International Society of the Learning Sciences

# Promoting Reflection in a Community-Oriented MOOC

Rebecca M. Quintana, Yuci Liu, Yuanru Tan, Jacob M. Aguinaga
rebeccaq@umich.edu, yuciliu@umich.edu, yuanru@umich.edu, jmagu@umich.edu
University of Michigan

**Abstract**: We examine approaches for fostering critical reflection in a community-oriented MOOC. We used a four-category coding scheme to analyze a sample of learners' journal entries in a digital workbook tool, which was integrated into a MOOC on resilient teaching. Our analysis shows that learners engaged in high levels of reflection across all three weeks of the course. This study offers a promising approach for enabling deep learning and knowledge sharing in large-scale, open-access learning environments.

## Introduction

Massive Open Online Courses (MOOCs) have long been associated with transfer-oriented pedagogies and self-paced learning approaches (Eisenberg & Fischer, 2014). However, the self-paced, individualistic nature of MOOCs can hamper opportunities for learners to engage in significant learning in concert with peers.

Given the affordances of MOOC platforms, how can instructors and designers pragmatically advance forms of interaction that support deep comprehension and offer opportunities for meaningful interaction? One possible means is through threaded discussion forums, which are the most widely used venue for communication and social learning in MOOCs. However, discussion forums exhibit problems such as a demonstrable lack of deep reflection by learners. Additionally, the chaotic structure of forums can create a disjointed experience for learners who must piece together fragmented threads (Almatrafi et al., 2018). Given that MOOCs typically utilize a standard, limited set of features, what is needed is an alternative venue for learners to engage in reflective knowledge sharing practices within structured, self-paced environments.

In this study, we examine the role of a new digital workbook tool situated within a MOOC whose stated goal was to foster reflective practices amongst learners—educators and instructional designers grappling with the new realities of "emergency remote teaching," brought on by the COVID-19 pandemic. Integrated into a standard MOOC platform using Learning Technology Interoperability (LTI) protocols, the instructional team utilized the workbook tool to offer learners a space to reflect on course concepts, with the possibility of sharing their reflections with others within an interactive gallery.

Our aim is to investigate the utility of the digital workbook to address known challenges of discussion forums, namely lack of quality responses and disjointed structure. Guiding our inquiry of the use of this new digital workbook are the following research questions:

1. What levels of reflection can we observe in learners' journal entries?
2. To what extent do learners choose to share their journal entries with peers for review and comment?

## Relevant literature

In the Learning Sciences, the role of reflection in learning has long been acknowledged as an integral part of the learning process. Boud et al. (2001) characterized reflection as an "intellectual and affective [activity] in which individuals engage to explore their experiences in order to lead to new understandings and appreciations" (p. 19). Within professional learning contexts, Schön's (1983) influential work on the role of reflection "in" and "on" action presents reflection as a catalyst for improving practice.

## Research context

This study explores the use of a digital workbook tool for reflective journaling within a MOOC on the topic of Resilient Teaching. Launched in June 2020, the MOOC was developed during the COVID-19 pandemic to support educators who sought effective pedagogical approaches to address instructional challenges in the early phases of the crisis and beyond. Designers of this community-oriented MOOC sought to create a venue for sharing ideas, offering mutual support, and providing mutual encouragement for instructors at all levels (Quintana et al., 2020). The MOOC was composed of four weeks (modules), each consisting of 3-4 hours of instructional content, activities, and assessments. Across the first three weeks, learners were encouraged to engage with 12 workbook prompts, which provided immediate opportunities for learners to reflect on key concepts just after they were introduced throughout the course.

 

### Digital workbook

The MOOC utilized the Gamut Workbook tool, which was integrated into the Coursera platform using LTI protocols. Indexed to specific topics and activities within the MOOC, the workbook tool provided learners with a secure place to save their reflections and facilitated easy retrieval and editing of ideas. Workbook prompts were structured such that workbook entries could serve as the building blocks for a resilient teaching plan, the culminating assignment of the course. Importantly, the tool offered learners the choice to keep journal entries private or to publish them to a gallery, making them available for review and comment by peers.

## Method

### Data sources

We collected data from the first four months of the Resilient Teaching MOOC. During this time, 2820 learners were "active" participants in the course, meaning that they engaged with at least one course item (e.g., watched a video, or participated in a discussion forum). We analyzed responses to one workbook prompt from each of the first three weeks of the course. From these prompts, we randomly selected 80 responses to ensure that we could analyze an identical number of responses for each prompt, analyzing 240 journal entries in total.

### Coding scheme and coding approach

We adopted Kember et al.'s (2008) four-category coding scheme for written work: habitual action, understanding, reflection, and critical reflection. We modified their original categories by removing "habitual action," replacing it with our own term called "isolated action." Our code had a similar meaning, which is that an intended or planned action is described without explicit connection to course concepts. Four coders participated in the coding process, with one pair independently coding 20% of the data for each prompt, resolving disagreement through discussion, and one member of the pair completing coding for the prompt. We applied these codes as discrete categories (i.e., one per journal entry), following our coding book.

## Findings and discussion

Our findings show high levels of reflection and critical reflection across all three weeks of the course, with the highest levels occurring in responses to the Week 2 prompt. To explain why the highest levels occurred in week two, we surmise that the variability in the prompts themselves likely influenced the levels of reflection we observed across the prompts we analyzed. In sum, we can see that the quality of reflection within journal entries is high and contrasts vividly with the stark lack of reflection that Almatrafi et al. (2018) noted are characteristic of MOOC discussion forums. Further, as the workbook prompts were indexed to course concepts and were preserved within a logical sequence that was easily retrievable by learners, the issues of disorganized and fragmented threads that Almatrafi et al. (2018) surfaced about MOOC discussion forums were circumvented.

Our findings also show that learners increasingly chose to publish their journal entries to the public gallery, making them available to their peers for review and feedback. Although it is beyond the scope of this study to understand possible reasons for this increase, this finding shows that the use of the workbook tool shows promise for learners to share deep learning within large-scale, open-access environments. Future research will examine how MOOC learners interacted with peer responses in the public gallery of the digital workbook.

## References

Almatrafi, O., & Johri, A. (2018). Systematic review of discussion forums in massive open online courses (MOOCs). IEEE Transactions on Learning Technologies, 12 (3), 413-428.

Boud, D. (2001). Using journal writing to enhance reflective practice. New Directions for Adult and Continuing Education, 2001 (90), 9-18.

Eisenberg, M., & Fischer, G. (2014). MOOCs: A perspective from the learning sciences. In Proceedings of the 11th International Conference of the Learning Sciences (ICLS), 190–197

Kember, D., McKay, J., Sinclair, K., & Wong, F. K. Y. (2008). A four-category scheme for coding and assessing the level of reflection in written work. Assessment & Evaluation in Higher Education, 33 (4), 363-379.

Schön, Donald A. (1983). The reflective practitioner: How professionals think in action. New York: Basic Books.

Quintana, R. M., Hearn, C., Peurach, D. J., & Gabriele, K. (2020). Self-directed, community-supported Learning in Practice: A Case of Elevated Support (pp. 312-333). In L. Wilton & C. Brett (Eds.). Handbook on Research on Online Discussion-based Teaching Methods. (pp 312-332). IGI Global.