

Emergency Distance Learning in Austria during COVID-19: Selected Findings and Implications

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Highlights

- (1) Adequate preparation (e.g., providing technical equipment, didactical adaptation of teaching materials, fostering digital literacy in students, ...) is needed for distance learning to succeed.
- (2) Disadvantaged students need special support to avert a widening of the educational gap between students from different social backgrounds and with different learning abilities.
- (3) Distance and online learning should be designed to address the satisfaction of the basic psychological needs to promote student well-being and positive learning outcomes.

Keywords: COVID-19, distance learning, online learning, basic psychological needs, self-determination theory, digitalization

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1 Introduction

The global pandemic caused by the outbreak of the Coronavirus (COVID-19) in late 2019 forced educational institutions worldwide to implement distance teaching and learning to mitigate the spread of the virus. In Austria, all secondary schools were closed as of March 2020 and only fully reopened again in May 2021 (Bundesministerium für Bildung, Wissenschaft und Forschung (BMBWF), 2021a). Over the entire period, the digitalization of teaching and learning remained a major topic. Studies from before the pandemic suggest that online teaching and learning can be just as effective as face-to-face instruction (e.g., Means et al., 2013), if the technical infrastructure is in place, the appropriate didactic concepts have been developed, and both students and teachers have been prepared for online learning. Early on, however, concerns were raised that this was not the case in emergency distance learning provided during COVID-19 (e.g., Bozkurt, 2020), as planned distance learning is often voluntary and, above all, must be well thought out and carefully planned to be successful. Thus, numerous studies on emergency distance learning under COVID-19 have addressed its impact, pointing to the risks regarding students' learning success and well-being (e.g., Holzer et al., 2021; Huber et al., 2020; Schober et al., 2020a; Steiner et al., 2021), particularly for children from

disadvantaged families. In this paper, we give a brief overview of the development of emergency distance learning in secondary schools in Austria during COVID-19, focusing then on selected research findings and proposing trajectories for further research and policy development.

2 Emergency distance learning in Austria during COVID-19

The National Education Report Austria 2018 (Breit et al., 2019; Oberwimmer et al., 2019) stated that digitalization had not yet sufficiently taken hold in Austria's secondary schools. Early reports of teachers' and students' experiences with emergency distance learning during COVID-19 confirmed these findings and indicated that neither students nor teachers were adequately prepared for the full transition to online learning (Steiner et al., 2021; S-Clever Consortium, 2021). For example, not all students and teachers had access to the necessary technical equipment. This was particularly alarming as it made it difficult for students from disadvantaged families to attend classes, potentially widening the educational gap (Huber et al., 2020; S-Clever Konsortium, 2021). Moreover, Steiner and colleagues (2021) found that teachers often did not know how to didactically adapt the learn-

ing content to the online setting. During the initial lockdown, students complained that they were overwhelmed with using a variety of different communication and learning platforms, did not understand assignments, had difficulty connecting with their teachers, and often did not receive enough feedback (Pelikan et al., 2021). They also struggled with organizing their learning and keeping up their daily routines (Huber et al., 2020; Pelikan et al., 2021).

Some of these problems were addressed during the following lockdowns. The 8-point program for digitalization, which was formulated by the Austrian federal government (BMBWF, 2020) in response to the education report and aimed at preparing educators and students for digitally supported teaching and learning, was now implemented in an accelerated form: Clearer guidelines as to what, how, and where online teaching should be provided were issued by the Federal Ministry for Education, Science and Research (BMBWF, 2021b). New communication routines were established, and synchronous online lessons were offered to a greater extent in addition to the asynchronous lessons that had been prevalent during the first lockdown (Schober et al., 2021b). While this addressed the problems expressed in the past, students then reported that the accompanying increased screen time left them severely fatigued, and, in some cases, even led to physical symptoms such as tension and headaches (Schober et al., 2021b).

3 The importance of basic need satisfaction and self-regulated learning in emergency distance learning

Considering the findings on learning under COVID-19 in Austrian schools presented in the previous section, it is noticeable that several aspects of emergency distance learning were particularly challenging: Students felt overwhelmed and under-supported, had difficulty motivating themselves and organizing their learning, and missed contact with teachers and peers. A psychological theory that can be applied to explain the impact of these different aspects is self-determination theory (SDT). SDT offers a framework for human motivation and has been established in research on well-being and successful learning in various studies in traditional as well as the distance learning context (Deci & Ryan, 2000; Dettweiler et al., 2017; Holzer et al., 2021; Niemiec et al., 2009; Pelikan et al., 2021).

According to SDT, the satisfaction of the needs for autonomy, competence, and social relatedness leads to higher intrinsic motivation and well-being. The need for autonomy refers to experiencing one's own actions as self-determined and internally controlled. Distance learning offers, in general, more autonomy, e.g., in terms of organizing time freely. However, a recent study on learning during COVID-19 by Holzer and colleagues (2021) found that, in a sample of Austrian secondary school students, the effect of perceived autonomy on positive emotion and intrinsic learning motivation was less salient compared to perceived

competence and social relatedness. This implies that, although the need for autonomy should have been promoted by distance learning, the forced character of emergency distance learning may have impaired autonomy satisfaction. Maximizing student choice in assignments (e.g., offering different but similar texts to read) and social forms (e.g., allowing working in groups or individually) may support autonomy and mitigate the negative effects of forced emergency distance learning. The need for perceived competence is supported by setting smaller achievable goals, providing regular feedback, offering tasks with the right level of difficulty, and consciously reflecting on successes. It is fulfilled when one feels self-efficacious and is able to meet the demands of the environment. Pelikan and colleagues (2021) showed that students who felt competent in distance learning, experienced higher intrinsic motivation, and sought help when they needed it. They also incorporated more self-regulated learning (SRL) strategies, such as setting achievable goals and planning their time, which is increasingly important in the less structured environment of emergency distance learning (Klingsieck et al., 2012). Finally, frequent interaction with peers and teachers (e.g., through peer learning and regular feedback sessions) satisfies the basic psychological need for social connection. After multiple lockdowns and more than a year of restricted social contact, increasing rates of depression, anxiety symptoms, and insomnia among students have been observed, which studies have linked to social isolation and loneliness during the pandemic (Pieh et al., 2021). This is not surprising, as previous studies have shown the important functions schools fulfill in addition to knowledge transfer, one of which is providing a social environment (Angelico, 2020; Holzer et al., 2021). This suggests that in emergency distance learning, even with increased synchronous interaction, important social needs of students were not adequately met.

4 Implications

Findings from studies on learning and schooling during COVID-19 bear practical implications for school functioning, providing guidelines for structuring curricula and teaching in a distance learning format during school closures to foster pupils' and students' online learning process:

- (1) For emergency distance learning (as well as digital supported learning in traditional schooling) to be successful, teachers and students must be adequately prepared. It is crucial that teachers have media-didactic knowledge and competencies, including on how to prepare and share content online and how to best support students with motivational and organizational difficulties. As called for by the education report Austria (Breit et al., 2019; Oberwimmer et al., 2019) and other studies (e.g., Seufert et al., 2018), students' digital literacy skills and their motivation to engage in digital learning as well as their self-regulated learning competencies need to be fostered. Moreover, computer-based learning must be

implemented into everyday school life, so that it is no longer perceived as a threat to autonomy in times of crisis.

- (2) To mitigate the increasing educational gap between students from different social backgrounds, the necessary technical infrastructure must be established. In addition, special efforts must be made to assist students at risk, e.g., because of learning deficits, language barriers or lack of support from their family (Steiner et al., 2021).
- (3) Distance learning should be designed to fulfill the basic psychological needs, as they are essential for students' positive school outcomes and well-being. Learning environments should offer an adequate choice between different tasks, activities, and learning materials (autonomy). Particularly if paired with individualized difficulty levels and regular and constructive feedback (Bubb & Jones, 2020), this can lead to deeper understanding and enhanced feelings of accomplishment and enhance perceived competence. Video conferencing and chat rooms for sharing and reflecting in groups can be implemented to foster a sense of collaborative learning, supporting social relatedness.

COVID-19 and the resulting Distance-Learning have challenged all actors in the educational system and continues to be demanding. On the other hand, the situation also promoted positive changes. The pandemic has encouraged many people to rethink schooling and how it can be designed to benefit more students (Bubb & Jones, 2020). The resulting momentum in an otherwise rigid system may be used as an opportunity to lastingly improve education and to rethink the role of education research as a resource for educational policy and practice. Educational policy, educational research and educational practice must work closely together to enable the necessary research and subsequently to respond appropriately to current and future challenges.

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