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Contents

Schooling and Education in Times of the COVID-19 Pandemic: Food for Thought and Reflection Derived From Results of the School Barometer in Germany, Austria and Switzerland

Stephan Gerhard Huber

Abstract: The crisis caused by the COVID-19 virus has far-reaching effects in nearly all social areas, including education. Indeed, schools were closed in March 2020 in nearly all countries in the world. In Germany, Austria and Switzerland, they were closed in mid-March. We initiated the school barometer at this time and started to collect data one week later. We published the first findings at the end of March with regular updates on a weekly basis. An open access book publication was available on the 24th of April, and the first peer-reviewed open access articles at the beginning of and mid-June. For this paper we are reporting general observations from the school barometer online survey responses collected in Austria Germany and Switzerland with around 24,000 students, parents, school staff, school leaders, school authority and system support personnel. Findings reported here include the following. The COVID-19 crisis poses a great challenge for all actors in the education and school context. There is a high level of appreciation and recognition by parents regarding schools as an institution and the work of teachers. The field of digitalisation is experiencing an enormous upswing. Learning with and through technology, as well as about technology, is in high demand. Requirements for distance learning and digitalisation are an opportunity for differentiation in teaching and learning. Blended learning concepts offer advantages for all actors in dealing with the pandemic in the longer term (and beyond). Overall, it can be assumed that children could drift further apart in their development. In other words, differences in quality will not only become more apparent, but they will increase over time, at all levels/among all actors: among students, the teachers or in the classroom and in schools as a whole. We argue that learning is more than simply acquiring information and learning lessons. It is also about motivational and, above all, emotional aspects. Looking ahead, we promote a specific strategy in advancing the school system, that is, the ISO strategy: innovate, sustain, optimise.

Introduction

The crisis caused by the COVID-19 virus has far-reaching effects in nearly all social areas, including education. Indeed, schools were closed in March 2020 in nearly all countries in the world. In Germany, Austria and Switzerland, they were closed in mid-March. Due to the type of federal governance of education in Germany and Switzerland, different states or regions have proceeded quite differently (e.g. regarding holiday regulations, different ways of tutoring/caring, the presence of staff at schools and instructional arrangements). However, there are also common measures in all three countries. For example, in the first phase of the school lockdown, educators were allowed only to repeat content that had already been taught. Teaching of new content was not intended. During the course of the school lockdown, however, this has changed and new curriculum content has been delivered.

In the context of this new and challenging situation of digital learning caused by the COVID-19 school lockdown, information must be provided instantly to inform education policy and practice. Some countries have had natural catastrophes (e.g. earthquakes or floods) that caused regional school lookdowns, but these did not necessarily lead to digital learning for an uncertain number of weeks. As many countries have not yet experienced a pandemic that caused a social crisis and a subsequent school lockdown, there is limited knowledge about how to deal with the current situation and the challenges that arise from digital learning in this context.

Different actors at various levels of the education system have different responsibilities. Research could and should contribute to the current debate about schooling by providing relevant information from its knowledge base and generating new knowledge where needed and when possible. Some of this information is needed quickly. There are different questions and problems at the policy and practice levels about digital learning settings, crisis management and health procedures, to name but a few issues. Various needs are linked to pre-existing knowledge that is derived from and applied to different contexts or situations. However, of course, existing knowledge needs to be translated to the current context and the actual situation, as contextual and situational features vary between countries, regions, schools and classes. Furthermore, as this is a new situation, additional and differentiated information about the current situation is needed.

The aim of the School Barometer is to nationally and internationally monitor the current school situation in Germany, Austria and Switzerland by collecting the perspectives of various actors (i.e. parents, students, school staff, school leadership, school authority, school support system). In doing so, it aims to contribute to an evidence-based or data-informed discussion within and between persons (e.g. teachers, parents, politicians), institutions (e.g. schools, school authorities) and disciplines (e.g. education, policy).

For this paper we are reporting general observations from online survey responses collected in Austria, Germany and Switzerland between March 24 and April 5, from students (2,222), parents (2,152), school staff (1,949), school leaders (655), school authority (58) and system support personnel (80). The survey included closed and open response questions, with the questions varying depending on the actors surveyed.

To read about the aims, the theoretical framework, the research and monitoring questions, the design and some findings from the first wave of survey, see Huber et al. (2020) published on the 24th of April, and two peer reviewed articles published in June (Huber & Helm 2020a, 2020b); all three are open access publications, and, furthermore, see: www.School Barometer.net. Thanks to a great team, we collaboratively worked in an intensive and timely manner.

In the following sections I want to elaborate on central findings, analyses, conclusions and reflections based on the work of the School Barometer.

The COVID-19 Crisis Poses a Great Challenge for All Actors in the Education and School Context

The findings of the School Barometer show that the situation of school closures in the education and school context leads to major challenges at all levels of actors, i.e. among students, parents and staff. Quantitative and qualitative results on the strenuous experience show that there is a high level of stress. We assume that not all teachers or even entire schools are equally impacted and challenged by it. Regardless of individual personal and institutional coping strategies, the initial qualities (competencies and experiences in school development and in dealing with challenges) seem to play a major role. Of course, the general conditions and specific requirements also differ, for example the apparent differences among students and their families.

We recommend that specific support should be given to staff members who are currently under particular pressure as well as to schools that are facing particular demands and greater challenges. As part of responsible leadership, each management level is required to not only act within its own sphere of influence, but also to communicate to higher levels to indicate the respective pressure to act and the need for support.

There is a High Level of Appreciation and Recognition by Parents Regarding Schools as an Institution and the Work of Teachers

The qualitative and quantitative findings show a high level of acceptance for the respective measures that were initially taken. Especially the qualitative statements of the parents show that the demands on the teaching profession in the current situation are perceived more strongly. Teachers experience higher appreciation and recognition. Particularly in this time of crisis, when parents are extremely concerned with the school issues and the learning support of their children and are getting a closer look at the vast amount of tasks teachers

usually handle, they are becoming increasingly aware of the commitment of the teachers, even if it is retrospectively. Parents express their respect, show great gratitude and are of the opinion that the teachers are 'worth their weight in gold'. Some of them are actually enthusiastic about how uncomplicated and flexibly some schools are implementing the transition to distance learning.

It is highly recommended that the more intensive collaboration and mutual understanding that has grown during the crisis at many schools should be continued and developed further. Discussions, exchange and cooperative structures are suitable for initiating and implementing joint development processes for the benefit of children and adolescents in joint coordination between teachers and parents. With regard to learning itself, closer and substantial collaboration is also perfectly suited to involve students who have been left behind or lazing around in the learning processes. It provides a good way to motivate them, be it through fixed student groups, learning tandems or family groups, which not only focus on the cognitive aspects in the sense of individual teaching-learning support, but also address the motivational and emotional needs (for more detail, see Huber & Helm 2020b).

The Field of Digitalisation Is Experiencing an Enormous Upswing. Learning With and Through Technology, As Well As About Technology, Is in High Demand

The answers to the open questions often include statements about the great opportunity to rethink the school system, especially in terms of digitalisation. It is suggested that the current situation should be used for school development, focusing on digitalisation, collaboration and individualisation. This trend does not only affect schools. All actors, especially policymakers in charge of resource allocation, should be involved in this task for society as a whole. The key is to provide sufficient human and material resources to provide relief, especially for schools or teachers who are particularly challenged. It is the responsibility of school authorities and/or municipalities to provide resources without unnecessary red tape for the technical equipment of students, the technology equipment at the schools, for the implementation of hygiene regulations and for other aspects affecting schools, teachers and students (knowledge, time, technology). This would also significantly relieve the burden on school leadership.

Based on their own statements and student feedback, some teachers, especially those with higher affinity and prior knowledge of digital forms of teaching and learning, are relatively well equipped. They are seizing the opportunity to design digital lessons in a way that was not possible before. Other teachers are forced to deal with it for the first time and experience great challenges, for example in regards to suitable technologies and their application in teaching configurations.

About the technical equipment of students: Families appear to be well equipped for digital distance learning. Only 15 per cent report that they are not adequately equipped. In some

cases, students from these households can probably not be reached with digital teaching-learning forms because their domestic situation never, or hardly ever, allows them to meet the current school requirements. For example, this may be due to limited or no access to technical equipment (technical devices such as laptop or PC and up-to-date software), which is necessary for e-learning concepts, or the spatial conditions do not facilitate undisturbed work.

However, the sample may also be a false-positive. There is probably a number of unreported cases. Insufficient capacity is reported significantly more frequently in schools (around 45%).

About teacher professionalism: Just under half of the school's staff consider themselves motivated to use digital forms of teaching-learning. From the students' perspective, this is not the case to the same extent. Significantly fewer staff (25%) rate themselves to be competent for digital teaching.

A 'digitalisation offensive' is recommended. The need for digitalisation allows schools to actively use the current situation for school development, personnel development, organisational development and teaching development in the student councils and class teams within individual schools. Time is needed to work out concepts and to coordinate and validate implementation, including evaluation. Since the current situation is seen as an opportunity by school administrators and teachers, these competences could now be broadened to highly cohesive long-term strategies with opportunities for differentiation. Teaching in the context of digital transformation facilitates learning about technology such as improved (more individualised and collaborative) learning. However, it is primarily about pedagogical and didactic premises and questions and not because of technology for technology's sake. A self-serving approach is not appropriate. This situation should not turn into a hardware and software battle. It needs to focus on concepts that support educational processes and promote learning.

Requirements for Distance Learning and Digitalisation Are an Opportunity for Differentiation in Teaching and Learning

Digital teaching has proven to be very heterogeneous – at least at the beginning of the school closures. According to the findings of the School Barometer survey, its quality can be assessed as follows:

- Potentials of real learning time and mental activation could be proportionately increased even more.
- A rather low amount of work is reported for students, at least for one third of the students, and more drastically for 18 per cent.
- More precisely, 31 per cent of students work 25 hours or more on school-related matters, 69 per cent work less. One third of the students work 15 hours or less per week, which corresponds to an average daily workload of approximately two hours in a five-day week. To put it differently: One third of students work 25 hours or more, one third work

about 20 hours on average (between 15h and 25h), and one third only work 15 hours or less. This last group is a major cause for concern, especially the 18 per cent of students who spend nine hours or less on learning and doing school work.

- There is hardly any institutionalised live communication between teachers or students and between students amongst each other – at least, this was the case at the beginning of distance learning.
- Individualisation and differentiation is hardly being promoted.
- About one fifth of the students state that the communication with the teacher does not work well.

On the other hand, the survey shows that communication between teachers and students is highly appreciated in cases where it works well.

The teaching-learning forms made possible by digitalisation do more than just open different tasks and learning paths for students. The recommendation says that digital teaching-learning forms also facilitate more conscious differentiation. It is also highlighted by the qualitative data of the School Barometer survey: 'It depends entirely on the specific situation and the developmental age' (parents, ID 56, v_213); 'The younger the children, the lower the technical effort should be' (employees, ID 451, v_213). This could mean that students who work highly independently and enjoy learning receive less small-step exercises and guidance, allowing them to work on more complex tasks relatively independently and creatively instead, for example with 'learning journals, work on case studies' (employee, ID 470, v_213) or 'virtual projecting' (parents, ID 32, v_213). Teachers can focus more strongly on those students who have a higher need for support (e.g. closer supervision, less complex tasks) without completely neglecting the students who learn more independently.

However, all students need clear learning goals, a transparent structure, regular feedback on learning outcomes and learning success – all of these are the very basic factors that make for good (digital) teaching. Therefore, differentiation also means focusing on specific groups of students. Differentiation with technology opens up new possibilities and necessities to focus on these individual groups, which in turn could have a positive effect on providing equal opportunities. Consequently, positive discriminatory measures with a compensatory effect are needed.

Blended Learning Concepts Offer Advantages for All Actors in Dealing With the Pandemic in the Longer Term (and Beyond)

In addition to the compensation measures described above, part of the consideration after schools are reopened should also focus on the extent to which blended learning concepts can be effective within and outside the classroom. In turn, it will make it possible to integrate formal, non-formal and informal offerings to an even greater extent. For example, a person from the support system expressed the following: 'I would recommend that schools use the crisis to propagate school development issues, in particular digitalisation, collaboration

within the staff (opening the classroom) and individualisation' (support system, 40). It allows school and learning concepts to catch up to the social developments of digitalisation. The overall competence development of students, who thus learn through and with technology, but also about technology, opens up opportunities to connect with other areas of society, especially in the transition from school to work.

Overall, it can be assumed that children could drift further apart in their development. In other words, differences in quality will not only become more apparent, but they will increase over time, at all levels/among all actors: among students, the teachers or in the classroom and in schools as a whole.

This tendency to drift apart means: Good students become better; good teachers are creative and committed; good teaching can be adapted to the new modalities or lessons can even use the new modalities to do so; good schools can deal more readily with the crisis and its effects. As a result, the gap between more and less effective students could widen.

As the evaluations of the School Barometer survey show, large differences can be observed in all areas. There are strong disparities among students, parents, as well as within staff and between schools.

Two groups of students are emerging, which clearly differ in their attitude towards distance learning:

1. Students who have a positive attitude about homeschooling and the opportunities it offers (opportunities for self-determined, autonomous, creative learning, taking into account the individual learning pace, learning rhythm and individual learning methods/habits); and

2. Students who are critical about the homeschooling situation and consider it a heavy burden (and need more support from teachers).

The reasons are certainly a mix of different characteristics, as already mentioned above.

There are also large differences in the time weighting of different activities among students. For example, there are students who spend a lot of time playing computer games, others who spend more time helping around the home than others, and still others who spend more active time with the family. There are also differences in the amount of time devoted to school activities. Overall, the time spent at school averages around 15-17 hours per week and is thus significantly lower than regular school attendance time. In the qualitative statements, we assume that this school time is learning time of varying intensity and that students with more prior knowledge, more motivation to learn, more self-organisation and consequently more competently structured working methods use this time more efficiently.

According to one person from the group of teachers and school staff, the focus on students who were already disadvantaged before the crisis should not be lost. It should be '[n]oted that the temporal, linguistic, intellectual and technical conditions in the parental homes vary quite a bit! The more homeschooling we expect from the parental homes, the bigger the gap

will be in the end' (employer, ID 769, v_108). '(Educational) losers' in the current situation are probably students from socio-economically (highly) disadvantaged parental homes. Schools with a high proportion of disadvantaged students face particularly great challenges.

These differences in perception and handling of the situation are also reflected in the parents, who describe their children's workload and tasks very differently. About one third of the parents are concerned about their children's learning progress.

Ultimately, the teachers also deal with this situation differently. There are differences within the same school as well as between schools and school types. Some schools are already trying to act more jointly and coherently to help the students (and parents). Some have succeeded to adapt from the very beginning. For others this is a great challenge now and will be in the future.

We assume that in crisis situations, different school qualities have a clearer impact and that differences are even greater, e.g. with regard to good teaching or the design of teaching-learning concepts, collaboration within the subject departments and year/level teams as well as the whole staff, and regarding the qualities of school leadership.

Due to the radical, sudden nature of the changes caused by COVID-19, existing differences within and between schools are even more apparent. This is particularly evident when it comes to motivations and competencies in the area of digitalisation, where the gap is very wide. In the findings of the School Barometer survey, it is reflected on the three levels:

1. Students
2. Teachers
3. School as a whole

The system level could also potentially be supplemented if the findings accounted for differentiation between the federal states, cantons or provinces.

It is recommended to focus on professionalism and coherence, which are required (and challenged) in terms of information flow, maintaining contact in the sense of relationship building and teaching-learning concepts, including the use of technology. Competences for crisis management, coordination of action and digital teaching-learning forms (general didactics and media didactics) are in particularly high demand.

Among other things, potential compensation efforts with regard to the disparities between students should include early reintegration of individual disadvantaged groups of students who may have been left behind or who are less experienced in distance learning into school and face-to-face teaching. Therefore, when schools are gradually opened up, particular attention should be paid to the following three groups of students:

1. The primary and lower secondary school levels, which could also be considered in terms of development of socio-emotional skills and exchange of information and for which digital forms of teaching-learning are more limited;

2. Students at the end of their school careers, who have to complete qualification works or take final exams for transition to vocational training or university studies, where school is required in its function of qualification (also applies to vocational schools); and

3. Students with higher childcare needs, which includes school students ...
   – who show very little activity in homeschooling or with whom contact has been lost,
   – who have a higher support requirement,
   – from families with limited economic resources, who do not have the appropriate technical equipment or spatial conditions,
   – from socio-economically difficult family circumstances, whose socially emotional and cognitive development is at risk if they remain exclusively in the family for too long.

These key findings and recommendations based on the collected data are followed by further considerations, which are included in sequential numbering.

Learning Is More Than Simply Acquiring Information and Learning Lessons. It Is Also About Motivational and, Above All, Emotional Aspects

Learning is much more than just learning the current lesson. Even if they have made little progress in terms of their curricular learning material during the school closure period, we can assume that students were able to learn a great deal during the crisis: Education means personality development. In that sense, it is not only about learning material, but also about motivational and, above all, emotional aspects. Therefore, in the school reopening phase, the students should not only be assessed academically in their cognitive development, but also in their motivational and emotional states.

Thus, in the school reopening phase, the focus would be particularly on relationship work and on collecting and processing the students' experiences. It could be followed by an analysis of the learning status as well as its progress during the weeks of home learning. Ultimately, individualised learning-support concepts should be developed, planned and implemented. They should take the different learning paths into account and consider at which points students need certain forms of support (learning support, exchange, etc.).

All in all, it seems important that teachers understand and take into account the individual and family prerequisites and conditions of their students even more so than in 'normal' teaching and school environment. This 'new getting to know' could go hand in hand with establishing a relationship between teachers and students, which quite deliberately includes motivational and above all emotional aspects.

Advancing the School System With ISO Strategy: Innovate, Sustain, Optimise

Especially for school leadership and staff, organisation and coordination of these diverse demands will be a complex task in the coming months. To a great extent, this includes linking the issues of digital transformation and inclusion/diversity management. It is essential for schools to coordinate joint internal and external agreements to develop and implement carefully considered structures and processes that are oriented towards pedagogical goals. The focus hereby must be on the learning experience for each individual and the community. Minimum standards for digital teaching-learning processes must also be considered, which should be considered the minimum threshold upon implementation whereas regular standards go further and should be followed in most teaching-learning concepts.

Practices in the classroom, on school level and even on system level vary and that's why the strategy that could and should be applied on all these levels should take this into account. Depending on the development stage of the school, the school development efforts must thus be weighed differently based on the available resources (cf. Huber 2019, 2020). A school that is already successfully integrating digitalisation will focus its efforts on sustainability and thus on preserving, and will carry out smaller innovations. A school that is still in its infancy in that regard will have to focus on innovation. Different weighting will thus lead to different strategies (cf. Fig. 1).

Figure 1: ISO Strategy

ISO-Strategy: contextual integration, balance and sequential logic

Huber (2019)

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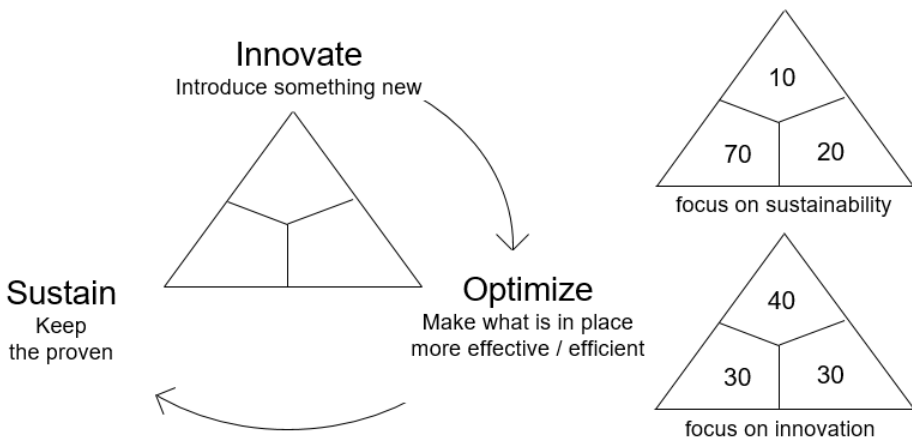
The focus of this quality management strategy must always be on maximum benefit: What are the benefits of our actions and these measures for the promotion and support of children and adolescents? The ideas for such measures are certainly manifold at each individual school. They are always faced with different contextual conditions and associated feasibility questions. With that in mind, school administrators and organisers must weigh out the different courses of action and develop solutions in their respective areas of responsibility. In doing so, they must preserve tried and tested concepts, optimise existing practices and develop new ideas. This can only be accomplished with a strategy tailored to each respective school to avoid unrelated, disjointed measures without mutual correlation. It must also be well balanced, so that ultimately feasibility and acceptance of the measures are guaranteed.

Overall, the transfer of experiences, concepts and models into school knowledge management is considered extremely important: It would be advisable for schools to go beyond an exchange of school experiences and to document its achievements and future goals in its own knowledge management. In addition to the exchange of experiences and learnings, the schools should also discuss the achievements or goals that could have been achieved as well as creative ideas that perhaps could not be implemented ad hoc and implement them in their knowledge management. Based on this newly acquired knowledge about collaborative arrangements, transformed into a shared understanding, the experiences could be used for a common benefit and elaborated. Many schools experienced a huge push, which could be processed this way and further pursued and used to improve education (especially with regard to media skills).

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