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An innovative approach to implementing and evaluating formative assessment strategies in higher education: A Norwegian case study

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Abstract

Norwegian higher education courses still predominantly employ traditional lectures and summative exams. At the University of Bergen, a recent project (TALIDA) has supported the redesign of over thirty courses by introducing formative assessment strategies. This paper presents how the redesigns are being evaluated. Our research methodology addresses the need for new perspectives in the evaluation of the quality of learning in future-oriented teaching practices. We pay special attention to a select number of courses chosen to undergo a careful mapping and analysis of their activities. We employ the "writerly interactions" framework (Gray, 2019; Gray, 2017) to analyze the quality of the interactions between learner and course content as a measure of meaningful learning.

1   Introduction

As education moves away from the one-size-fits-all model to accommodate new social demands, the question of quality—and how to evaluate it—becomes a hindrance to exploring innovative techniques. This matter is accentuated in higher education, where professional requirements add to the weight of the evaluative aspect. The evaluation of future-ready, innovative teaching and assessment calls for the development of new evaluation paradigms that can clearly communicate the benefits of these pedagogical strategies while maintaining academic systems of accountability.

Although Norwegian universities were notoriously described over twenty years ago as "exam giving institutions" (OECD, 1997; Raaheim, 2013), a large majority of courses still consist only of traditional lectures followed by a single high-stakes final exam. Recently, in a renewed effort to better prepare students to become professionals qualified to face the complexity of the 21st-century work environment, both the Ministry of Education and the University of Bergen have introduced new guidelines for pedagogical reform. One initiative has been the TALIDA (Teaching and Learning in the Digital Age) project, which has supported course redesign by introducing active learning and formative assessment methods. In this paper we outline our ongoing strategy for evaluating the redesign results, and discuss the preliminary findings.

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2   The TALIDA project

Introduced in 2017, the TALIDA Project has supported the redesign of over thirty courses across all seven faculties at the University of Bergen. Most redesigns focused on the development of new assessment practices, favoring formative tasks that are shown to provide benchmarks of student progress and opportunities for instructors to adjust instruction (Hattie & Timperley 2007; Wiliam, 2011; Bigg & Tang, 2011). The participating instructors also worked towards implementing digital tools to drive student learning and engagement, researching their own teaching, and navigating the administrative regulations governing teaching and assessment at the university.

Each course was considered individually in order to acknowledge their different needs and objectives, as well as to account for the resources—both practical and financial—available in each case. Participants followed a series of steps to redesign their courses, from critically evaluating and reformulating the learning outcomes to developing new teaching and assessment methods that ensured students achieve those outcomes (Biggs, 2014). Instructors also participated in specialist workshops (on course design, student engagement, and assessment techniques) and had several informal opportunities to share ideas and give each other feedback (Gray & Nerheim, 2018)[3].

3   Research approach

Bearing in mind that each course had specific needs and goals, we decided that each instructor would be responsible for determining what success meant in their own courses and how to evaluate it. Nonetheless, in order to continue supporting the implementation of active learning methods and alternative assessment strategies across the university, we also sought to understand how the design of specific tasks influenced student engagement and learning. Therefore, we divided the project evaluation into two phases: (1) the collection of individual course evaluations presented by their main instructors, and (2) the evaluation of the quality of student engagement with course content.

3.1   Phase 1 — Instructors' experiences

We concluded the first phase in 2019 and are currently analyzing the data. Data was collected from individual interviews with the main instructors of each course. The interviews were designed to capture the instructors' experiences with the redesign process. Preliminary results show that students reported high rates of satisfaction with the courses and said they found value in the new methods employed. This seems to be corroborated by instructors reporting significant differences in quality from previous semesters where more traditional teaching and assessment methods were used, with most of them mentioning improved attendance, in-class participation, and performance. Several instructors said they made significant discoveries about teaching and learning and that the collective experience of participating in the project with other instructors created an environment of support and accountability that was crucial for their success.

3.2   Phase 2 — Applying new approaches

We will conduct the second phase in 2021, focusing on evaluating the quality of the interactions between students and the course content centered on the "writerly interactions" framework (Gray, 2019; Gray, 2017). This framework applies concepts from literary theorists such as Barthes (1974), Bakhtin (1981), and Eco (1989) to analyze the quality of teaching and learning processes by allowing us to reconceptualize courses as "texts", where meaning—in the form

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[3] A more detailed description of the TALIDA project was the theme of a presentation at the previous ICED conference in 2018.

of textual, spoken, and visual significations—is co-constructed by instructors and students. Gray proposes that the student should participate actively in the construction of meaning through a process of (re)writing rather than passively "reading" the content proposed by the instructor. The instructor, therefore, should intentionally create opportunities for the student to construct and explore their own interpretations of the content being offered. As Gray (2019) puts it,

> *Meaningful interaction should involve a process of negotiation which leads to unanticipated, collectively achieved ends that depend at least as much on the creative input of the student as on the predetermined learning objectives or outcomes developed by the instructor.* (p. 475)

In applying this framework to evaluate the redesigned courses, we seek to identify the scope and degree of the students' interaction with course content and investigate how their grasp of the subject is affected by the newly introduced pedagogical strategies.

The data will consist of the course content (activities and formative assessment tasks), student-produced documentation (task responses and written reflections), and interviews with students. After identifying the opportunities for student creative input in the course content, we will examine the language used in the products of the corresponding activities (student-produced documentation) to determine the dialogical quality of the learning activities and how they connect to the courses' learning outcomes. We will interview students about their experiences to gain deeper understanding of their learning processes and experiences in transitioning from traditional to novel teaching and learning methods. We will also draw parallels between the interviews and the findings from the documentation analysis to investigate how the interviewees perceive and correlate their learning to the pedagogical strategies.

4 Discussion

Although the advantages of formative assessment have been well examined in higher education (Hattie & Timperley, 2007; Wiliam, 2011; Nicol & Macfarlane-Dick, 2006), the traditional summative exam is still prevalent in Norwegian higher education (Dysthe et al., 2016; Raaheim et al., 2018). This approach deprives learners and instructors of the opportunity to use assessment "as a mechanism to further enhance and consolidate learning" (Hattie & Timperley, 2007, p.104). Indeed, many instructors in the TALIDA project reported that implementing formative assessment in their courses has significantly impacted student learning. Not only did students become more "able to make stronger interdisciplinary connections and demonstrate more sophisticated thinking" (Gray & Nerheim, 2018, p. 16), but instructors were also able to benchmark student progress throughout the course and adjust instruction accordingly.

These preliminary results serve well the purposes of accountability and encourage the development of other similar projects within the University of Bergen—especially as they add to a growing body of research into the benefits of active learning and formative assessment in Norwegian higher education (Jeno et al., 2017; Egelandsdal & Krumsvik, 2017; Ludvigsen et al., 2020). However, there are still many obstacles to be addressed in order to enact sustainable change in assessment culture in Norway. For example, "top-heavy bureaucracy" (Gray & Nerheim, 2018, p. 19), as described by one participant, was a constant challenge in the course redesigns. In some cases, administrative barriers to education development completely prevented the implementation of the redesign. With the second phase of our research, we hope that exploring a new framework for evaluation will lead to fresh insights that can contribute to the development of solutions to lessen these hurdles.

5   Conclusion

The evaluation of future-ready teaching and assessment methods requires equally forward-looking paradigms and methodologies. Accordingly, as part of the TALIDA project we have proposed a framework for the evaluation of such methods that combines the direct input from instructors and students with the analysis of course structure and products of student learning. Our strategy focuses on assessing to what extent course design and implementation provide opportunities for students to actively contribute to the construction of meaning—a key element in better preparing students to tackle the complexity of the 21st-century work environment.

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