Analysis of Social Learning Networks on Twitter for Supporting MOOCs Education

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1. INTRODUCTION AND BACKGROUND

Massive Open Online Courses (MOOCs) are one of the emerging developments in technology-enhanced learning. Their pedagogy is primarily based on online video lectures, written documents, assessments, and opportunities for peer communication through discussion forums and social media tools. In comparison to traditional online courses, hundreds and thousands of learners can asynchronously study on a MOOC course. Additionally, MOOC learners are not massive in number, but also very diverse in terms of cultural and educational background, learning aims and preferences. In other words, MOOCs offer a huge potential for educating a massive number of learners at a global level. Therefore, researchers in technology-enhanced learning have considered many research opportunities with MOOCs, such as democratising higher education and improving blended learning with quality materials [1]. However, researchers are also concerned about the some issues with MOOCs. One of the main concerns is low completion rates in MOOCs. Even learners who have started to study MOOC courses with the intention of completing leave the course at some point. Studies show that the cause of this problem could be due to the one-size-fits-all pedagogical approach and ineffective peer communication on social platforms [2]. Jiang et al. [3] have suggested that learners who engaged in social discussion forums are less likely to leave the course. Consequently, researchers [4, 5] are using online social network analysis techniques for analysing and promoting leaners' interactions on social media tools in order to predict drop out rates and take measures to minimise drop-outs. For instance, Zhuhadar and Butterfield [5] analyse learners' log-ins to understand which social tools learners frequently use in order to generate recommendations based on their peers' behaviour. Our study aims to address the drop-out problem in MOOCs by designing a recommender system that can encourage peers' contributions to online discussions.

2. APROACH

Social learning networks (SLNs) represent social relationships among learners that have occurred during their study in a course. In order to detect those relationships, learners' interactions on Twitter are utilised in this study. Once the SLN of a learner is built, the recommender system identifies conversations (tweets with certain hashtags provided by course organisers) to each learner. In the current study, a learner should participate in a conversation at least once in a course for their SLN to be built, and there must be a reasonable amount of interaction in a course in order to receive good recommendations of suitable forum threads or tweet recommendations [5]. The same process needs to be repeated once they registered for another MOOC course. To address this problem, this poster proposes a novel feature, which builds a predicted SLN for those who have no learning network and maintains it throughout the lifetime of the MOOC (see Figure 1). In order to build a predicted SLN for a learner, the approach uses three parameters:

1. An existing SLN for another course previously taken on the same MOOC platform (if there is any)

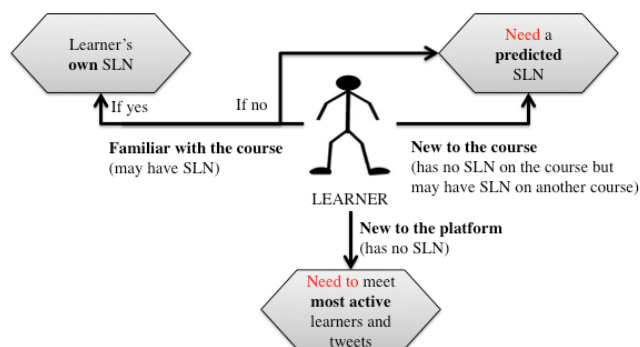2. Learner's progress on course(s)

3. Learner's scores on assessment(s)

Figure 1. Possible situations of a learner.

3. REFERENCES

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