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Covid and its consequences for schools: A push for digitization

Continuing Education during the Pandemic: Results from the Project Continuity and Change in Schools in Times of Crisis*

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Schools have caught up massively regarding digitization in the course of the Covid-19 pandemic and the associated school closures. School equipment, teacher and school management skills, and the skills of students have improved. Among other things, this is thanks to the sharp increase in teachers' participation in continuing education courses. However, participation in continuing education courses on other topics, such as supporting low-performing students, dealing with students with special educational needs, and dealing with linguistic diversity in learning groups, has declined significantly.

Many empirical studies were and are being conducted in Germany as a result of the Covid-19 pandemic to gain insights into how schools cope with the many challenges - distance learning, alternate teaching, hygiene rules or rapid tests. The IPN is currently conducting two longitudinal projects on this topic. Both aim to track processes of change in schools in the course of the pandemic. The study "Distance Learning in Schleswig-Holstein" focuses on schools in Schleswig-Holstein. The project "Continuity and Change in Schools in Times of Crisis" (KWIK) is conducted in cooperation with the University of Hamburg and the IEA and broadens the view to the federal territory by involving almost 800 schools from seven federal states. So far, two survey waves have been conducted in KWIK in the early fall of 2020 and summer of 2021. In the first, only school administrators participated, in the second, school administrators and teachers. Findings from the first survey have already been published. They show that schools have caught up massively in terms of hardware equipment in the course of the Covid-19 pandemic and the associated school closures. However, not only did the schools' equipment improve, but so did the skills of teachers, school administrators, and students. The role played by teachers' continuing education behavior is the subject of the second KWIK survey. For this purpose, survey data is available for N = 1,026 teachers (77% female) from elementary schools, grammar schools, and non-grammar schools in lower and upper secondary education. On average, the teachers were 44 years old at the time of the survey (SD = 10) and had been working for 15 years (SD = 10). Questionnaire data were also available from a further 260 school principals at the second survey date.

How often did teachers attend continuing education before and during the pandemic?

Teachers were first asked how many continuing education courses they attended in the year before the pandemic (March 2019 to February 2020) and in the first year of the pandemic (March 2020 to February 2021). Response alternatives were "none," "one," "two," "three," "four," "five," "six," and "seven or more." First, there was a significant positive correlation between the

two statements ($r = .535$, $p < .001$), i.e., the higher the pre-pandemic continuing education frequency of teachers, the higher the continuing education frequency during the pandemic as well.

While only about 18 percent of teachers reported attending no continuing education in the year before the pandemic, about 26 percent did so in the first year of the pandemic. In the combined category of "more than three," things reverse; frequent attendance at continuing education in the first year of the pandemic was reported by nearly 28 percent, compared to just over 20 percent in the year before. When the mean is calculated across the eight response categories, it is 3.23 ($SD = 1.89$) in the year before the pandemic and 3.41 ($SD = 2.33$) in the first year of the pandemic. Although this difference is statistically significant ($t_{954} = 2.57$, $p < .05$), the effect size ($d = 0.08$) is so small that the differences are negligible.

What were the formats of the attended continuing education courses?

As expected, there was a dramatic shift in the format of continuing education courses. For example, 81.5 percent of respondents who had attended at least one continuing education course said that they had attended exclusively face-to-face courses before the pandemic, while 19.5 percent said that they had attended only virtual or partly virtual continuing education courses. In the first year of the pandemic, this reverses - largely due to contact restrictions. Only 7 percent still attended face-to-face courses, while 93 percent attended virtual or partly virtual courses. The change is highly statistically significant (Wilcoxon test, $p < .001$). It is certainly worthwhile in the future to collect data on how formats will develop post-pandemic. Digitization has opened up significant opportunities for virtual participation in professional development. Teachers now no longer have to travel long distances to attend in-service training. In this respect, it is desirable that virtual opportunities continue in the future, especially for those topics that are easily communicable in digital format.

What content did the attended courses cover?

A total of 55 percent of the teachers surveyed said they had taken part in courses on integrating digital media into teaching and learning processes during the Covid-19 period. Before the pandemic, this figure was only 23 percent. Further courses on application programs or the use of digital media to support individualized and cooperative learning were also attended much more frequently. This is a welcome development that will certainly benefit digitization in schools. At the same time, however, it can be seen that participation in continuing education courses on "support measures for low-performing students," "dealing with students with special educational needs," and "dealing with linguistic diversity in learning groups" has declined during the pandemic. These areas, though, were already quite unpopular before the pandemic. Now, however, participation in them has once again shrunk significantly compared to pre-Covid-19 times.

School administrators were also asked which continuing education courses they had offered their teachers. A distinction was made as to whether the courses were offered to all teachers or only to some teachers. Sixty-one percent of the school administrators indicated that all teachers at their school had received training on the use of computers for communication purposes during

the pandemic. Almost as many courses on the use of computers in the classroom were attended, as were courses on teaching IT skills and on dialogic formats for teaching and distance learning. However, the school administrators also report significantly lower participation in continuing education courses on support measures for low-achieving students or on caring for students with psychological challenges.

Conclusion

Without question, the fact that teachers' interest in improving their qualifications for dealing with digitization has received a powerful boost is a great success. At the same time, it is worrying that a decline is reported in other subject areas that should be given special attention, especially in the context of the pandemic. According to previous findings, those children and teens who are already underperforming or disadvantaged for other reasons, such as health, suffer greatly as a result of the pandemic. Equally well known is that these students in particular need more support than their families can provide. The trend that participation in continuing education is declining in these areas is therefore unfavorable.

The Project

KWIK - Continuity and Change in Schools in Times of Crisis is a joint project of the IPN - Leibniz Institute for Science and Mathematics Education, the University of Hamburg and the IEA - International Association for the Evaluation of Educational Achievement. With this study, schools are accompanied and supported in the change process caused by the pandemic in the long term.

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