

Online Collaborative Testing: Design and Implementation in a Large First-Year Undergraduate Course

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Abstract

Online collaborative testing is an approach to assessment that emphasizes technology-mediated learning through interaction with peers. As the COVID-19 pandemic prompted exponential growth in online teamwork, skills for online collaborative problem-solving have become essential for today's graduates. As such, online collaborative testing can play a crucial role in supporting students to develop these skills. In this paper, we report on how an online collaborative test was implemented in a large first-year undergraduate course. We begin with a review of the literature on online collaborative testing. We then describe how the instructional team designed and administered a synchronous online collaborative midterm exam in which groups worked together to analyze a complex case scenario. Finally, we conclude with a reflection on the strengths and limitations of our approach and opportunities for future design.

Keywords: collaborative testing, self-regulated learning, socially-shared regulation of learning, two-stage exams, online assessment



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Introduction

Collaborative testing is an approach to assessment where students work together on an exam (Sandhal, 2009). While educators often treat assessment as an individual endeavour, collaborative testing emphasizes assessment itself as a means for learning (Cooper & Cowie, 2010). Collaborative testing has been linked to positive outcomes, including better learning and performance, reduced test anxiety, and increased student satisfaction and motivation (Cortright et al., 2005; Eaton, 2009; Guo et al., 2016; Zipp, 2007). As online teamwork has become integral to many post-pandemic workplaces, opportunities to engage in online team activities, such as online collaborative tests, are an essential aspect of preparing students to be digital citizens.

However, effective collaboration does not happen automatically. When collaboration is successful and satisfying for members, groups jointly engage in reciprocal interaction, leveraging their diverse perspectives to construct and maintain a shared understanding of a problem (Barron, 2003; Roschelle & Teasley, 1995). However, groups can encounter many different challenges that can impede their work together. Recent perspectives suggest that managing these challenges is possible when teams regulate their thinking, behaviour, motivation, and emotions individually (self-regulation) and collectively as a group (socially shared regulation) (Hadwin, et al., 2017). As such, students can benefit when group are directly supported to activate and develop these competencies during collaboration (Miller & Hadwin, 2015).

Designing to Facilitate Self- and Socially Shared Regulation of Learning

Currently, we have limited knowledge about how to best support regulation in collaborative testing. However, one possibility is designing collaborative tasks, such as collaborative exams in ways that support both collaborative knowledge construction and the development of skills for online collaboration (Miller & Hadwin, 2015). As such, drawing on this research, we designed and implemented a three-phase collaborative online test in a first-year undergraduate educational psychology course at a university in Western Canada. The exam was administered at the midpoint of a course focused on learning to learn in post-secondary education. By participating in the course, students learned skills and strategies for self-regulated learning, including planning, setting goals, choosing strategies, monitoring progress, and evaluating their post-secondary learning and performance.

The goal of the collaborative test was to help students further their knowledge of the course concepts and gain skills for regulating online teamwork by analyzing a complex case scenario as a team. Toward this end, an online exam was structured over three phases, targeting processes of self- and shared regulation of learning.

Preparation Phase

During the week prior to the exam, students were provided with an exam prep checklist, information about strategically approaching online exams, and a practice exam during class time. The preparation phase supported individual learners to interpret what was required by the task relative to their own strengths and experiences and set goals and make plans for how to go about the task with their group. Since students were afforded some time to work in their group during the practice exam, this also supported learners to engage in shared planning, a critical aspect of socially shared regulation of learning.

Enactment Phase

During this phase, students met online for an orientation to the exam before working in small teams of 3–4 to complete the exam over 75 minutes. The first few questions of the exam supported students to get to know each other and bring together their ideas for how to go about the exam so they could make a shared plan for the group.

Reflection Phase

During the reflection phase, learners were provided with a reflection activity that guided them to critically consider how the exam went for them and for their group by identifying what went well; what (if any) major challenges they encountered related to their thinking, cognition, behaviour, motivation, and emotion; and how they might address these going forward.

Reflections and Considerations

Currently, there is an emerging interest in supporting or guiding student regulation of collaborative learning. We contend that collaborative testing is another venue where this could take place. In our exam, we drew on a framework of self- and socially shared regulation of learning to foster learners and groups to engage in key processes of planning, strategic enactment, and metacognitive reflection on the task. After the exam, we as an instructional team also reflected on this approach to identify future considerations. Overall, we found this exam to be effective in providing students with opportunities for teamwork. However, implementing the multi-phase exam in a large class was intensive, and careful consideration was needed to ensure all students were able to equitably participate. Of note, we found that the low-stakes and flexible nature of the exam allowed us to present it to students as part of the learning process. This was instrumental in shifting the focus from grades to an opportunity to gain experience collaborating online on a complex problem.

Author's Contributions

MM, SQ, and SA, instructional team members, assisted with literature review and conceptualizing the paper.

MM was responsible for the final written proceeding and presentation

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Ethics Statement

Ethical approval is not applicable because this paper involves a reflection on practice and no research with human subjects was undertaken.

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