



A Formative Perspective on the Role of Digitalization in Teacher Education

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Abstract

*Digitalization has brought significant changes into teacher education. The integration of digital tools and technology seems to be crucial when preparing future educators. This article discusses a study conducted in Norway and Sweden and explores the digitalization of English language teaching in teacher education programmes, with a focus on *bildung*—or “danning”—a Norwegian term for formation. It examines the roles and effectiveness of blended and digital learning approaches and emphasizes the importance of face-to-face interaction in language education. This paper shows how students in blended and online courses perceive and prefer lectures and group work as methods of learning. The study adopts a socio-cultural view of learning where dialogue, resonance, collaboration, and autonomy are emphasized in a formative perspective.*

Keywords: Formation, teacher education, digital learning, student preferences, collaboration, face-to-face interaction

1. Introduction

Several research papers [2],[3],[4],[5] have investigated the impact of digital tools on learning outcomes and student motivation. While acknowledging the usefulness of digital tools in language education, the authors caution against their overreliance, emphasizing the importance of face-to-face interaction. Digital tools, if used excessively, may lead to reduced motivation and hinder learning outcomes over time. This highlights the need for a conscious reflection on the role of digital tools and their integration in language education. Relationships with other people through interaction and social relations are closely linked to *bildung* [6],[7]. A hands-on approach to learning also means that students must interact with their environment to adapt and learn [8].

2. Research Design and Methodology

The study involved 207 students from four different institutions in Norway and Sweden. It focused on digital course design in English, investigating various aspects such as lectures, group work, academic feedback, and the use of digital tools. Data was collected through an anonymous online survey, incorporating both quantitative and qualitative measures. The survey was conducted in three phases with different sample groups between 2020 and 2022. Group 1: 33 students of Science, Technology, Engineering and Mathematics), group 2: 42 in-service teachers in English, group 3: 132 student teachers from two different higher education institutions.

3. Results and Findings

The results presented in this paper focus primarily on questions related to collaboration, social relationships, and interaction from a formative and educational perspective. The study utilized mixed methods, combining quantitative and qualitative data, to provide a comprehensive understanding of the findings. The quantitative data revealed that just over half (51%) of the students preferred digital lectures, while 68% of the in-service teacher group (2) expressed a preference for campus-based settings. The qualitative data, obtained through an open-ended question, highlighted the importance of dialogue and collaboration for the learning community. It was important for students to have the opportunity to comment freely on all topics and questions, and 65% provided comments on the open-ended question (Q10). Where students did not want to choose campus or online as answer options, the alternative was *no preference*, indicating that students did not consider the distinction between physical and digital as significant.

3.1 Lectures

Slightly over half (51%) prefer online lectures. It should also be noted that 68% of the teacher group (2) wanted a campus-based setting, and qualitative data suggests several reasons for this. Fifteen



percent of 135 responses also identified lecturers and their skills as the most important factor. Both group 1 (47%) and group 2 (68%) express a marked preference for campus-based teaching. Group 1 enrolled in a campus-based education, so this seems like a logical preference. The group representing in-service teachers (2) in further education in English, was originally set up as online and on-campus, but became fully digital. It seems clear that this group prefers campus-based learning and teaching, although one-third (33%) desires online lectures. The 132 student teachers (3) from two different higher education institutions had fully digital lectures and only online collaboration. At the start of their studies, these students had clear expectations of studying online due to pandemic restrictions. In this group, 61% prefer online lectures, but 34% prefer campus. Ten percent had no preferences.

3.2 Groupwork

With group work in the classroom, here referring to student-led collaboration, 53% of students prefer a physical classroom. It is worth noting that in Group 2 (in-service teachers), the preference for campus is 78%. Qualitative data from question 10 indicate that Zoom breakout rooms are a significant factor, mentioned by 13%, of which 9% are negative. Lack of student-to-student contact is mentioned by 10%, while emphasizing that group work functions best on campus. Collaboration is cited as a crucial factor, and respondents state that physical meetings are "easier" and the importance of physical meetings "cannot be underestimated." Similarly, 50 % of students who prefer online mention improved collaboration as an important factor in their preference. Group 3 (student teachers), show a slight preference for the campus-based classroom. It is also worth noting that one in four students has no specific preferences. The wording of the question, and the researcher's explanation may have been interpreted in a way that respondents answered based on the educational situation during the pandemic, rather than generally.

3.3 Setting and feedback

Concerning setting and feedback from lecturers 70% of respondents in group 2 stated that they only had online feedback, meaning they did not express a preference but rather a reality. This creates significant bias both in terms of group results and overall results. In total, 42 % of students express that they received more oral feedback online from lecturers, while 31% mention campus. The fact that 27% do not perceive any difference can indicate that feedback from lecturers seems insignificant or inadequate. The qualitative data refers to the lecturer as the most influential factor (15%), and the amount of oral feedback in breakout rooms to a lesser extent (7%). The chat function is also highlighted as a good communication method.

The findings of the study indicate in which setting the students received the most oral feedback from students. The fact that 50% in Group 2 seem to report a reality rather than a preference may confirm the actual course design, which would otherwise have resulted in a larger response in favor of the campus.

In terms of preferred setting and groupwork outside the classroom, responses show that a physical component is even more critical for student collaboration outside the classroom than in it. 80% prefer a physical meeting for successful collaboration. In fact, 95% of students in Group 2 (in-service teachers) share this perception. Group projects also require effective collaboration, and the 10% who highlight the lack of contact suffer in this context.

4 Discussion

4.1 Importance of Physical Component for Collaboration and Dialogue

The results indicate that just over half (51%) of the students preferred digital lectures, while 68% of the in-service teacher group (2) expressed a preference for campus-based settings. This finding highlights the necessity of a physical component, especially when students need to work together collaboratively. However, it is interesting to note that one-third of the total number of students prefer online and asynchronous dialogue with lecturers. These students do not seem to recognize the limitations of online learning in terms of reducing opportunities for dialogue with peers, emphasizing the significance of dialogue for fostering a strong learning community.

4.2 The Significance of Face-to-Face Interaction

The study's findings indicate that a physical component, such as face-to-face interaction, is crucial for successful language education, particularly in collaborative activities. While some students expressed a preference for online and asynchronous dialogue with lecturers, it was evident that online learning reduced the opportunities for dialogue with peers. The authors emphasize the significance of dialogue for the learning community and stress the need to balance digital tools with face-to-face interaction.

The findings of the study align with the sentiment expressed by students and in-service teachers who emphasized the importance of face-to-face interaction and group work. Students value the immediacy of feedback, facial expressions, and the opportunity for real-time dialogue that face-to-face interaction



provides. These elements contribute to a formative perspective in education, where resonance [8], dialogue [1], and active participation play a vital role in students' learning experiences.

4.3 Effective Collaboration in Online Learning

Despite the challenges, the study found that collaboration between lecturers and students worked relatively well in the online environment. By organizing students into digital group rooms and utilizing chat functions, the study replicated some aspects of the physical classroom experience. The use of these digital tools was perceived as a positive contribution to collaboration and interaction.

4.4 Creating an Effective and Thoughtful Approach to Teacher Education

Considering the study's results, the authors advocate for a more conscious reflection on *Bildung* and the role of digital tools in teacher education. They argue that a balanced approach, combining the benefits of digital tools with face-to-face interaction, can create a more effective and thoughtful teacher education program. By organizing students into digital group rooms and utilizing chat functions, online collaboration between lecturers and students can be facilitated effectively. However, the authors emphasize that physical presence and interaction should be encouraged whenever possible to foster dialogue and create meaningful learning experiences. The digitalization of learning in higher education has become more prevalent, especially during and after the pandemic. However, there is a growing consensus that physical teaching and collaboration are missed by many students. Several studies [2][3][4][5] have shown that a combination of physical meetings and online teaching is preferred by the majority of students. Therefore, it is important for the higher education sector to facilitate student collaboration and dialogue in settings where physical presence is possible, especially in teacher-training.

4.5 National Guidelines and School Curricula

The role of national guidelines and school curricula cannot be overlooked when considering the digitalization of teacher education. Ongoing debates about digitalization in higher education further underscore the importance of thoughtful integration of digital tools in teacher training programs. These guidelines and debates serve as valuable references for educators, ensuring that the use of digital tools aligns with educational objectives and student needs.

5 Conclusion

The digitalization of English language teaching in teacher education programs presents both opportunities and challenges. While digital tools are valuable resources, they cannot fully replace face-to-face interaction and the benefits it offers in terms of collaboration, social relationships, and learning outcomes. By consciously reflecting on the concept of *Bildung*, the role of digital tools, and the importance of face-to-face interaction, teacher education programs can develop a more effective and thoughtful approach that prepares educators for the dynamic digital age.

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