Pushing the Boundaries of Reflection: The Answer's on a postcard

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Abstract

This article presents a correspondence project completed during the 2019-2020 academic year. To encourage reflection and create divergent modes of expression, teaching staff paired undergraduate students across modules and gave them a blank postcard each week. The students' brief was an open one - to reflect on their educational experience surrounding the modules with textual and visual representations. The emotionality and expressions of identity that flowed through the postcards were striking. This lent itself to a personally impassioned criticality, meaningful dialogue and more holistic observations on how learning took place.

Keywords: reflection; reflective practitioners; arts-based research; co-operative inquiry; multi-modal communications

The importance of reflection has long been recognized in educational literature (**Dewey, 1933; Kolb, 1984; Schon, 1991**), including literature on Higher Education (**see Ryan and Ryan 2012; Tan, 2021**). Now, in the 21st century and in the context of fast-paced societal change (**Schwab, 2016**), Lifelong Education, as education that continues beyond any classroom or workplace (**Faure et al., 1972**), is more relevant than ever. Universities do recognise the corresponding need to equip students with skills to enable their learning beyond official education institutions - see for example, the Learning and Teaching Strategy of the university in which this project was based (**Imperial College, 2018**). Therefore, how we can further develop students' aptitude to reflect on their learning and develop their meta-learning skills – their ability to understand how they themselves learn - is a valid focus of attention for this article.

In the pages below, we use our project to draw attention to how approaches to reflective practice could be added to with a new method. Ironically, we turned to the postcard, as a medium popular in a bygone era to offer insight. Our method required students to exchange postcards reflecting on their educational experience, where they created both the text and image on the different sides of the postcard. It was therefore a multi-modal activity that benefited from the potential of arts-based research, combined with an interactive peer-to-peer dialogue.

Through their shared reflections, students could develop their own learning practice, and in this respect, the students were acting as reflexive practitioners. The project therefore had pedagogical value as the students improved their own capacity to learn. The project also served as a *research* project investigating how reflective practice and meta-learning could be expanded upon more broadly. More specifically, as our method focuses on improving practice through research, it can be considered action research. Furthermore, as the students were analysing their own learning, the students can be considered to be 'auto-action researchers' (see Hauke 2022 for further discussion of the term). The four students on this project are accordingly named as co-authors. In this article, we are therefore documenting how such an interactive multi-modal method can meet the twin objectives of enhancing individual pedagogical experience and providing insightful research for a broader audience.

In conceiving this project, we were inspired by two previous projects. Firstly, the Dear Data project (**Lupi & Posavec, 2016**) an example of where weekly postcards were created and exchanged by two 'pen-pals' to represent data concerning an aspect of their lives. This analogue format demonstrated the potential for expressing new perspectives through this medium. Secondly, one of the authors, Elizabeth Hauke (**2018**) had previously presented research on authentic co-production that involved

students across year groups discussing their experiences on different modules. This demonstrated how dialogue across modules could facilitate rich analysis. The postcard project that we present, was informed by these two projects in that it involved an analogue postcard exchange and reflection on learning experiences across student cohorts in different year groups.

Our Open Approach

We would like to frame our approach to this project with an acknowledgement of how it sits in the context of relevant literature and practice. John Dewey (**1910/1933**) is widely cited as an early influential theorist on learning and reflection. Dewey (**1933: 1**) summarised his position on reflective thinking by stating that it was 'the kind of thinking that involves turning a subject over in the mind and giving it *serious and consecutive consideration*' (emphasis added). In turn, Graham Gibb's (**1988**) reflective cycle proposes that reflection progresses with six stages, starting with description through to a new action plan, and David Kolb's (**1984**) experiential learning cycle proposed that reflection was one of four key steps in continued improvement and development. Finally, Donald Schon (**1991**) introduced the notions of 'reflection-in-action' undertaken during the period of learning; and then 'reflection on action' as reflection that is undertaken after the period of learning. All of these influential theorists emphasise the link between reflection and learning, and also of the learner being an active participant in determining what they learn. While we strongly support these ideas, we feel that the approaches above adopt a rather linear approach to reflection through the implication that reflective thinking can be segmented and follow a predetermined series of steps (James and Brookfield, 2014). Moreover, while a strictly rational approach is invaluable for reflection and critical thinking, it can also leave room for alternative approaches that are better placed to foster a holistic and contextualised appreciation of learning.

The approach we adopted here is more in line with Alison James and Steven Brookfield (**2014**). They call for educators to move beyond viewing reflection as a solely cognitive process and to engage with the messier ways in which it can take place. This involves a recognition of the embodied, non-linear, multi-sensory modes of reflection. James and Brookfield (**Ibid**) cite Guy Claxton's distinction between hard and soft thinking and argue that hard thinking is too often prioritised. Hard thinking is where the thought is deliberate, structured, and purposeful. Soft thinking involves relaxed, contemplative thought where ideas might arise now or later and there is less of a strict structure. Whilst aligning with James and Brookfield (**Ibid**), we believe that our project is distinguished from others by the high level of freedom provided for the students, and its

promotion of softer thinking, combined with the requirement to engage in multi-modal dialogue with a peer.

Another study of interest to us was presented by Pretorius and Ford (**2016**) who provided their students with open prompts for a reflective journal, and they complemented this with peer discussion. By empowering students to lead themselves they reported the students appreciating the value of reflection for their own learning – and they therefore called this approach 'reflection for learning'. They succeeded in facilitating a method founded on self-discovery and interactive reflection. Such openness appealed to us and we aimed to facilitate it in our approach. However, in the studies mentioned above, there is still a lack of research into how arts-based or affective domains can aid reflection, and we set out to explore this potential.

Exploring the reflective potential of arts-based approaches

Arts-based research employs the many tools of 'the Arts' to engage in research. This could include anything from fine art to narratives, poetry or performance - and we believe that the method that we adopted allowed us to benefit from some of its key qualities.

We aimed to capitalise on how arts-based approaches to evaluation, reflection, and research can prompt *different* perspectives (**McNiff, 1998; Allen, 1995; Skukauskaite et al., 2022; Simons & McCormick, 2007**). By employing a visual medium, we aimed to facilitate new ways of thinking, as suggested by Ward and King in their comments on how drawing and art can be liberating:

> *Methods rooted in verbal and textual modes of communication require linear representations of time and causality. Providing participants with, what is literally an entirely blank canvas, liberates them from boundaries imposed by other methods. They are free to depict events, feelings, ideas and reactions in ways that are non-linear, non-binary and non-logical.* (**Ward & King, 2020: 20**)

Creating an image can free the students from structures or constraints that modes of expression based on verbal discussion or writing can impose.

We were informed by the work of Sandra Weber (**2008**) and thereby aware that our employment of arts-based research could facilitate greater expressions in the affective domain. In addition, Simons and McCormick (**2007**) note how arts-based research can simultaneously facilitate the communication of both the intellectual and the intuitive – as the researcher invests their whole selves into the work, or as the viewer interprets their creations. By traversing rational-intuitive distinctions, boundaries can be transgressed and the research produced can be unique

and richly detailed (in a different way from the detail provided by written modes of communication). Aligned with this, Brown et al., (**2021**) found that by creating 'zines' – as both text and visual-based media – young learners expressed personalized reflections on educational experiences in new and liberating ways, as the makers of the zines became the creators and the 'expert' on their experience.

Leary et al. (**2014: 230**) note that the freedom of such creative methodologies does bring a degree of risk as the role of the researcher changes; also through the creation of art the researchers effectively put their 'personality on the line'. We embrace this risk, and its potential for new insight, with some qualifications (see below our discussion of ethical issues). Whilst this novelty and focus on creativity can be intimidating, Sean McNiff (**1998: 16**) proposes that: 'the truly distinguishing feature of creative discovery is the embrace of the unknown'; and we were convinced by his argument against a prescriptive or standardized approach to arts-based research in order that we could maintain openness and creativity.

Exploring the reflective potential of dialogical approaches

Our researchers present their ideas through two modes - image and written text. In addition to the presentation through two modes, we propose that with the sharing of these through correspondence, the opportunities to discuss, reflect, and develop distinctive ideas are again increased.

Correspondence has been used as a method to facilitate participatory research before, and notably on sensitive topics (e.g., to engage with prisoners – **see Stamper, 2020**). Paulina Rautio (**2009**) also highlights the special impact that correspondence has due to the longer period of time required to create it and then also for the interlocutors to read it and reply.

We wanted to capitalize on this potential for meaningful dialogue to enhance reflection and our use of correspondence as an interactive medium draws on the principles of co-operative inquiry, as advocated by John Heron (**Heron & Sohmer, 2019**). Like our project, co-operative inquiry is collaborative. It brings together people with a common interest and one of its key tenets is that 'good research is research *with* people rather than *on* people' (**Reason, 1999: 1**). Co-operative inquiry also adopts what Heron (**Heron & Sohmer, 2019: 209**) calls an 'extended epistemology' – that goes 'beyond the ways of knowing of positivist-oriented academia'. Accordingly, we aimed to assist our students to reflect on all aspects of their learning experience and to present it through modes that go beyond solely abstract theoretical knowledge. For instance, we facilitated the use of more of what Heron calls 'imaginal knowing' (**Heron & Sohmer,**

2019:209), derived from the production of imagery, art and other creative elements.

Co-operative inquiry also involves rounds of reflection and action, thereby aligning with our project as our students acted as 'auto-action researchers' (**Hauke, 2022**). However, our method offers more freedom than Heron's approach in that co-operative inquiry advocates clear 'cycles of inquiry' (**Heron & Sohmer, 2019: 208**) where participants consecutively reflect and act in a number of set phases.

By engaging in a more open written and visual dialogue with another student on a different module, our method aimed to use the multi-modal format to provoke deeper evaluation and reflective thought. The discourse would be generated and very much led by the participants across different cohorts, with them comparing and contrasting their different learning experiences. We anticipated that such an interactive comparative approach could facilitate more criticality and we set out to investigate how well we achieved that. Following on from this, a key objective was to enable students to organically engage in 'domain generality' in their metacomprehension. The importance of this is highlighted by the former Editor of the journal *Metacognition and Learning,* Roger Azevedo (**2020**). 'Domain generality' in metacognition can be used in a variety of domains and situations and it contrasts with 'domain specificity' where metacognition would need to be learned for each task or domain in which it is used. The need for flexibility, adaptability, and capability to transfer skills and knowledge to a range of situations in the 21st Century means that such transferable metacognitive abilities are particularly useful today (**Ibid**). Moreover, with this holistic approach, our project can be better defined as facilitating 'meta-learning' and understanding of how learning more broadly happens, as opposed to specifically metacognition.

To summarise, we provided an open approach. Open in terms of what we told the students to include. As Ruikytė (**2021: 89**) noted on her co-creation project with students at Warwick, and as supported by Palmer's (**1998**) work on Arts management, sensitivity is required with artists 'not to interfere with and disturb their creative freedom'. In our project, in order to provide appropriate space for the students, the content was therefore not prescribed for our students – however, it was our choice of medium and our set up of how participants could communicate that was structured. One of the justifications given for more structured or interventionist approaches to developing reflection in students is that it can allow educators to rectify overly descriptive tendencies, particularly when students are writing individual journals (**Hume, 2009**). However, we wanted to explore whether our cross-cohort, multi-modal, interactive

method would provoke criticality and insight that was generated and developed dialogically between the students themselves.

We believe that this review of the literature demonstrates the potential for how arts-based research can open up students' perspectives to consider different elements of their learning, particularly surrounding the affective domain. This, combined with the dialogicality of the project, led us to two research questions which could demonstrate the value of our method.

Research Questions

First, does our interactive and multi-modal method of reflection lead to more emotional expression; and, second, does it lead to new forms of criticality.

The Set Up for Exchanging Postcards

The essential participants on which this whole project was contingent were, of course, the four students who exchanged the postcards on their educational experiences. We were given a small amount of funding from our university that was sufficient to pay for postage stamps and to compensate a maximum of four students for their time. The students were recruited by inviting all students studying Dr Mark Pope's modules to apply to take part and then selecting four students based on their application emails. Two of the selected students were studying a Third/Fourth Year Undergraduate module called *Creative Futures* (Rasika Kale and Ting Lee) and they were paired with two more students studying Second Year modules called *Global Village: Innovation Challenge* (Anastasia Kolesnikova) and *Global Village: Visual Arts Challenge* (Nadia Davis) respectively – with these pairings, students wrote to someone in a different year and studying a different module. The module *Creative Futures* aims to introduce students to qualitative tools to help them approach the future more proactively; whilst the Global Village modules provide students with a case study to inspire them to produce either an innovative design (*Global Village: Innovation Challenge*) or an art exhibit (*Global Village: Visual Arts Challenge*). All of the modules are provided under the Change Makers umbrella of interdisciplinary modules (**Imperial College, 2022**). The modules predominantly employ active learning strategies and involve student-led enquiry-based learning, where students choose their exact focus – but it is a focus on a real-world case study or theme. This distinctive mode of study can be challenging for students, as they are given greater autonomy, decision-making responsibilities, and opportunities to be creative.

The modules were 20 weeks long and we asked the students to exchange one postcard each week reflecting on their educational experience, creating an image on one side and writing on the other. Students addressed their postcards to our staffroom and sent them through the postal service. Dr Mark Pope would deliver the postcards to the partners at their next class. This also provided the teaching staff with the opportunity to monitor the cards and speak to students if there were any concerns regarding their content. On occasions when there were delays in sending or receiving the cards the teaching staff could therefore communicate with both partners to keep them informed. Otherwise, when delivering the postcards, Dr Pope limited his comments to open or reaffirming statements that were mostly aimed at ensuring the students had the confidence to continue as they were.

This project received ethical approval from the university before it commenced and in an introductory session staff and students discussed issues concerning the revelation of personal information. We discussed how the postcards would enter the public domain - to be read by their partners, by those involved in their postage, and by a wider audience at the end of the project. Therefore, the students were advised to only include comments and themes that they were comfortable sharing. In addition, the students were asked again at the end of the project to provide consent to share their work. Finally, for this article, students read drafts and approved the use of the quotes and images used. We did also intend the project to be one that would support student well-being. Therefore, we asked students to not spend too much time each week on the postcards and made clear that we understood the need for delays in completing them at some points.

Postcards were photographed by the recipients and by Dr Pope. Then the entire collection was shared electronically before the very end of the project so that the students could reflect more broadly on the whole experience with their final postcards. By this time in Spring 2020, the university was closed due to the COVID-19 pandemic and these reflections were therefore made on final postcards delivered electronically.

The key aim in this setup was to encourage students to choose to focus their postcards and reflections on what they felt was most relevant to their own particular learning. Dr Pope provided an initial introductory session eliciting from the student researchers how they might share their experiences. This resulted in the student researchers suggesting dozens of possible themes that might be covered, and ways in which they might be conveyed, visually and in writing. Continuous detailed feedback from staff or obligations to use designated categories was something that we wanted to avoid. The brief was intended to be liberating, and the focus was

developed by the students as they responded to each other's correspondence.

We emphasised that the students were free to comment on and depict the aspects of their educational experience that they wanted to, and although the focus was likely to be on the corresponding week of that module, any context that impacted their experience from their other studies or life outside of university would be welcomed. Therefore, the students, acting as auto-action researchers, were tasked to interpret what was relevant and appropriate. They could use whatever resources they liked, as long as the postcard could be sent through the postal service. For instance, one student, (Ting Lee), regularly discussed his experience with an additional student, (Vy Lai), and she helped create the visuals with him. Arts- based research does encourage the employment of expression that moves beyond the rational, including at the analytical stage, and we set up our student researchers to embrace this in a safe process that we monitored throughout. Students commented that they enjoyed the project and we hope that you will now enjoy their work that is presented and analysed below.

Postcards as multi-modal reflective practice

We found that the postcards did facilitate the expressions of diverse types and intensities of emotionality and criticality - not commonly seen by teaching staff in reflective journals. These elements were also not exclusive to each other, as much of the criticality was imbued with passion and was developed and enhanced through the exchanges. However, in order to frame our analysis in relation to our research questions we have divided the analysis below into two sections focusing first on emotionality and then on criticality and dialogicality.

Emotionality

At times the feelings represented on the postcards were intense and raw. The expression of tension created by assessment was explicit on both the written and visual sides of the postcards. This was notable in reference to the examination weeks on students' core degree programmes but was also evident in the lead-up to assignment deadlines.
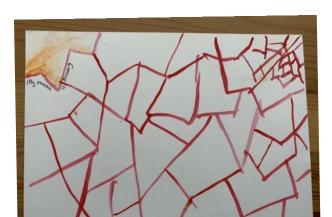
Figure 1: 'My patience is Breaking', by Anastasia

Figure 2: 'Examinations Exhaustion', by Nadia

These images convey the physical impact of studying for a STEM undergraduate degree and we found that the postcards effectively represented affective impact. Sarah Weber (**2008: 44**) suggests that the use of visuals can indeed prompt an 'embodied approach' that recognises how people are 'flesh and blood beings learning through their senses'. This can be seen more explicitly in the images below.

Figure 3: 'Together', by Nadia

Figure 4: 'The Emotion of Pain', by Nadia

In contrast to the tension in the above postcards, there was also a clarity surrounding the positive emotion portrayed on the completion of an assignment. Rasika and Ting (below) celebrated the completion of projects with the symbolism of colour, finish lines, completed jigsaws and balloons.

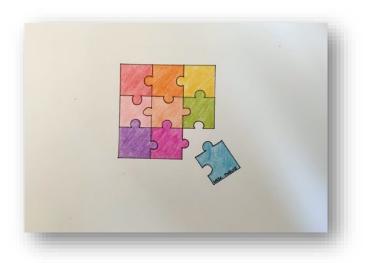*Figure 5: 'Final Piece of the Jigsaw', by Rasika*

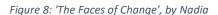*Figure 6: 'Completed Assignment', by Ting*

Figure 7: 'The Finish', by Rasika

This prominence of emotions throughout the collection was conspicuous, partly because emotions are often overlooked in academic analysis. When they are evaluated or reflected upon, the accompanying analysis can be encouraged to be 'rational and distanced' (**University of Edinburgh, 2009**). Therefore, it was striking that in their visual depictions of the educational experience centred around academic modules, the students appeared especially free to convey them emotionally.

The emotions that were expressed through the images were also referred to on the written sides of the postcards. For example, on both the written and visual sides of the postcards, students expressed how they felt. In the postcard Nadia sent after the first week of her module she wrote: 'I can already feel this course will challenge my interpersonal and creative skills (...) The artwork I produced on front is a representation of how I felt.'

Figure 8: 'The Faces of Change', by Nadia

However, through the visual mode, some of the delineation and boundaries contained in the written medium appear to have been opened up. Although complementary to the text, the images could be interpreted as providing something more. In the image above (**Figure 8**) they prompt questions about identities, and the identity of Nadia's team that has yet to be established.

Roger Azevedo (**2020**) calls for researchers to investigate whether metacognition involves both conscious and subconscious processing. We believe that the visuals, with their connotations, tap into complexities surrounding more subconscious thinking and *feeling,* and were effective at conveying the less tangible, less certain, or more multi-dimensional.
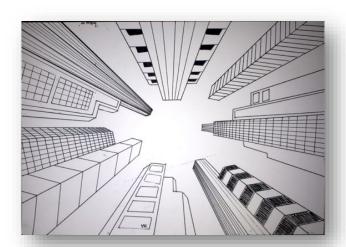
Figure 9: 'Looking Up', by Ting

The multiple layers of potential meaning can be seen in the above image created for the first week of the *Creative Futures* module. In the top left, the title 'looking up' is just visible. This could represent the feelings experienced by Ting when starting a new module, with new colleagues and embarking on a new mode of learning. And/or, it could be more specific, related to the Futures Studies on the module, and the potential for studying linear approaches to progress that stop before the sky is reached, or simply being daunted by the continued developments of modernity. There is also a strong sense of claustrophobia and overwhelm in the image that could be related to Ting, or the module content. This visual metaphor does not specify, but it can leave the viewer to contemplate – and the postcard above exemplified how the multi-modal format not only enabled the presentation of visceral experience but it could provoke multiple layers of thinking and feeling. The examples above have addressed our first research question and provided indications of how our method facilitated emotions surrounding learning to be depicted in many ways - reflecting those experienced by the creator of the postcard, but also the viewer. As

we shall see below, shared or collective experiences were also represented effectively and in a dialogical manner, and this impacted on criticality.

Criticality and Dialogicality

With regard to our second research question on criticality, we shall now consider how the students expressed themselves and their interests with a criticality that was infused with passion. This criticality was one that students were personally invested in, and our analysis indicates how the students often developed their critical points through discussion and the shared construction of their own identities. Crucially, the correspondence between students on different modules with the multi-modal format was conducive to exchanges and critiques on learning at a deeper level. The dialogue that emerged through correspondence did appear to enhance this further as students pushed each other to think in new directions and validated their collective experiences.

Critiques of social issues evident in the world or the communities that they were studying were made by students, and again with a passion personal to them. Rasika, who was studying *Creative Futures,* was keen to address societal inequality, and she expressed this both in writing and through images.

Figure 10: 'Exhibit 1 and Exhibit 2', by Rasika

The above postcard represented two interdisciplinary topics that she was considering choosing to research further for the module - health inequity and pandemics, or menstrual equity. The discussion and depictions surrounding her choice of topic inspired her postcard partner, Nadia, who later reflected:

> *Something that I found useful was when you shared your own discussions and group ideas with me. This allowed me to see your thought processes behind the ideas and gave me an insight into how you personally would approach some of the issues in our case study community.* (**Nadia, Written Comment**)

Nadia said she was inspired by thinking about the approach Rasika would 'personally' bring. Nadia adapted her approach to her case study community and proceeded to produce these images in the subsequent weeks, critiquing injustices that she had researched:-

Figure 11: 'Landlords', by Nadia

Figure 12: 'Revolutionary', by Nadia

Figure 13: 'A thought which I think everyone around the world should have', by Nadia

These images represent key issues on which critical theory can be based – such as anti-capitalism, revolution, or environmentalism. There is also a conspicuous feminine quality to both Nadia's and Rasika's cards. In this way, both students had adopted a personal and critical approach to issues in the wider world that they themselves and their postcard partner might relate to, empathise with, and support.

Criticality was also evident in approaches toward the study and research methods that students were introduced to in their modules. The use of some methods based in the humanities required more qualitative analysis from the students. Through the postcards, the students could evaluate the methods whilst simultaneously affirming their identity as science students. Anastasia wrote:

> *We used Soft Systems Methodology which is something they use in social studies "research". I refuse to call it science out of personal reasons and distaste.* (**Anastasia, Written comment**)

However, Anastasia subsequently praised the benefits of Soft Systems Methodology, evaluating its strengths, including its capacity to enable exploration of how stakeholders interact.

Ting reciprocated with critiques of social scientific methods employed in the *Creative Futures* module. These also utilised a non-positivistic approach. One method proposed that linguistic elements, such as metaphor and myth, construct other layers of the social and cultural world such as ideology and systems. Ting stated that the method is like 'a stack of pancakes – sure, there may be lots of layers but there are no "root causes" of language hiding under the surface keeping everything afloat'.

Figure 14: 'Causal Layered Analysis - A Stack of Pancakes', by Ting

This metaphor provides an interesting visual critique of the poststructuralist method. However, the point we want to highlight here is that Ting also framed his critique with a reference to his identity. He wrote:

I find it disconcerting to disagree with something being taught to me, because as a science student the facts and theorems are unarguable, but I guess learning humanities requires us to challenge and evaluate a possibly different approach. (**Ting, Written comment**)

This is an example of how the medium prompted reflection on identity and then the sharing of these reflections – highlighted above through Ting's use of personal and collective pronouns (I, me and us). The shared evaluative critiques went beyond discrete disciplines and noticeably the positions taken by students were linked to identity - either students' own identity, or to those they relate to or empathise with.

Higher Order Skills

Our method led to a significant amount of theoretical analysis and critical comment on higher-order skills. With the different contexts of the different modules being studied – albeit with the similarities between Change Makers modules – there were a number of postcards where students engaged in dialogue on teamwork, working with others, creativity, and feedback.

Figure 15: 'The mind is nothing but a million neurons working together. Creativity is collaboration all the way down', by Ting

Figure 16: 'Creativity: we create our own prison', by Anastasia

For instance, on the above postcard Anastasia conveyed the challenges of generating ideas. Ting and Anastasia pursued this theme on both sides of a number of postcards, discussing the perils of the 'blank page' and the 'scary white paper', and there were recurring references to variations of this trope as they built on each other's ideas for how they could improve their divergent thinking. They provided eloquent multi-modal commentary that evaluated the pressure points of their creative processes.

Through their dialogue, written and visual, Anastasia and Ting covered all the aspects of Gibb's (**1988**) reflective cycle: descriptions of what happened; reporting of feelings; an evaluation of the experience; analysis; a conclusion; and suggestions for how they would deal with similar situations in future. However - they went further, pulling out deeper themes than might have been expected from non-dialogical reflection on one person's individual experience in one class. Their exchanges delved into issues such as the difficulty striving for originality and perfection, and also the potential therapeutic value of the 'creative release'. Pairing the students across modules and across year groups thereby did facilitate commentary on higher-order skills and other themes that were not discipline-specific. Moreover - they had developed their thinking through their dialogue with each other. We can therefore respond to our second research question positively, reporting that students did develop new forms of criticality, that were personal to them individually but also as pairs and as fellow STEM students.

At the end of the project, students demonstrated a capacity for meta-learning. Having shared the whole collection electronically, they recognised the value of holistic self-reflection and practice. This was evident in two written quotes, with which we will finish our analysis. In her last postcard, Anastasia discussed how she held an alternative view of learning following the project:

> *I have one last question. What do you think learning is? From this experience, I think my answer before would have been something like 'acquisition of new stuff/knowledge that you will regularly use as not to forget'. But after this experience, I am tempted to say that learning is much more than memorising and practice. It's the collection of events and jokes and comments made by your peers, the all-nighters you pull, the memories you create through classroom activities, the frustrations and simply the experience of tackling the unknown. What you have learnt is the experience which draws not only on information, but also your feelings and thoughts, and what you think of yourself before and after learning occurred. I don't know if this makes sense, but I hope it does.* (**Anastasia, Written Comment**)

The postcards appear to have enabled Anastasia's evaluation of the more holistic experience that she calls learning here. Suffice to say, she goes well beyond a focus on knowledge retention and practice, even recognizing the importance of continued personal reflexivity.

Also demonstrating a broad consideration of learning and development, Rasika provided this comment in her final postcard:

> *As the weeks go on, my own postcards go from theory and method-based, to more topic-based musings, to an integrated view of my narrative as part of a whole […] While the postcards mainly focus on what we did in class, it is evident that I start to apply what I have learnt when thinking about what is happening in the world around me.* ***These postcards are primarily a personal record but help paint a vivid picture of how we grew.*** *[emphasis added]* (**Rasika, Written comment**)

Here Rasika articulates how the collection of postcards documents the underlying steps of her pedagogical progression, including real-world applications of her learning. In addition, Rasika picked up on the personal and social nature of the cards. She observed how the postcards demonstrated 'how *we* grew', thereby acknowledging the collective nature of the project, and also its facilitation of the recognition of the identity and growth of the participants. These comments were made as students looked back over all four students' postcards. There were no prompts given to them and they demonstrated how the students valued this method of reflection and had developed the capacity to articulate how

it worked for them. Therefore, we believe that the unique form of co-operative inquiry that the students engaged in on this project stimulated evaluation and meta-learning that are rarely seen with other approaches to reflection.

Conclusion

To conclude, we propose that the collection of postcards presented above show the potential for such a multi-modal, interactive method. In terms of emotions, and the first research question, we found that the postcards facilitated strong expressions of multi-layered emotionality relevant to students' contextualized learning experiences. The visual representations of the physical affective impact of experiences were clear, and at points were visceral and embodied. We suggest that the intensity and persistence of emotional aspects indicate that they are integral to educational reflection and failing to give them prominent consideration, or attempting to remove them from analysis too early, could side-line a key aspect of educational experience.

Regarding the second research question, we found the criticality to be distinctive in that it was more personally invested in, as it was often directed towards the students themselves or to an issue in the world that they were passionate about discussing. Ronald Barnett (**1997:1**) has suggested that '[c]ritical persons are more than just critical thinkers. They are able critically to engage with the world and with themselves as well as with knowledge'. We believe that the students demonstrated the capacity for this here. Indeed, Pat Allen (**1995:3**) proposes that art can help us understand our deeper thinking and 'knowing what it is we actually believe'. The postcards did provoke the presentation of deeper personal thinking, which was conducive to an expression of values, empathy with others, and references to identity. We believe that these elements, integral to a holistic reflection on learning, are not often promoted - but the final quotes above demonstrate how transformational they can be for meta-learning.

The dialogicality evident through the collection was significant too. The criticality appeared to hold meaning and resonate for students both individually and as a collective, and we believe this can be attributed to the collaborative, dialogical nature of the project consistent with principles of co-operative inquiry. As the students exchanged ideas, they validated each other and pushed each other to think beyond their introspective musings. In this way, this visual and written dialogue across modules facilitated learning and meta-learning across domains.

Our method did therefore provide more emotional expression and new types of criticality. In another project, the postcards could be analysed in further depth, or using other analytical techniques. However, we believe we have demonstrated the value of our method here.

We also suggest that this method could be repeated, and at scale. We would recommend that any iterations of this project in higher education institutions follow our practice of sending the postcards via a staff member. In this way, the staff can monitor the project and the expressions presented on the postcards. The students studying these modules were adept at creating visuals, meaning that they were not representative of the student body in their technical and artistic skills. However, we propose that technical skill level should not preclude students from partaking in such a project and gaining the benefits of multi-modal interactions – as it is the personal contribution that is key. Moreover, future projects do not need to be presented as widely as this one and partaking can be voluntary again, so concerns about sharing artwork can be mitigated.

Through the use of postcards, we changed the format, and genre, of communicative practice on reflection. The above article shows that it produced distinctive findings into how learning happened and that this was valuable from both a research and a pedagogical perspective. The students themselves developed their capacity to articulate their experiences, and enhanced their meta-learning; whilst any reader of their postcards or this article could benefit from the broader insights of the research. We believe that this project strikingly demonstrates the potential for more creative and interactive reflective methods. In short, we wanted to push the boundaries of reflection, and we found the answer on a postcard.

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