Learning under Lockdown: The Conditions in Austria in a Global Context

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Keywords: Covid-19, Education, Distance Learning, Strategies, Practices, Impact.

Abstract: This paper assesses the impact of Covid-19 restrictions on learning conditions with focus on the Austrian educational system. It presents an overview of the strategies pursued by the government and other relevant stakeholders and evaluates the effects of the restrictive measures on entrenched educational practices. By gathering data on different target groups and frames of reference, we analyse the experiences instructors and learners have made in times of distance learning, examine the opportunities and threats in conjunction with the abrupt transition from traditional to online instruction and highlight resemblances and differences between the situation in Austria and other countries. The database serves as the basis for establishing perspectives for action and support systems for remote learning.

1 INTRODUCTION

Success of educational organizations in 2020 can be measured by how effectively they adapted to the changes caused by the Covid-19 pandemic. Aligned conditions of social cohabitation urged many organizations to rethink their ways of working and collaborating. Educational organizations were particularly affected by the mandate to move pedagogical work to online systems. Finding ways to keep workgroups connected over distance suddenly became a central question in almost every organization, which required a quick and sustainable answer (Mishra et al., 2020).

All actors were faced with a new set of distractions and experienced an unparalleled fusion of instruction and private life. Not only the learners, but also the instructors, managers and IT employees were required to get used to new environments, adopt new routines and extend their digital skills to transfer and maintain education beyond classroom boundaries. The movement from classroom to distance learning came suddenly and involved a number of challenges and constraints, but also opportunities have been emerging and it is questionable whether online learning is here to stay and how it will persist post-pandemic. This work analyses the governmental course of action in Austria with reference to the situation in other countries and describes the implications on educational practice.

2 METHODOLOGY

A breadth of apposite data has been gathered in a systematic search process revealing learning conditions in phases of lockdown caused by the Covid-19 pandemic. The goal is to provide a classification of existing databases and research. Relevant data points were sought out by conducting

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Wolfschwenger, P., Hinterplattner, S., Demarle-Meusel, H., Albaner, B. and Sabitzer, B.
Learning under Lockdown: The Conditions in Austria in a Global Context.
DOI: 10.5220/0010492506480656
In *Proceedings of the 13th International Conference on Computer Supported Education (CSEDU 2021) - Volume 1*, pages 648-656
ISBN: 978-989-758-502-9

literature research and reviewing a range of recognized sources. The gathering comprises different types of data, including surveys, testimonies and field reports.

The selected sources have been subject to thematic analysis, with the aim of detecting patterns and generating themes in the examined data. Data was analysed in an iterative process of selective reduction to determine the existence and frequency of concepts and to identify potential themes and categories. After familiarizing with the sources, different data sets have been analysed, compared, and aggregated to create manageable and logical chunks of knowledge. Subsequently, a cross-analysis of data was performed to explore relationships between the concepts, draw connections to contiguous approaches and place them into a wider context for discussion.

The goal of this paper is to give an overview of the impact of the Covid-19 restrictions on learning conditions, focusing on the Austrian educational system. In this process, the following aspects are investigated: online learning, learning progression, support and assistance, learning organization, mental health, and social aspects.

3 OVERVIEW OF THE EXAMINED SOURCES

A research team at the Faculty of Psychology at the University of Vienna is conducting a questionnaire-based survey on how pupils and students have coped with the situation and distance learning, what challenges have been associated therewith and what new learning paths may open up as a result of the pandemic (Schober et al., 2021). The study concentrates on the situation in Austria and has already reached 7500 students, 22000 pupils and 1750 teachers.

The School Barometer of the Institute for the Management and Economics of Education (IBB) of the University of Teacher Education Zug (PH Zug) and the World Education Leadership Symposium WELS researches the situation in regular intervals, providing a mood picture and a platform for exchange of experiences and know-how. Its aim is to describe the current school situation in Austria, Germany and Switzerland from the points of view of different target groups, with special focus on family aspects (Fickermann & Edelstein, 2020; Huber et al., 2020).

The United Nations Educational, Scientific and Cultural Organization (UNESCO) takes a global perspective by gathering data from all over the world. The Global Education Coalition launched by UNESCO supports countries in their efforts to alleviate the impacts of school closures and to facilitate the continuity of education through remote learning. UNESCO gathers data related to different topics, from equity and gender to distance learning strategies, connectivity, and reopening of schools, on the one hand and shares practices, ideas, and resources in the form of publications and webinars on the other hand. In the survey “How are you learning during the Covid-19 pandemic?”, UNESCO calls for testimonies from students, teachers, and parents who want to share their stories about how they are coping and continuing to learn (United Nations Educational, Scientific and Cultural Organization, 2021a).

In a survey in cooperation with the United Nations Children's Fund (UNICEF) and the World Bank, UNESCO seeks to gather worldwide information on countries responses to school closures and other challenges stemming from the global health crisis (United Nations Educational, Scientific and Cultural Organization, 2021b). The questionnaire is designed for Ministry of Education officials in charge of school education and does not cover higher education or vocational education and training.

Empirical inquiries in the context of research comes from scientific communities. Cachón-Zagalaz (2020) survey literature from different countries regarding effects of the Covid-19 pandemic on the lives of school children, concentrating on how the measures of the government have affected children between 0 and 12 years and providing a perspective on their future needs. Carrillo and Flores (2020) have provided a review of work on online teaching and learning practices in teacher education.

A strong focus on Covid-19 has also been set by the Joint Research Centre (JRC), which is the European Commission's science and knowledge service. It employs scientists to carry out research in order to provide independent scientific advice and support to EU policy. Free digital access to official information and data from JRC research is provided via the EU Science Hub. Among others, Di Pietra and Biagi (2020) provide reflections based on existing literature and recent international datasets.

School Education Gateway is an Erasmus+ project targeting teachers, school leaders, policy makers, experts and other professionals in the school education field. It is an online platform that provides a single point of entry for its target group and currently offers support on online teaching and professional development by providing webinars, surveys and online courses. A wide-ranging survey conducted between 9 April and 10 May 2020

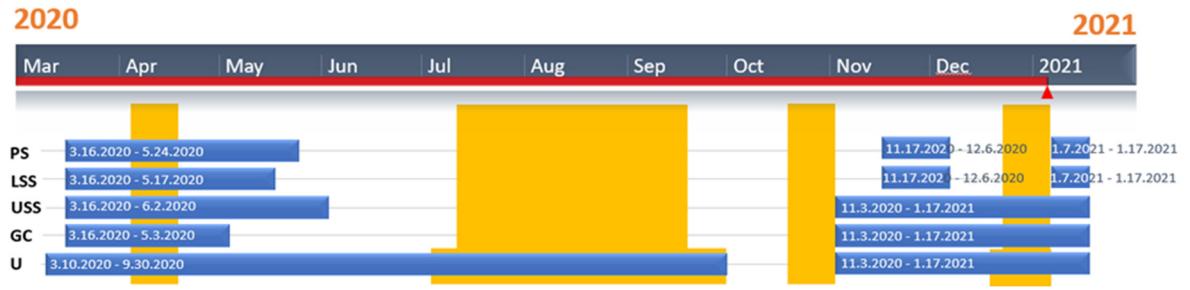

Figure 1: Distance learning phases in Austria (blue) intermitted by holiday breaks (orange): PS... Primary School, LSS... Lower Sec. School, USS... Upper Sec. School without Graduation Classes, GC... Graduation Classes, U... Universities.

attracted roughly 5000 respondents from more than 40 countries (School Education Gateway, 2020).

The Federal Ministry of Education, Science and Research in Austria has set up a crisis management system to provide all stakeholders in its area of responsibility with comprehensive and ongoing official information on current developments regarding Covid-19. It informs educational directorates, schools, enterprises, and other relevant departments on an ongoing basis, gives an overview of the current situation and measures and addresses the general population, especially instructors and learners, directly through information letters published on its website. In addition to the legal provisions (COVID-19-Maßnahmengesetz.; COVID-19-Risikogruppe-Verordnung), the publications of the Ministry of Education provide the basis for the interpretation of the applicable regulations (Bundesministerium für Bildung, Wissenschaft und Forschung, 2020a, 2020b, 2020c, 2021a, 2021c).

4 RESTRICTIONS

Diverse measures have been implemented by educational authorities around the globe to reduce person-to-person transmission and promote physical distancing in educational institutions. There is variation across provinces and territories, also within countries, in terms of how education has been conducted.

On all continents, the responses have been school closures and the introduction of distance learning models. While a combination of in-person attendance and remote learning was the strategy chosen by most countries, some (especially developing countries) have predominantly aimed for full in-person classes depending on classroom infrastructure and number of students (United Nations Educational, Scientific and Cultural Organization, 2021b). Austria's educational institutions went through several stages of distance learning, as illustrated in Figure 1.

The targeting of the measures in Austria indicates that the higher the average age of the group of learners was, the more emphasis was placed on autonomous learning. While instruction in upper secondary and tertiary organizations has more extensively taken place in a hybrid or distance learning format, elementary and lower secondary schools have adhered to in-person attendance to the largest extent possible. Higher priority in terms of classroom instruction was also given to graduating classes (Bundesministerium für Bildung, Wissenschaft und Forschung, 2020c).

When distance learning was introduced for the first time, repeating, practicing and fortifying old teaching material was the focus in Austria. Teachers were advised not to introduce new subject matter. Strengthening students' own initiative and motivation as well as familiarization with the online environment were the major goals (Bundesministerium für Bildung, Wissenschaft und Forschung, 2020b). Pupils should become aware that they are accompanied in their work by teachers and receive regular feedback. Practical lessons could be postponed and held in accumulated form during phases of in-person attendance when it was unmanageable to deliver them in a distance learning format; optional subjects and non-compulsory exercises could take place in distance learning format when being necessary for final exams (Bundesministerium für Bildung, Wissenschaft und Forschung, 2020c). In the global context, the Internet was the most important education delivery system used (United Nations Educational, Scientific and Cultural Organization, 2021b). TV, paper and radio were of lower priority on all continents except Central and Southern Asia and Sub-Saharan Africa where the TV was the most important delivery system (United Nations Educational, Scientific and Cultural Organization, 2021b).

Even in times of lockdown, schools in Austria remained open for day care, but not for teaching or educational support. This offering was made available to all pupils, regardless of the vocational background of their parents or guardians (Bundesministerium für Bildung, Wissenschaft und Forschung, 2020c). The Ministry of Education in Austria (2020a) provided digital devices for schools that could be requested on loan from schools directly. The "#Weiterlernen" initiative was founded bundling numerous offers for students throughout Austria, such as equipment donations, which have been made available to socially disadvantaged students free of charge (Innovationsstiftung für Bildung und Bundesministerium für Bildung, Wissenschaft und Forschung). Measures taken to include vulnerable populations in other countries were special support to learners with disabilities, improvement of access to infrastructure, subsidization of devices and provision of learning materials for minority languages (United Nations Educational, Scientific and Cultural Organization, 2021b).

Individuals with underlying medical conditions, with mental health problems or living in households with members of a Covid-19 risk group were to be exempted from physical attendance upon presentation of medical clearance (Bundesministerium für Bildung, Wissenschaft und Forschung, 2021a; COVID-19-Risikogruppe-Verordnung). Psychologists, social workers, medical staff and pedagogues were allowed to enter the buildings, whereas programs in cooperation with external persons and institutions that require physical presence at campuses as well as practical training of student teachers have been temporarily interrupted (Bundesministerium für Bildung, Wissenschaft und Forschung, 2020c).

In the secondary and tertiary sector in Austria, all persons being present in educational institutions were obliged to wear a protective face mask except those who could not be expected to wear one due to disability or impairment. In elementary and special-needs schools, the obligation applied only outside classrooms, but the school authority has been entitled to tighten this regulation up in districts with a high incidence of infection. If available, rooms outside schools and large rooms such as sports halls could be used for teaching (Bundesministerium für Bildung, Wissenschaft und Forschung, 2020c). Also in most other countries, schools had to comply with health and safety measures, including a requirement that people who are ill stay at home, enhanced hygiene and cleaning conditions, arranging classrooms, testing and tracing, etc. (United Nations Educational, Scientific and Cultural Organization, 2021b).

On all continents, plans to implement catch-up strategies were remedial programmes, acceleration of learning and an increase of class time; in particular, Europe was the only continent where none of the 12 countries that responded to the first survey planned on accelerating learning or increasing class time (United Nations Educational, Scientific and Cultural Organization, 2021b). Endeavours to adjust the scope of curriculum to be covered exist only in approximately one quarter of the countries reviewed (United Nations Educational, Scientific and Cultural Organization, 2021b). A summer school was introduced by the Ministry of Education in Austria (2021c), which is a voluntary two-week program aimed at the elementary and lower secondary sector for the individual and targeted support of pupils in order to counteract impending educational disadvantages due to different framework conditions during the school closures as a result of the pandemic.

5 IMPLICATIONS

5.1 Online Learning

In the first lockdown, the unexpectedness of the measures and abrupt need for adjustment were outstanding. Both instructors and learners were thrown out of their usual structures and had to adapt to online environments (Cachón-Zagalaz et al., 2020). While instructors could not continue their lessons in the usual way, learners were at the mercy of the situation and had to fend for themselves much of the time. To cope with the situation, infants and minors were heavily reliant on support from their parents (United Nations Educational, Scientific and Cultural Organization, 2021a), who themselves had to struggle with multiple issues such as creating a physical learning environment for their children, lending them a hand in working out learning content and adapting to new routines in their job.

In subsequent lockdowns, educational institutions could already draw upon experience from the previous phases of distance learning. The adjustment to the situation became easier. Nevertheless, the often electronically supported learning at home was not equally manageable in all families (Di Pietro et al., 2020). It was easier for those whose parents had a higher educational background and provided modern digital devices and good Internet connections. Pupils who had little or no parental support at home were left even further behind than they already were. Those

who were already unable to organize their learning in the first lockdown and thus had no learning success will probably have difficulties making up for already lost educational ground.

After many students in Austria had claimed the use of too many platforms as a problem during the first lockdown, nearly 80 percent of respondents used no more than two learning platforms during the second hard lockdown (Schober et al., 2021). 44.9 percent used one, 34.9 percent used two, 13.5 percent used three and 6.1 percent used four or more learning platforms. 0.6 percent responded that they did not use any learning platform at all. 47.8 percent reported to use not only learning platforms, but also messaging services and email for communication with their teachers.

Concepts in which learners are more intensively involved in planning and implementation in the context of a diverse and dialog-oriented type of teaching have increased in international popularity during online teaching. Instructors reported that aims of didactics shifted towards engaging learners in social interactions, encouraging innovation and creativity and projecting a positive image of the future, with the overarching goal of counteracting social exclusion (United Nations Educational, Scientific and Cultural Organization, 2021a).

5.2 Learning Progression

About half of the parents state that their children were succeeding in engaging with the new learning methods, working independently on their tasks at home, but that they also needed a lot of support in coping with school tasks in the current situation (Huber et al., 2020). 23 percent of parents were concerned about their children's learning progress, while a slightly larger proportion of parents (42 %) was optimistic; 51 percent of the pupils questioned did not think that they learn more than in regular classes and that more home schooling should be performed in the future, whereas a smaller proportion of students perceived higher learning success in the lockdown situation (Huber et al., 2020). This can probably be traced back to the effects of different learning types, the learning environment and the associated amount of distraction as well as the possibility to align learning with individual needs and choose own learning paces and paths (Huber et al., 2020).

Although online learning has a lot of potential, it would probably be more effective if students had the time to prepare and get used to it and educational organizations had more time to adequately implement it in their organizational structures (Di Pietro et al., 2020). According to the School Education Gateway survey (School Education Gateway, 2020), two thirds of instructors had to teach online for the first time. Further factors presumably affecting learning progress are less time spent in learning, stress, a change in the way students interact, and lack of learning motivation (Di Pietro et al., 2020).

Performance determination has been strongly impaired by the constantly changing regulations and unaccustomed forms of teaching and learning. While the tertiary sector switched to delivering exams in an online format, remote tests have not at all been conducted in the primary or secondary sector in Austria. The prerequisite for holding school tests and other written performance assessments is timely and intensive preparation (Bundesministerium für Bildung, Wissenschaft und Forschung, 2020c). Due to the rapid adjustments of the regulations and requirements for schools to respond, tests could not or could only partly be carried out. In such cases, other forms of performance assessment, such as participation, were required. Cancellation of tests should be avoided in graduating classes whenever possible, but formal structures such as the mid-year school report remained (Bundesministerium für Bildung, Wissenschaft und Forschung, 2020c). In this context, Schober et al. (2021) pointed out that the motivation to study decreased when learners were uncertain at what time and in what form exams will be held.

5.3 Support and Assistance

The majority of learners in Austria consistently felt well informed about the situation. Four fifth gave a favourable opinion, around five percent of pupils voted negative in the second inquiry of the Austrian study (Schober et al., 2021): When being asked what they would need more information about, many referred to details about school openings as well as uncertainties in grading and performance reviews. It was also responded that mainly technical issues had to be solved at the beginning of school closures which has led to a waste of learning time.

Findings of the School Barometer reveal that there is a strong variance in the sufficiency of hardware and software equipment for distance learning (Huber et al., 2020): Around a quarter of the teachers inquired stated that the availability of tablets, laptops or PCs was adequate for learning at home, although there was criticism about shortage of digital terminals and the necessity to use the private computer and broadband connection to continue

teaching at home. Respondents from the group of school principals, school employees, and school administrators expressed an urgent need for comprehensive digitization and provision of technical equipment and Internet connections within schools accordingly (Huber et al., 2020). Around ten percent of parents reported that they do not have enough work equipment available at home, while 21 percent of pupils answered that they had to borrow a device from parents or siblings – inadequate hardware at home was mentioned as the most significant reason for students' absence (Huber et al., 2020).

Learners in Austria have felt well supported by their teachers despite a tiny number of interviewees responding they did not know how to contact teachers with questions (Schober et al., 2021). The School Barometer also confirms that individual learning support in terms of a positive learning climate (concerns are taken seriously, teachers can be asked at any time in case of difficulties) has been well developed (Huber et al., 2020). When asked which support would be helpful, students most often respond that they would like faster feedback on assignments and support in structuring daily learning and in using computers (Schober et al., 2021). Learners suggested that all e-learning should be organized uniformly on the same learning platform as it would help them to maintain a better overview (Schober et al., 2021).

5.4 Learning Organization

Learning at home in isolation with more extensive assignments across different subjects requires learners to have a bigger picture of the work to be done and the learning objectives. Independent and self-reliant learning abilities are essential skills to cope with this situation. Learners in Austria have mostly recognized the high relevance of good learning organization as an important insight from the home learning period (Schober et al., 2021): Pupils say that they have experienced in times of lockdown how important good learning organization is for learning success and that they have made gains in their self-organizing skills. The more frequently pupils report an increase in their self-organization skills, the more successful they also experience themselves in completing their assignments after phases of home learning (Schober et al., 2021). The higher the level of independence, the higher the learning success, learning effort and positive emotions, and the lower the negative emotions (Huber & Helm, 2020).

However, learners in Austria have also responded that independently solving assignments was occasionally difficult for them (Schober et al., 2021). Receiving oral instructions and asking questions in online lessons was more challenging than in classroom settings. Breaking down extensive tasks into manageable pieces and scheduling assignments over available time were novel challenges for pupils. Around one third of the pupils participating in the Austrian studies stated that the organization of learning at home was rarely or not at all discussed in the classroom (Schober et al., 2021). Also, students have mentioned problems in working out content independently, as it was frustrating to hardly be able to discuss concerns and questions with lecturers (Schober et al., 2021).

5.5 Mental Health

The School Barometer sets out that a higher level of positive emotions correlates with significantly higher learning success and moderately higher learning effort, whereas negative emotions are associated with significantly lower learning success, but not with lower learning effort (Huber & Helm, 2020). The quality of teacher-student contact relates to higher positive emotions, and significant correlation between negative emotions and lack of parental support came forth (Huber & Helm, 2020).

An equal number of pupils and parents (37 % each) stated at the beginning of the pandemic that they were looking forward to other ways of learning like distance learning; the proportion is a bit higher (40 %) among representatives of school administration and supervision (Huber et al., 2020). About a quarter of school administrators and assisting employees estimate that the children look forward to different ways of learning or learning method, and. half of the pupils answered three weeks after the first school closure that they began to miss school (Huber et al., 2020). Students in Austria attributed motivation problems to a lack of professional exchange with instructors and fellow students (Schober et al., 2021).

The vast majority of pupils in Austria stated that the time of home learning was generally discussed in school (Schober et al., 2021). Although the majority feels well supported by their instructors, there are a number of risk factors involved in home learning. A few percent of participants reported having serious problems coping with the demands of home learning (Schober et al., 2021). This group is characterized by low well-being and low confidence. They feel socially disconnected and keep little contact with friends. They have difficulty organizing their learning

independently. Therefore, it is particularly important to reflect on how students fared during home learning, coped with work assignments and what insights can be taken away for future learning.

5.6 Social Aspects

How contacts are reduced in phases of attendance has heavily depended on the circumstances of educational organizations. Temporary shift of holiday, lesson and break times, outdoor training, grouping, and avoiding contact between groups have been widespread measures that should contribute to minimizing social contact and the transmission of disease (United Nations Educational, Scientific and Cultural Organization, 2021b). Countries also responded that staggered attendance phases were introduced to counteract crowding on transportation. Sports lessons have been held outdoors whenever possible. Music lessons with instruments have been avoided, especially instrument sharing.

Schober et al. (2021) show that most students experienced positive changes in their well-being, social integration and subjective learning success when returning to school. Seeing classmates and teachers again was long awaited and a great pleasure for the most. The negative sides of returning to school in times of the pandemic comprise the ongoing division of groups and separation from classmates. However, many pupils preferred content delivery through in-attendance methods and were content with fewer persons in the classes. A quieter atmosphere and the possibility of more individualized feedback was widely perceived beneficiary in the reduced classroom setting. Some learners mention increased pressure to perform, since in some cases instructors tried to catch up on as much missed material as possible.

Empowering learners to connect with each other and their instructors through online systems should help to stay connected and positive over distance. This is an important prerequisite for productivity and wellbeing. Educators tell that the physical and emotional connections they have with the learners still cannot be replaced by any distance learning tool (United Nations Educational, Scientific and Cultural Organization, 2021a). They are not feeling equally connected with the learners and less efficient and effective under the adverse circumstances.

6 DISCUSSION

Learning with, through and about digital technologies was in the centre of attention in most organizations worldwide, and the potentials of digital technologies have become tangible for all actors. Collective transition towards distance learning made members of educational institutions reflect upon their habits and customs as related to teaching and learning and let the potentials of collaborative technologies become visible. With data on how the lockdowns have impacted student learning, we get an insight into the experiences under the current conditions that contributes to making informed decisions about the future of education.

The 8-point plan for digital instruction in schools presented on 17 June 2020 by the Ministry of Education represents the next development step for the nationwide implementation of digitally supported instruction and for the widespread implementation of innovative teaching and learning formats in Austria. Based on scientific findings and practical experiences of learning in times of Covid-19, eight priority fields of action were derived in preparation for the upcoming school year 2020/21 and onwards (Bundesministerium für Bildung, Wissenschaft und Forschung, 2021b). Teacher training will increase its focus on digitally supported teaching and learning. Schools will standardize their processes, reduce the number of learning management and communication systems used locally, and thus create clear structures for digitally supported teaching and learning. The most important pedagogical and administrative applications will be bundled and made accessible via single sign-on, which should also support communication between schools and parents. The range of educational media will be expanded to offer teachers and learners a better service. To ensure equal opportunities and up-to-date teaching and learning, all students at lower secondary level need to be given access to digital devices. Cooperation between schools, teacher training colleges, education departments as well as the Ministry of Education in implementing the eight priority measures will play a key role in achieving those goals.

Sustaining good teaching despite the pandemic has been and continues to be a major achievement. Turning experience into lasting development will not happen automatically. Innovation requires awareness, smart processes and the involvement of every stakeholder. It will be important to hold on to the positive developments triggered by the pandemic while getting rid of restrictions and barriers so as to allow organizations to exploit the opportunities of digitization.

7 CONCLUSION

The restrictions that influenced the learning and teaching process were similar all over the world. In-person attendance at schools and universities was reduced as much as possible and replaced by distance learning. In Austria, the number of days in distance learning depended on the educational level of the students and varied from 11 to 24 weeks in 2020. 2021 started with distance learning for all educational levels and the date for a physical return to school is still in discussion.

In the first phase of online learning, infants and minors needed a lot of support from their parents with structuring the online learning, but also with the use of digital devices and online learning platforms. The learning progress was described very differently by students. Some students perceived higher learning success in the distance learning phase whereas around half of the students did not think that they learned more than in the regular classroom with in-person attendance. Support and assistance were described as sufficient by the Austrian learners, particularly when talking about the teachers. However, some problems occurred due to the lack of information, due to technical issues and due to the lack of work equipment like digital devices. Most of the learners in Austria have noticed that the importance of learning organization has grown during the distance learning phases. Self-organization skills were essential for pupils to successfully complete their assignments.

Challenges were seen in online lessons, because for example asking questions was not as easy as in regular classrooms with in-person attendance, or when independently solving assignments where discussions were missing. The restrictions brought a lot of changes for social aspects and students experienced positive changes when in-person attendance in regular classrooms was re-established. The students experienced also benefits due to the quieter atmosphere or more individual feedback during distance learning phases. Empowering learners to stay connected was seen as a main concern for teachers.

In conclusion, the evidence from this paper shows that the Covid-19 restrictions affected all learners and instructors and made it necessary to rethink and revise teaching and learning concepts. The results from the different studies in sum show both benefits and drawbacks due to the restrictions.

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