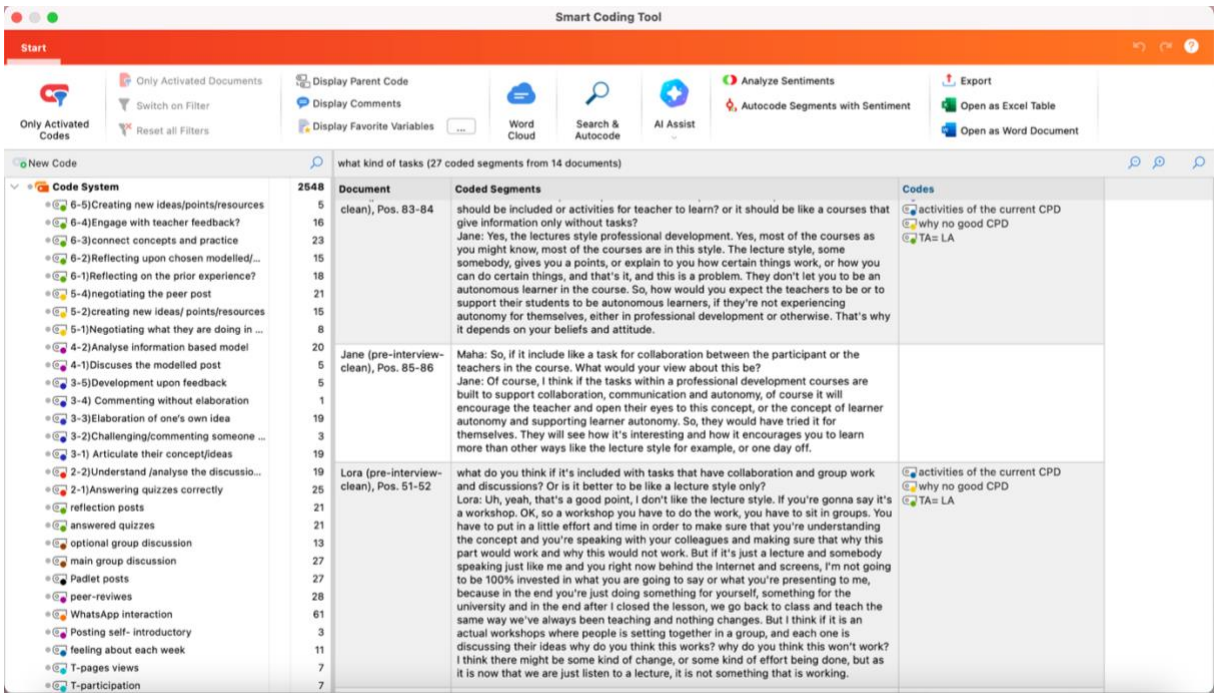
	- The acknowledged constraints hindering LA's promotion	- Restriction on grading - Time pressure - Learners' large classes - Learners' low motivation	
2- Teachers' learning process within the dCPD	- The teachers' variability in engagement levels	- High - Moderate - Low	(Cognitive engagement -individual tasks): - Quizzes - inquiry type = (understand/evaluate) - Questions in discussion - inquiry type = (understand/evaluate) - Padlet- practice type = (analyse/apply) - Reflection - production type = (create)
		- High - Moderate - Low	(Behavioural engagement -individual tasks): - Number of posts (Quizzes) - Number of posts (Padlet) - Number of posts (Reflection)
		- High - Moderate - Low	(Cognitive engagement -social tasks): - Platform group discussion/discussion type = (remember/understand/evaluate) - Peer- review /discussion type = (remember/understand/evaluate)

			WhatsApp- collaborative type = (understand/evaluate/create)
		- High - Moderate - Low	(Behavioural engagement- social tasks): - Number of posts (platform discussion) - Number of posts (peer review) - Number of posts (WhatsApp)
		- Dynamic aspects	- Time spent - Posting introductory - Posting feelings - Total participations - Total pages viewed
3- Teachers' favourable aspects and challenges/ solutions concerning the dCPD	- Teachers' attitudes towards individual and social learning types	- Positivity - Dislikes and challenges	- Different reasons - Suggestions and solutions
	- Teachers' attitudes towards the dCPD' s design and content	- Positivity - Dislikes and challenges	- Course satisfaction/views - Suggestions and solutions
	- Teachers' attitudes towards autonomous	- Acknowledging experiencing LA	- Different perspective about their experience

	learning experience in the dCPD		

Appendix I Samples from MAXQDA





Appendix J dCPD general plan

Course title	Leading students to be autonomous language learners
Codes of the course	dCPD (digital continuous professional development) LA (learner autonomy) TA (teacher autonomy)
Institution	Umm Al-Qura University
The instructor	Maha Ali Algamdi (the researcher)
Year/semester	2023 (second academic semester + third academic semester)
Rationale of presenting the course	1- with the current 2030 vision that concerns the Saudi educational development to follow the 21st century learning and teaching skills, this course attempts to rethink the current teaching practices that concerns promoting learner autonomy and integrating them in the language skills lessons. 2- Presenting a transformational pedagogy that could bring up a change in the teaching practices with the demand of the current age of teaching and learning that require a degree of teacher and learner autonomy. For that, this course will train teachers on how to implement LA pedagogy within the language skills teaching in the university level. Consequently, contributing to the field of teacher autonomy and leaner autonomy in the local context and worldwide. 3- Tracking the extent of teachers' engagements in the learning process in the different activities for the attempts of constructing knowledge for changing or enhancing their beliefs and knowledge. 4- Having the teachers to be involved implicitly in experiencing autonomy themselves as learners. This will contribute to the notion of the need of the teachers to experience autonomy themselves first to expect them to be promote it.

duration	Completing the *3 week* (3 modules) within a period of *7 weeks*, between 16th of January until 2nd March 2023. (More extension was offered to be completed within 10 weeks).
Time	Total of 6 to 10 hours: to be spent in the platform for completing the whole three weeks (modules), and for planning and applying the activity in the class.
learners	Teachers of English department and English language centre at Umm Al-Qura university campuses.
Mode of delivery/activities	Online- asynchronous digital lectures, presentation, videos Group discussion (asynchronous). Independent learning (reviewing, reading, answering quizzes and tasks, post in Padlet, post reflection.) Peer work learning and collaborative tasks (peer work, discussions).
Types of learning activities	Acquisition, investigation, discussion, collaboration, practice, production
Course objectives and outcomes	The general objectives of the course are around how teachers are expected to discover and understand: 1- the concepts of LA and the one holistic definition that we are focusing on, the famous fundamental aspect of LA, what is the autonomous learner characteristics. 2- the importance of promoting LA for the students. 3- the teachers' major roles in LA promotion in class. 4- the pedagogical principles of encouraging learner involvement, encouraging learner reflection, providing the teachers support, providing clear instruction, encouraging authenticity. 5- how to apply this pedagogy for promoting LA and with the different strategies. 6- teachers are expected to learn how to plan, perform, and reflect on their classroom practice/planed action for applying the pedagogy.

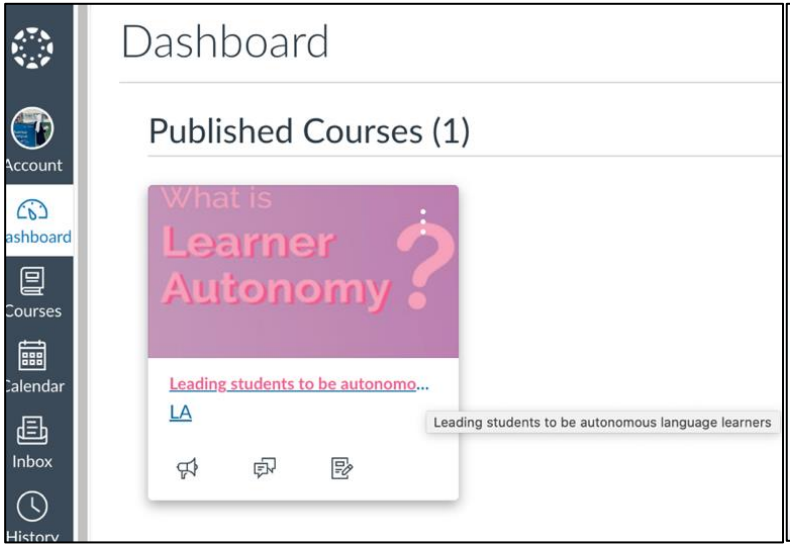
	7- Discuss and collaborate with peer about the principles and its and its practices. 8- Exploring the obstacles that they might hinder LA and how to overcome them.
Assessment strategies	1- posting comments in the group discussions. 2- Answering quizzes 3- Discussing in WhatsApp group. 4- Posting in Padlet. 5- Posting reflections. 6- Reviewing a reflection of the peer.
Outlined content of the course module of week (1)	Introductory to the course: - What is learner autonomy – rethinking reality (conceptual week)
Outlined content of the course module of week (2)	The pedagogy for learner involvement (conceptual and practical week): - inclusion of the other principles: providing the teachers support, providing clear instruction, encouraging authenticity.
Outlined content of the course module of week (3)	The pedagogy for learner reflection (conceptual and practical week): - inclusion of the other principles: providing the teachers support, providing clear instruction, encouraging authenticity.
Reference supporting this course	Benson, P (2011). *Teaching and Researching Autonomy* (2nd ed). Oxon: Routledge. Borg, S., & Al-Busaidi, S. (2012). *Learner autonomy: English language teachers' beliefs and practices. ELT Research Paper 12-07*. Dam, L. (1995). *Learner autonomy: From theory to classroom practice*. Dublin: Authentic Language learning resources. Kuchah, K., & Smith, R. (2011). Pedagogy of autonomy for difficult circumstances: From practice to principles. *Innovation in Language Learning and Teaching*, *5*(2), 119–140.

	Little, D. (1991). Learner autonomy I: Definitions, issues and problems. *TESOL Quarterly*, *Dublin:*(Authentik). Little, D. (2007). Language Learner Autonomy: Some Fundamental Considerations Revisited. *Innovation in Language Learning and Teaching*, *1*(1), 14–29. Raya, M. J., Lamb, T., & Vieira, F. (2017). Mapping autonomy in language education: A framework for learner and teacher development. *Mapping Autonomy in Language Education: A Framework for Learner and Teacher Development*, (1), 1–132.

Appendix K dCPD weeks constructs

Topic: The welcome page, Syllabus of the course, announcements. **Date:** starting from 16th of Jan.

Objectives/outcome: Any participant who finished the pre- interview, she will be registered in the platform with the pseudonym names. They will be able to view the welcome page, the syllabus, announcements, and introducing themselves. **1-** Teachers are expected to understand the nature of the course, its objectives, and how to get involved in it for gaining its benefits. **2-** Teachers are expected to be ready for starting the first week of the training. **3-** Teachers are expected to read and receive the announcement when they posted.
Procedures and steps: **1-** The participants who finished the pre- interview were enrolled successfully in the platform, given a pseudonym name. **2-** I showed them the welcome page, the syllabus, the announcements, and how to view the content of the weeks, and I gave them chance to ask questions. **3-** The announcements were posted for these several reasons: welcoming the participants (introducing themselves), announcing the weeks publishing, making clarifications about tasks, announce extensions, congratulate them with the rewards.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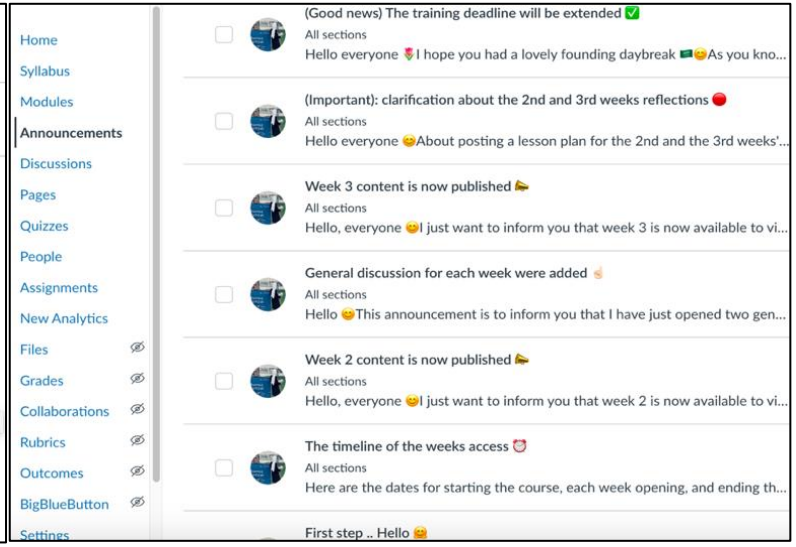
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Outcomes
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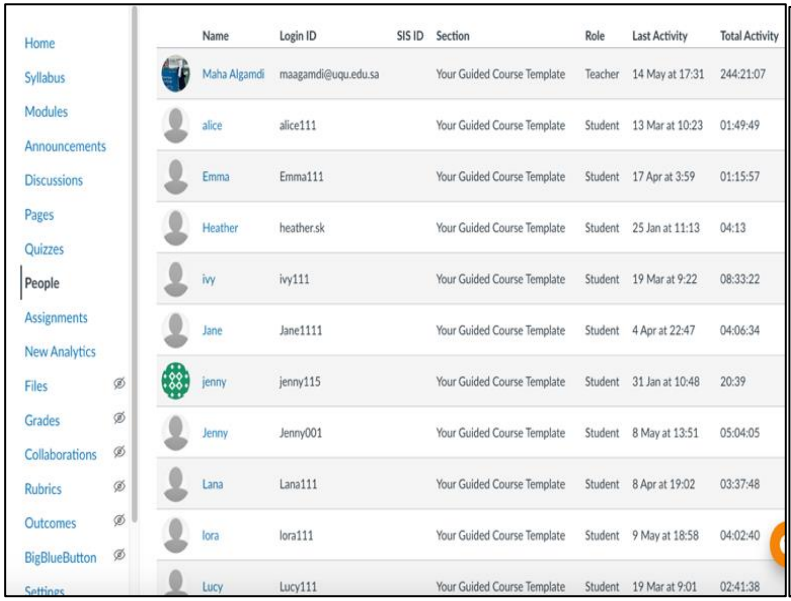
Settings
(Good news) The training deadline will be extended
All sections
Hello everyone I hope you had a lovely founding daybreak As you kno...
(Important): clarification about the 2nd and 3rd weeks reflections
All sections
Hello everyone About posting a lesson plan for the 2nd and the 3rd weeks'...
Week 3 content is now published
All sections
Hello, everyone I just want to inform you that week 3 is now available to vi...
General discussion for each week were added
All sections
Hello This announcement is to inform you that I have just opened two gen...
Week 2 content is now published
All sections
Hello, everyone I just want to inform you that week 2 is now available to vi...
The timeline of the weeks access
All sections
Here are the dates for starting the course, each week opening, and ending th...
First step .. Hello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Settings
Name
Login ID
SIS ID
Section
Role
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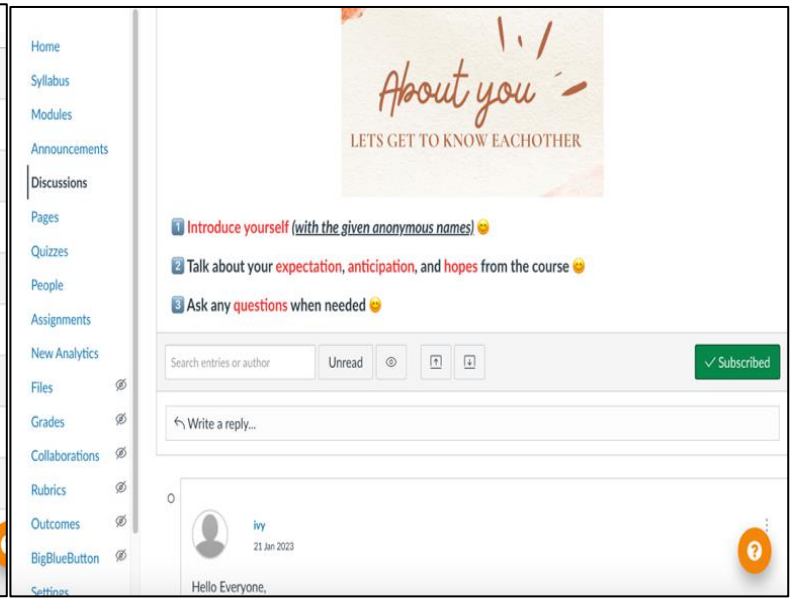
Total Activity
Maha Algamdi maagamdi@uqu.edu.sa Your Guided Course Template Teacher 14 May at 17:31 244:21:07
alice alice111 Your Guided Course Template Student 13 Mar at 10:23 01:49:49
Emma Emma111 Your Guided Course Template Student 17 Apr at 3:59 01:15:57
Heather heather.sk Your Guided Course Template Student 25 Jan at 11:13 04:13
ivy ivy111 Your Guided Course Template Student 19 Mar at 9:22 08:33:22
Jane Jane1111 Your Guided Course Template Student 4 Apr at 22:47 04:06:34
jenny jenny115 Your Guided Course Template Student 31 Jan at 10:48 20:39
Jenny Jenny001 Your Guided Course Template Student 8 May at 13:51 05:04:05
Lana Lana111 Your Guided Course Template Student 8 Apr at 19:02 03:37:48
lora lora111 Your Guided Course Template Student 9 May at 18:58 04:02:40
Lucy Lucy111 Your Guided Course Template Student 19 Mar at 9:01 02:41:38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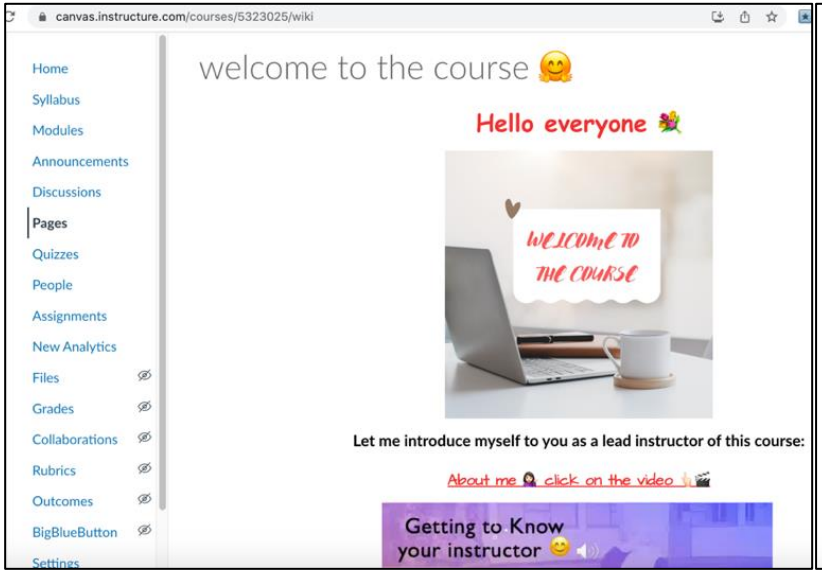
Outcomes
BigBlueButton
Settings
About you
LETS GET TO KNOW EACHOTHER
1 Introduce yourself (with the given anonymous names)
2 Talk about your expectation, anticipation, and hopes from the course
3 Ask any questions when needed
Search entries or author
Unread
Subscribed
Write a reply...
ivy
21 Jan 2023
Hello Everyone,


canvas.instructure.com/courses/5323025/wiki
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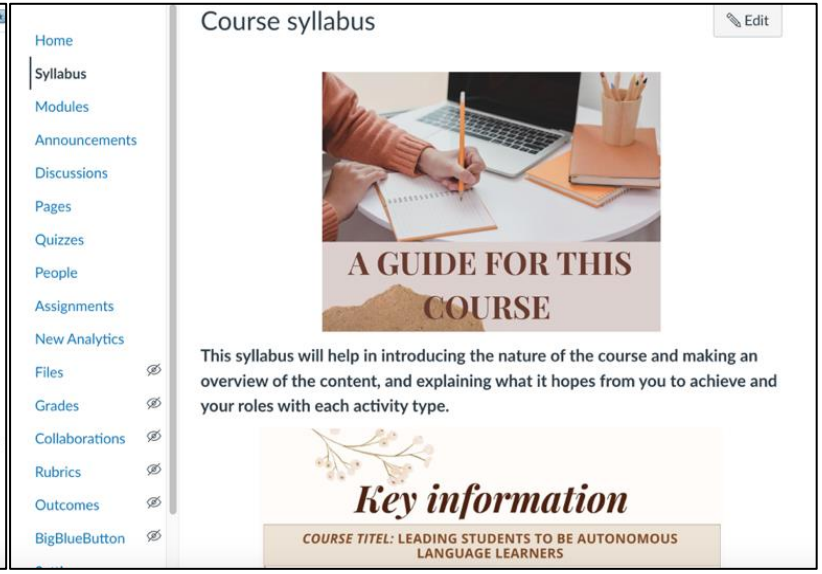
Rubrics
Outcomes
BigBlueButton
Settings
welcome to the course
Hello everyone
WELCOME TO THE COURSE
Let me introduce myself to you as a lead instructor of this course:
About me click on the video
Getting to Know your instructor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Collaborations
Rubrics
Outcomes
BigBlueButton
Course syllabus
Edit
A GUIDE FOR THIS COURSE
This syllabus will help in introducing the nature of the course and making an overview of the content, and explaining what it hopes from you to achieve and your roles with each activity type.
Key information
COURSE TITEL: LEADING STUDENTS TO BE AUTONOMOUS LANGUAGE LEARNERS

Week 1 construct (conceptual module)

Topic: What is learner autonomy/Rethinking reality. **Date:** starting from 16the of January. **Duration:** 3 hours- conceptual.

Objectives/outcome:

1- Learners are expected to discover and understand the concepts of LA and the one definition that we are focusing on in a simple/holistic manner.

2- Understand the famous fundamental aspect of LA such as the features of the autonomous language learners.

3- Understanding the importance of promoting LA for the students.

4- Rethink their current context in relation to LA concept.

Content	**instructor's procedures**	**Learners' activities**	**Purpose**	**Assessment/tool**	**Learning types**
The first week pathway	The instructor presents the following: - the objectives of this week. - a map for following the steps of the first week completion - Suggesting using a personal journal for learning to track their learning process.	Viewing and reading the page	The goal here is to warm up by allowing the learners to know their pathway and the week objectives.	/	/
(1) examining classrooms	- Instructor introduces videos/presentation to allow teachers discover the concepts of	- Learners watch the videos. Then they comment their answers in	- Stimulating the learners to bring the ideas and discover the concept.	- Videos - Group discussions.	- Acquisition - Inquiry - Discussion

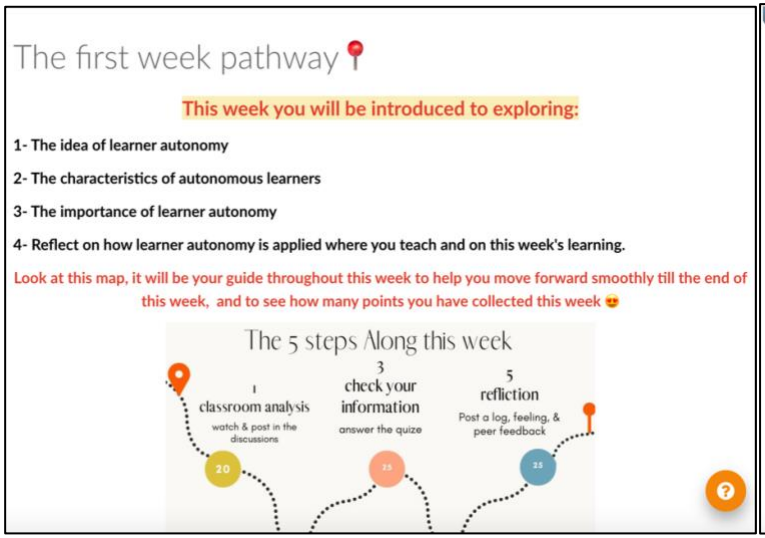
	autonomy, autonomous class, and then instructor raises two questions for them to reflect about the two videos.	the group discussions and post their analysis of the two classes.	- Share ideas, knowledge and experiences.		
(2) what is LA?	- Instructor presents a PPT slides for explaining the concept of LA, the characteristics of the autonomous language learners, how to promote LA.	- Learners watch the slides for supporting their understanding about LA. - revisit the previous two modelled videos to think more about the concepts.	- Enhance their understanding of the concepts.	- PTT slides	- Acquisition
(3) check your information (Quiz A).	- Instructor presents a multiple-choice quiz about the presented concepts.	- Learners have a quiz to check the understanding of the concepts.	- check the learners understanding of the LA concept and the autonomous learners characteristics.	- Quiz	- Inquiry
(4) Why LA matters?	1. At first instructor ask leaners to watch a video about the importance of LA, and present information about the 21st century learning.	- Leaners watch the modelled post and read the stimulated questions. - Learners search online for answers and resource.	- Stimulating the learners to bring ideas and discover the importance of LA. - Enhance their understanding of the importance of LA.	- WhatsApp group - Padlet	- Acquisition - Practice - Collaboration

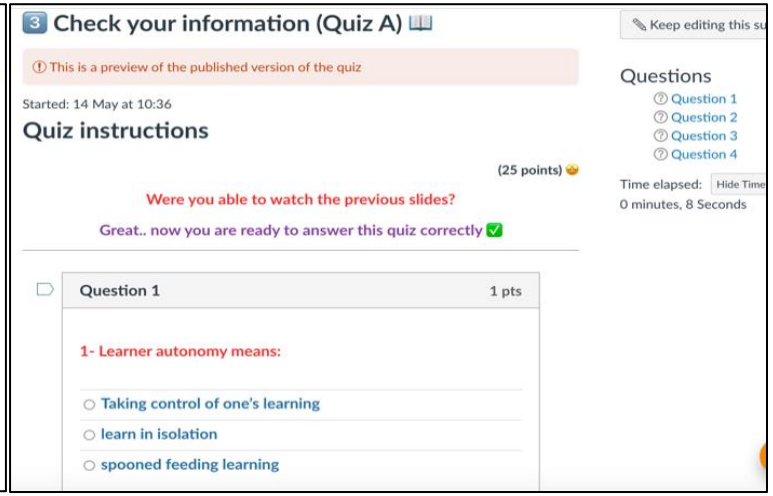
	2. instructors ask learners to search for the importance of LA in relation to language learning. 3. Then, instructor rise a collaborative opportunity for the learners to discuss and collaborate via WhatsApp groups, and then post in Padlet. 4. Instructor starts by posting a modelled post about improving the teaching and learning in Saudi Arabia, for stimulating their collaboration and discussion.	- learners get involved in a collaborative discussion and then post their answers.	- Share ideas, knowledge and experiences.		
(5) The first week reflection	- instructor asks learners to explore the concept in reality, and discusses what feasible and what not feasible in their department and class. - Instructor asks learners to post what translate their feeling about their learning during this week.	- Learners reflect about they have learned during the week. - Learners give her assigned peer feedback about her reflection.	- Using a reflective log of week (1) learners translate their understanding of the concept/knowledge by relating what they learnt to their reality. - Understand the feelings of the teachers about this	- Reflective post - Peer feedback	- Production - Discussion

	- Instructor asks learners to view a reflection of a peer and give her feedback.		week activities by posting within the logs what translates their feelings (emojis, image, music). - By giving the learners their peer feedback about their reflection, that will allow for enhancing their knowledge budling and share experiences.		
The first week tasks check list.	- Instructor presents all the tasks of the weeks by order with hyperlinks.	- Learners click on the tasks that did not finish yet.	- The goal here is to give the learners more clarification about the tasks and the pages of the week, in order for them to check if they did it well or not.	/	/
Optional information	- Instructor present another video related to the concept of LA, as an optional task to watch.	- Learners watch the video.	- The goal her is to give the learners another source of information if they prefer	/	/

			to see it to enhance their knowledge more.		
Completing week 1 (anything to add?)	- Instructor presents another space for making general grope discussion about the week content.	- Learners have the chance to post any extra ideas and have dissuasion about it.	- The goal from this space is to stimulate the learners to bring more ideas that were not discussed during this week in order to enhance their knowledge more.	- Group discussions	- Discussion
Do you need more time? (It is Ok keep going).	- Instructor presents this page in order to remind the leaners that they have time to finish up and to keep going.	- Learners view this page.	- The goal is to assure the learners that it is ok they can continue and no need for the rush especially with their work duties, in order for them to be more relaxed for learning.	/	/

Platform screenshots samples of W1:





Week 2 construct (conceptual and practical module)

Topic: The principle and pedagogy for: (learner involvement). **Date:** starting from 16the of January. **Duration:** 3 hours- conceptual & practical.

Objectives/outcome:

1. Teachers are expected to explore their supporting roles for creating an autonomous learning environment.
2. Introduced and understand the pedagogical principle of: encouraging the learner involvement with inclusion of the understanding of the other sup principles of providing the clear instruction and the authenticity encouragement.
3. Understand how to apply this pedagogy for promoting LA and with the different practices.
4. Reflect on the extent to which such practice could applied in the class.

Content (page)	instructor's procedures	Learners' activities	Purpose	Assessment/tool	Activity types
The second week pathway	The instructor presents the following: - the objectives of this week. - a map for following the steps of the second week completion - Suggesting using a personal journal for learning to track their learning process.	Viewing and reading the page	The goal here is to warm up by allowing the learners to know their pathway and the week objectives.	/	/

(1) creating an effective environment for autonomy	- Instructor introduces the idea of creating an autonomous environment, and then presenting 2 images to allow teachers discover what are the teachers' roles could be for creating this environment and to reflect about them.	- Learners view the images. Then they comment their answers in the group discussions and post their analysis of the two images.	- Stimulating the learners to bring the ideas and to lead them to the concept of the learner involvement. - Share ideas, knowledge and experiences.	- images - Group discussions	- Acquisition - Inquiry - Discussion
(2) the principle of (learner involvement) and its practices.	- Instructor presents a PPT slides for explaining the pedagogy of the principle of learner involvement, how to promote it with different practices, with inclusion of the understanding of the other sub principles of providing the clear instruction and the authenticity encouragement.	- Learners watch the slides for supporting their understanding about the principle and its practices.	- Enhance the learners understanding of the principle and its practices.	- PTT slides	- Acquisition
(3) check your information (Quiz B).	Instructor presents a multiple-choice quiz about the presented concepts.	- Learners have a quiz to check the understanding of the concepts.	- check the learners understanding of the principle and its practices.	- Quiz	- Inquiry

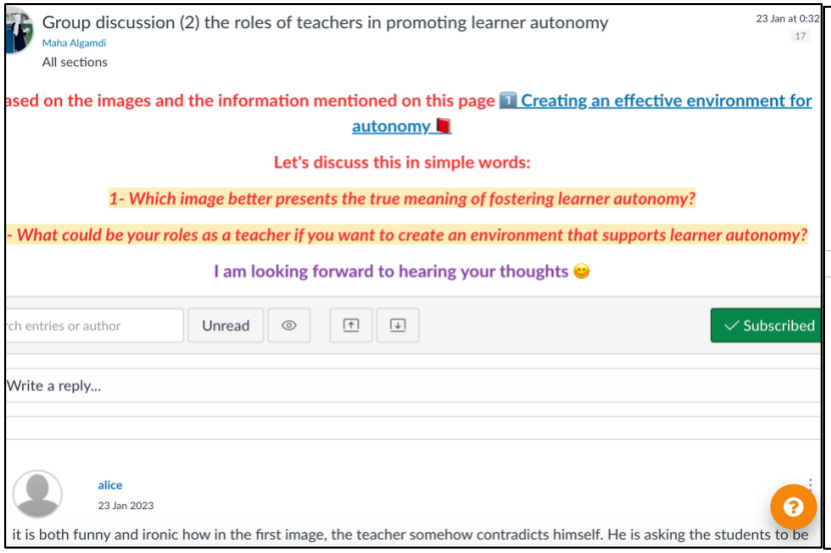
(4) Strategies/tools for achieving (learner involvement)	- At first instructor ask leaners to watch a video about different strategies to promote the principal of the learner involvement. - Instructor starts by posting in padlet a variety of strategies for each practice, as well as presenting the and the other sup principles (authenticity and clear instruction), for stimulating learners' collaboration and discussion. - Then, instructor rise a collaborative opportunity for the learners to discuss and collaborate via WhatsApp groups, about how familiar are these strategies for them, analyse it, post more in and padlet.	- Leaners watch the modelled videos and posts and read the stimulated questions. - learners search and get involved in a collaborative discussion and then post their answers.	- Stimulating the learners to bring ideas and discover the importance of LA. - Enhance their understanding of principle of learner involvement, and the sup principles. - exploring the concept in modelled practices. - Share knowledge and experiences.	- Watching video - WhatsApp group - Padlet	- Acquisition - Practice - Collaboration
(5) The second week reflection	- instructor asks learners to reflect on this week learning by creating a detailed plan based on one practice/ strategies of the principle of the learner involvement, and	- In relation to what the learners have learned during this week, they should present a	- Using a reflective log of week (2) to translate the learners understanding of	- Reflective log - Peer feedback	- Production - Discussion

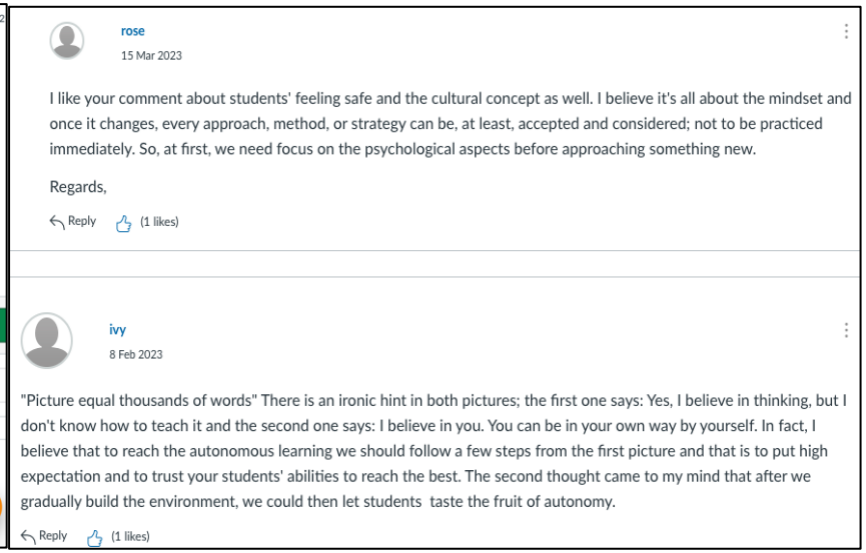
	the other sup principles, and to tell details about their application of this plan. - Instructor asks learners to post what translate their feeling about their learning during this week. - Instructor asks learners to view a reflection of a peer and give her feedback.	holistic plan for their chosen practice/strategies. - Learners give her assigned peer feedback on her reflected plan.	this week principle, they should relate what they learnt to a designed planed. - Understand the feelings of the teachers about this week activities by posting within the logs what translates their feelings (emojis, image, music). - By giving the learners their peer feedback about their reflection, that will allow for enhancing their knowledge budling and share experiences.		

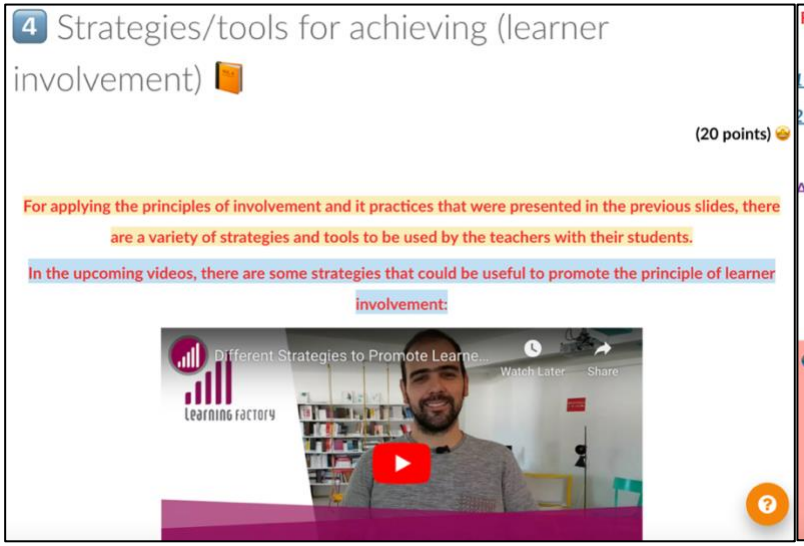
The second week tasks check list.	- Instructor presents all the tasks of the weeks by order with hyperlinks.	- Learners click on the tasks that did not finish yet.	- The goal here is to give the learners more clarification about the tasks and the pages of the week, in order for them to check if they did it well or not.	/	/
Optional information	- Instructor presents another video related to the concept of LA, as an optional task to watch.	- Learners watch the videos.	- The goal here is to give the learners another source of information if they prefer to see it to enhance their knowledge more.	/	/
Completing week 2 (anything to add?)	- Instructor presents another space for making general grope discussion about the week content.	- Learners have the chance to post any extra ideas and have dissuasion about it.	- The goal from this space is to stimulate the learners to bring more ideas that	- Group discussions	- Discussion

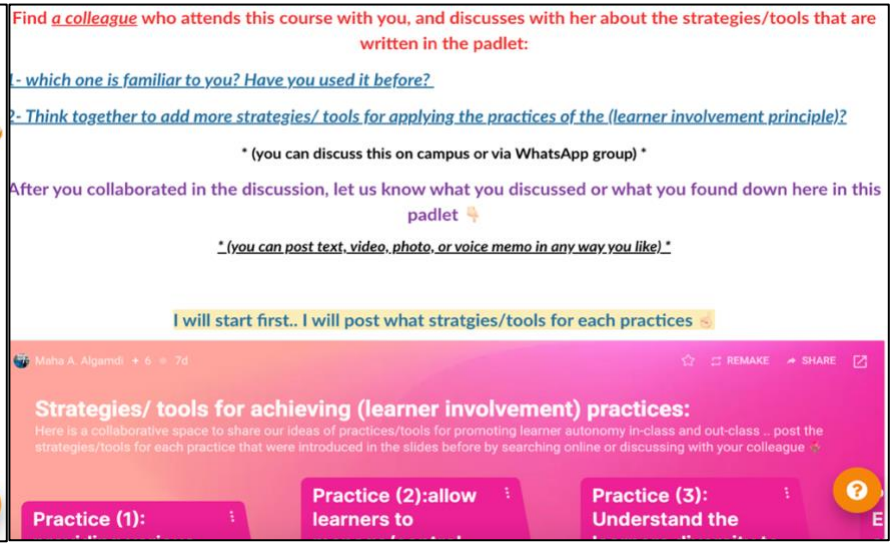
			were not discussed during this week in order to enhance their knowledge more.		
Do you need more time? *(It is Ok keep going)*.	- Instructor presents this page in order to remind the leaners that they have time to finish up and to apply any plan in classes.	- Learners view this page.	- The goal is to assure the learners that it is ok they can continue and no need for the rush especially with their work duties, in order for them to be more relaxed for learning.	/	/

Platform screenshots samples of W2:









Week 3 construct (conceptual and practical module)

Topic: The principle and pedagogy for: (learner reflection). **Date:** starting from 16the of January. **Duration:** 3 hours- conceptual & practical.

Objectives/outcome:

1- Teachers are expected to explore their supporting roles for creating an autonomous learning environment.

2- Introduced and understand the pedagogical principles of: encouraging learner reflection, with inclusion of the understanding of the other sup principles of providing the clear instruction and the authenticity encouragement.

3- Understand how to apply this pedagogy for promoting LA and with the different practices.

4- Reflect on the extent to which such strategies could applied in the class.

Content (page)	**instructor's procedures**	**Learners' activities**	**Purpose**	**Assessment/tool**	**Activity types**
The third week pathway	The instructor presents the following: - the objectives of this week. - a map for following the steps of the first week completion. - presenting the points for this week - Suggesting using a personal journal for learning to track their learning process.	Viewing and reading the page	The goal here is to warm up by allowing the learners to know their pathway and the week objectives.	/	/

(1) teachers' supporting roles in promoting learner autonomy	- Instructor continues introducing the idea of creating an autonomous environment, and the terms of the teachers' roles for achieving that in an image. - Instructors ask learners to search about what are the practices that translate each role and to post in the discussions about them.	- Learners view the image. Then they comment their answers in the group discussions and post their analysis about the image.	- Stimulating the learners to bring the ideas and to lead them to the concept of the learner reflection. - Share knowledge and experiences.	- Image - Group discussions	- Acquisition - Inquiry - Discussion
(2) the principle of (learner reflection) and its practices?	- Instructor presents a PPT slides for explaining the pedagogy of the principle of learner reflection, how to promote it with different practices, with inclusion of the understanding of the other sub-principles of providing the clear instruction and the authenticity encouragement.	- Learners watch the slides for supporting their understanding about the principle and its practices.	- Enhance the learners understanding of the principle and its practices.	- PTT slides	- Acquisition
(3) check your information (Quiz B).	Instructor presents a multiple-choice quiz about the presented concepts.	- Learners have a quiz to check the	- check the learners understanding of the	- Quiz	- Inquiry

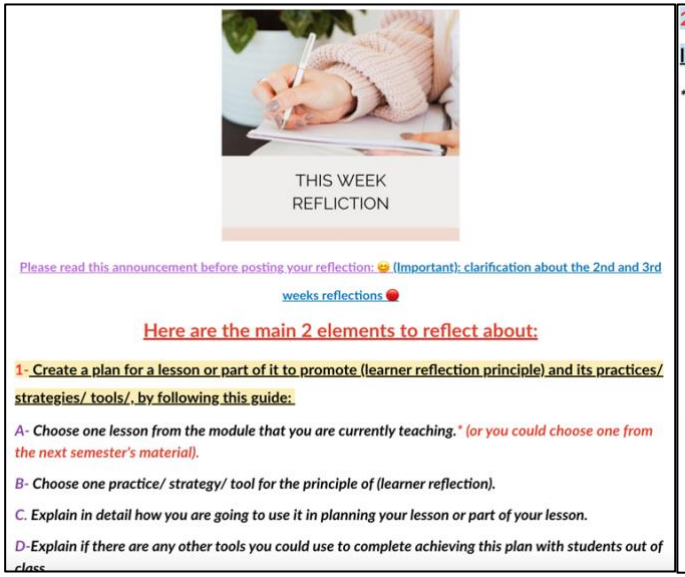
		understanding of the concepts.	principle and its practices.		
(4) Strategies/tools for achieving (learner reflection)	- At first instructor asks leaners to watch a video about different strategies to promote the principal of the learner reflection. - Instructor starts by posting in padlet a variety of strategies for each practice, as well as presenting the and the other sup principles (authenticity and clear instruction) for stimulating learners' collaboration and discussion. - Then, instructor rises a collaborative opportunity for the learners to discuss and collaborate via WhatsApp groups, about how familiar are these strategies for them, search for more, post more in and padlet.	- Leaners watch the modelled videos and posts and read the stimulated questions. - learners search and get involved in a discussion and then post their answers.	- Stimulating the learners to bring ideas and discover the importance of LA. - Enhance their understanding of principle of learner reflection and the sup principles. - exploring the concept in modelled practices. - Share knowledge and experiences.	- watching video - WhatsApp group - Padlet	- Acquisition - Practice - Collaboration

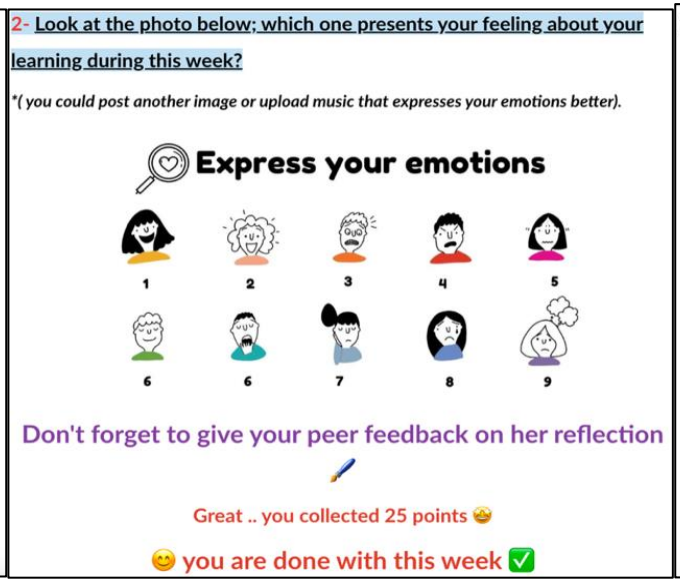
(5) The third week reflection	- instructor asks learners to reflect on this week learning by creating a detailed plan based on one practice/ strategies of the principle of the learner reflection, the other sup principles, and to tell details about their application of this plan. - Instructor asks learners to post what translate their feeling about their learning during this week. - Instructor asks learners to view a reflection of a peer and give her feedback.	- In relation to what the learners have learned during this week, they should present a holistic plan for their chosen practice/strategies that promote the principle of learner reflection. - Learners give her assigned peer feedback on her reflected plan.	- Using a reflective log of week (3) to translate the learners understanding of this week principle, they should relate what they learnt to a designed planed. - Understand the feelings of the teachers about this week activities by posting within the logs what translates their feelings (emojis, image, music). - By giving the learners their peer a feedback about their reflection, that will allow for enhancing their knowledge budling and share experiences.	- Reflective log - Peer feedback	- Production - Discussion

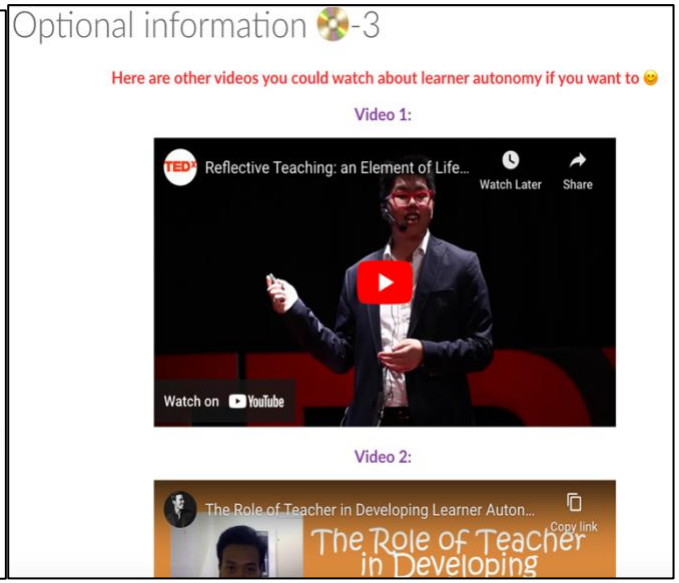
The third week tasks check list.	- Instructor presents all the tasks of the weeks by order with hyperlinks.	- Learners click on the tasks that did not finish yet.	- The goal here is to give the learners more clarification about the tasks and the pages of the week, in order for them to check if they did it well or not.	/	/
Optional information	- Instructor presents another video related to the concept of LA, as an optional task to watch.	- Learners watch the videos.	- The goal here is to give the learners another source of information if they prefer to see it to enhance their knowledge more.	Watching video	- Acquisition
Completing week 3 (anything to add?)	- Instructor presents another space for making general grope discussion about the week content.	- Learners have the chance to post any extra ideas and have dissuasion about it.	- The goal from this space is to stimulate the learners to bring more ideas that were not discussed during this week in order to enhance their knowledge more.	- Group discussions	- Inquiry - Discussion

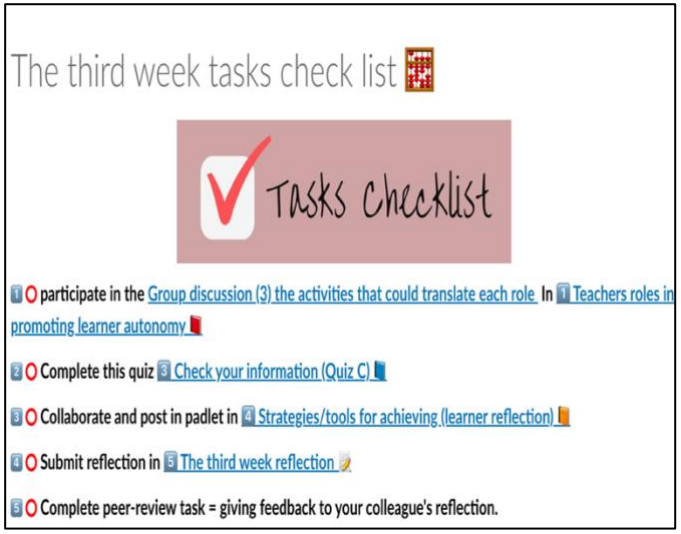
Do you need more time? *(It is Ok keep going).*	- Instructor presents this page in order to remind the leaners that they have time to finish up and to apply any plan in classes.	- Learners view this page.	- The goal is to assure the learners that it is ok they can continue and no need for the rush especially with their work duties, in order for them to be more relaxed for learning.	/	/

Platform screenshots samples of W3:









Appendix L Storyboard of activities type and technological tools

ABC curriculum design

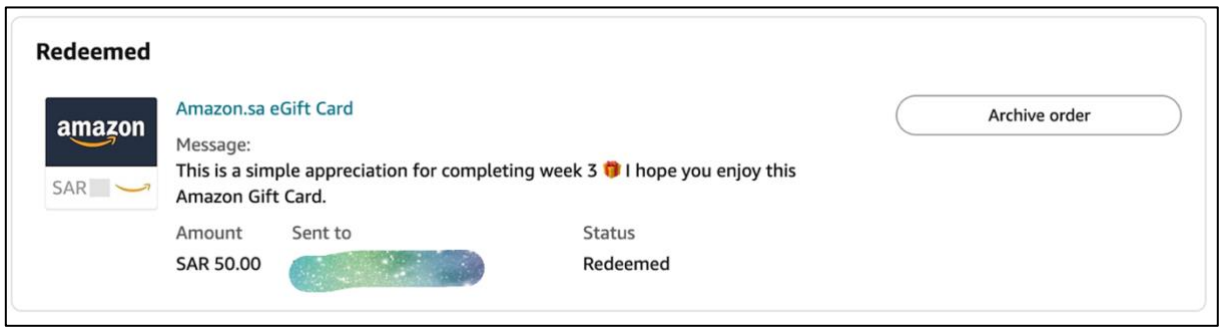
Programme & learning outcomes: Leading students to be autonomous language learners.

[Learning timeline]

Week 1						
Activities type	**Acquisition**	**Practice**	**Discussion**	**Collaboration**	**Inquiry**	**Production**
Technological tool	- YouTube videos - PowerPoint slides= Video lectures	- Padlet= Modelled videos/images/ posts.	- Platform group discussions - Peer feedback comments.	- WhatsApp collaboration	- Quizzes tool - Platform group discussions.	Posting reflection
Week 2						
Activities type	**Acquisition**	**Practice**	**Discussion**	**Collaboration**	**Inquiry**	**Production**
Technological tool	- YouTube videos - PowerPoint slides= Video lectures	- Padlet= Modelled videos/images/ posts.	- Platform group discussions - Peer feedback comments.	- WhatsApp collaboration	- Quizzes tool - Platform group discussions.	Posting reflection
Week 3						

Activities type	**Acquisition**	**Practice**	**Discussion**	**Collaboration**	**Inquiry**	**Production**
Technological tools	- YouTube videos - PowerPoint slides= Video lectures	- Padlet= Modelled videos/images/ posts	- Platform group discussions - Peer feedback comments.	- WhatsApp collaboration	- Quizzes tool - Platform group discussions.	Posting reflection

Appendix M Sample of bonuses and appreciation



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