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REVIEW OF THE 10 MOST CHALLENGING ASPECTS OF MAKING HYBRID EDUCATION EFFICIENT AND ENJOYABLE FOR LEARNERS

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Background

Our goal was to describe the 10 most challenging aspects that need to be considered when making hybrid education efficient and enjoyable for children. In this context, by hybrid education we refer to both emergency online education that took place in the COVID-19 outbreak in spring 2020 and to various forms of providing education combining online and onsite environments during the pandemic years.

For the purpose of this analysis, the partners participating in the Free-ED project first mapped the challenges based on the personal experiences of their team members. Next, each partner arranged a local brainstorming meeting that involved ten or more in-service teachers from lower secondary education and described their local contexts. Next, we used an inductive approach with a thematic analysis of the collected data. The analysis process consisted of the following five steps: (a) identifying blocks of meaning within the empirical material; (b) generating initial codes; (c) identifying, reviewing and refining themes; (d) refining common themes (Braun, Clarke, 2006); and (e) narrative coding of common themes. These steps were needed to construct a collective story (Leoste et al., 2021 referred Saldana, 2009; Frank, 2010). The purpose of the collective story is to present the research data in a way that engages readers on emotional and intellectual levels (Saltmarshe, 2018). The researchers used quotes from the empirical material as illustrations and bases for the storyline. The story is presented as a series of contemplations, each trying to explain one of the challenging aspects of making hybrid education efficient.

The story is based on the feedback on different hybrid education aspects from the following partner organisations:

- Tallinn University, Estonia
- Spektrum Educational Center, Romania
- “Apáczai Csere János” Teacher Training Centre, Romania
- University of Jyväskylä, Finland
- Johannes Kepler University Linz, Austria

mania, as it was reported in the local brainstorming meeting with teachers, several interactive smart boards have been purchased under various governmental programs but at some schools, hardly any teachers use them. Many teachers cannot find (paid) time to train and adapt their methods to these new technologies. In fact, until recently, teachers were not constrained to take part in in-service training programs. Those who attended several in-service trainings were entitled to gradations of merit. However, if they did not, there were no negative consequences at all. In another example also reported from Romania, the government tried to implement a national program with the goal of providing children from disadvantaged families with tablets. However, this program did not prove effective due to the children and their teachers not having previous experience of using these devices, some living areas having a weak or non-existent mobile internet connection, and the low capability of the shared devices (tablets in a price range of about 150 euro).

A factor that further amplifies the already existing challenges is the ineffective approach towards implementing educational innovations. For example, even in well-equipped countries, such as Estonia, technology-rich innovations are introduced without systematic preparation, i.e., without proper consideration of all factors that influence the chances of the innovation becoming sustainable (see also Leoste, 2021). Besides having insufficient long-term funding (including funding for extra time spent by teachers when adapting the innovation to their specific classroom conditions), teachers are not provided with proper training. This training would help teachers acquire the specific technical skills and knowledge needed to manage the relevant technology, as well as provide them with the proper pedagogical methodology to reach their teaching and learning goals with the help of the innovations. These problems in innovation implementation lead to situations where schools have no influence on teacher training and all decisions about training needs are made by teachers themselves.

In countries such as Finland, teachers also have strong autonomy over their ways of teaching. This made it possible that not all teachers had chosen to develop their digital competences and use ICT in their teaching. Differences in digital competences become more visible than ever due to sudden need for emergency online teaching in spring 2020 and caused additional workload both for teachers with less experience with technology and for personnel or colleagues providing the needed support.

In conclusion, the various realisations of hybrid learning during the COVID-19 era was mostly a result of direct and sudden needs and not of a well-prepared process. Despite schools having or not having enough equipment, there were deficiencies in preparing teachers and students, accompanied by a lack of systematic vision that would consider the various (educational, psychological, social, technological, etc.) needs, skills and competences of students and teachers. Too often, schools were not ready for digital teaching and learning and they did not have suitable digital tools or staff prepared for using it.

Challenge 2: Changes in teachers' roles

During hybrid teaching and learning, both the roles of teachers as well as parents will change. The teacher is no longer physically present in some pupils' learning, making it more challenging for them to provide guidance, and parents have more responsibility for their children's learning when they are at home instead of being monitored at school by teachers.

There were several scenarios for teachers to apply during the COVID-19 era hybrid learning. In the first weeks and months of the pandemic, there was an intense need for rapid change. Depending on the circumstances, there were various outcomes. In some cas-

es, the intense need for changes was replaced by confusion because teachers were not able to predict in what context they needed to teach their students; in the classroom or via hybrid teaching and learning tools. Many teachers solved this situation by continuing to teach as if the students were in the classroom. Thus, the need to build up the learning context in a different way was not realised as it takes time to change ways of teaching. The resulting lack of skills for meaningful hybrid teaching also held teachers back in giving more autonomy to learners as they were unsure whether this would lead to a positive or negative outcome. For instance, in Finland, teachers' and parents' roles during emergency online education were publicly discussed. While parents were not expected to take the role of teachers, many parents expressed feeling the pressure of teaching their children while at the same time, working from home. Uncertainty with the role divisions between teachers and parents seemed to cause lots of confusion and stress, also in an otherwise burdening situation.

In another scenario, teachers were forced to learn to use certain digital tools and applications. However, this was often done with the explicit wish "to have something at hand to be able to teach lessons in distance education", and it was rarely accompanied by a re-interpretation of the learning context and teachers' roles. Teachers felt comfortable in their previous roles and were afraid of changing and losing control.

Moreover, in those communities where social norms are predominantly authoritarian, most parents expect teachers to enforce strict rules and control. On the one hand, the curricular reforms introduced competence-based education several years ago in most of the European countries and there have been remarkable changes in everyday-life technology use in the field of IT and mobile communication. On the other hand, several educational systems have remained highly teacher-centred, the dominant instructional method is frontal teaching, and a teacher's primary role is still as "a source of information".

Challenge 3: Selecting appropriate teaching and learning tasks and methods

Due to the novel nature of hybrid teaching and learning for everyone, teachers were not prepared for situations like this especially as teacher training programs do not contain topics about hybrid learning. On a real-life level, some of the learning tasks like memorising or independent work became practically impossible as students were able to copy from their peers. This challenge was a cause of great frustration for many teachers, some even went as far as calling their students "thieves" due to them being "unable to stop cooperating or sharing answers with each other when they were assigned individual tasks during online learning" (quote from a Romanian teacher). To cope with this particular situation, teachers had to create and use tasks that were "impossible to copy". However, not every teacher managed to do that.

In a wider picture, there were also other challenges. Formative assessment, for example, was almost absent. In some cases, project-based learning and teaching were misinterpreted and simplified to individually realised, homemade projects. Regarding digital learning and teaching, the teaching staffs' lack of previous training had an extremely limited impact on digital classroom practices. For example, the teachers had to find different ways of teaching than they did in face-to-face teaching which took extra time. Additionally, not all teachers were well acquainted with the use of technology in classrooms and thus, struggled to find appropriate tasks for digital learning. Teachers had, for instance, to find the adequate technological tools to create small groups of learners that could work collaboratively online from their homes.

Despite, that teachers in general faced with tremendous didactical challenges, they needed to experiment with new forms of teaching and tried to create a novel teaching materials. A few teachers from Finland reported that the emergency online teaching situation boosted their pedagogical creativity and some of them told that they are still implementing in their everyday work materials and smart devices which they learnt to use during the lockdown.

Teachers also highlighted the problems students had with time management and using special skills such as self-directedness and self-discipline – these problems were especially present with younger students but also with older ones. The individual differences in self-regulation skills need to be considered differently with hybrid learning compared to in-person classroom learning as there is a strong fear of students dropping out due to online learning.

Challenge 4: Shifting mindsets to embrace challenges and ensure wellbeing

Teachers were themselves overwhelmed with the new situation, being stressed for multiple reasons (parents “attending” their lessons during online education, impossibility to “keep the rhythm” of teaching and learning, difficulties in contacting students). Especially in the first months, a lot of complaints could be heard due to the stress teachers had when figuring out how to provide the information/knowledge required by the curriculum. The situation was made worse by the fact that teachers had to spend a lot of time and energy acquiring new skills, knowledge and methods. This meant that they had less time and energy to guide and support the students and help them figure out better learning strategies in this new context. In addition, as most teachers themselves did not have experiences of learning via hybrid learning tools, they did not have personal experience and a thorough understanding of the challenges their students faced. It is difficult for teachers to realise how much resources this type of learning takes from students, therefore causing teachers to overload students with tasks.

The situation was made better or worse if teachers had specific attitudes towards using technology in their teaching practices. For example, some educators oppose the use of technology and are resistant to change. If teachers did not want to use technology earlier, many of them also had this reluctance during the COVID-19 era, causing them to struggle with the compulsory use as they did not have alternatives.

However, there were several good examples of teachers who enthusiastically embraced the need to shift their mindsets towards growth to embrace challenges. For example, during April 2020 and March 2021, there was a highly increasing demand for teacher training programs on digital learning in Romania. These short-term training programs targeted mostly the methods and techniques of using digital technologies in teaching, learning and evaluation processes. However, while these were positive initiatives, they had some worrying side effects as the teaching strategies applied during these training courses lacked coherency and efficiency from a pedagogical point of view. Some teachers perceived these challenges as the cause of students frequently being overloaded with homework and tasks, synchronous online classes being conducted as online frontal teaching classes, or asynchronous activities being experienced as compulsory homework without a formative effect.

In the periods of emergency online teaching, clear directions were missing too regarding taking care of students’ and teachers’ well-being. As the lockdown situations resulted in additional stress, some teachers found ways to provide private discussion times for students who could openly share their feelings. Teachers from Finland said they were encouraging their students to take short

breaks outdoors and do small exercises between the online classes to breathe fresh air and refresh their bodies and brains. Meanwhile, teachers' well-being was not less problematic. Their workload increased a lot, and many of the teachers had their children at home struggling with online education and that increased their parental duties at the same time.

Challenge 5: Risk-taking in innovative practices to build new experiences

Given that schools as well as support systems of education, state, municipality, and parents were not ready for the COVID-19 induced changes, there was a lot of confusion and expectations that teachers should have been ready to operate steadily and have answers for issues that arose. Teachers were under strong pressure and in this situation, many of them were not willing to take risks regarding their choices to change their teaching and learning contexts; many remained conservative, keeping teaching practices as they were. This can be seen as an understandable strategy to cope with the sudden change and manage the overload. In Finland, for instance, the general message to teachers was that in an emergency situation in spring 2020, they should make sure that the minimum requirements are fulfilled based on their existing skills and possibilities. This was a short-time coping strategy in front of a sudden change.

However, some teachers took an initiative and came up with innovative practices as they were not able to use their old lesson plans meaningfully. Many of these teachers only wanted to comply with the few rules of online teaching and learning and tried to adjust their existing teaching practices to the new context. By doing this, in some countries (for example in Romania with its highly hierarchical school system), they risked conflicting with school management or inspectorates. In principle, rigid and authoritarian educational systems do not support innovation and risk-taking, resulting in a low number of good examples being brought to the attention of the teaching community. There are, of course, also other reasons for the weak desire for innovation and building experience on novel approaches in education. For example, the lack of competitiveness between teachers, with low differentiation in the levels of teachers' salaries, inhibits teachers' creativeness. A highly active teacher with an innovative, creative and open-minded, growth-oriented mindset, and maybe ten years of teaching experience, would get exactly the same salary (or other benefits), as one who only teaches their classes in an accustomed or outdated way. In this sense, motivation for innovation is extremely limited.

Challenge 6: Assessment in a blended context

The traditional evaluation methods did not work as it was not possible to assess the learning process (both students' work during lessons or learning outcomes) for various reasons. For example, many students did not have a good enough internet connection, assessment tools were inefficient, etc. There were also other challenges such as difficulties in eliminating student cheating, teachers' inability to present students with meaningful questions and tasks, or employing teaching methods suitable for hybrid learning. Unexpectedly, a gap between generations can manifest, causing teachers to stigmatise their students and perceiving them to be morally and intellectually less capable due to students not subjecting themselves to the rules set by teachers. In this sense, this question may point out the expiration of currently used teaching and learning theories that value the knowledge that students have. Instead, more modern theories, such as connectivism, promoted by Siemens and Downes (Duke, Harper, Johnston, 2013) may be more appropriate for hybrid learning as opposed to having knowledge that focuses on a student's ability to quickly find and use knowledge.

Challenge 7: Individual support for learners

Digital technology and the great variety of methods, apps and programs recently developed could make differentiation easier and more efficient especially when applied in a hybrid/blended context. Although there are a lot more methods/solutions aimed at making differentiation and individual support more effective, there are only a few teachers who use technology for this purpose. This situation, combined with decreased contact with students, leads to the problem of teachers not being able to recognise that some students might need more support. In other cases, as reported from Finland, teachers were aware of the support that individual learners needed but felt limited in their possibilities in providing the support. The situation can be alleviated by well-designed and intuitive feedback systems that do not require extensive skills from its users and is managed in a way that saves teachers' time. In Finland such systems are in general use and proved to be useful in the emergency online learning situations as well. However, in several other countries, even with cases where a feedback system was already in place, it was not always used by teachers to provide their students with individual feedback. In Romania the reason for this phenomenon could lie in the extremely heavy and tight curricula that leave teachers little time to assess or support their students individually.

In addition, especially in the later stages of the COVID-19 hybrid learning, more attention was paid to the students' lack of social contact. Namely, online education may lead to the isolation of children when they are not able to meet their peers in person at school. It is also possible that in the long run, students' social skills will suffer under distance or hybrid learning conditions.

Challenge 8: Enhancing collaboration among learners for social and learning purposes.

After a few weeks of online teaching, the possible negative effects on learners' physical and mental health were increasingly discussed. Online education can make it more difficult for children to maintain a healthy lifestyle and daily rhythm. For instance, it has been more difficult to take care of physical exercise or divide time between work and leisure. When working face-to-face, it is important to take care of issues such as safe distance/extending working space/separating different working areas, wearing masks, washing and disinfecting hands and surfaces, etc. It has been important to have healthcare professionals in collaboration with schools. There are also health issues related to eye ergonomics due to extended screen time.

Another difficult social aspect for students was that they missed their friends and classmates. In Finland, teachers reported that there was a need to find ways to foster social relations and communality during periods of emergency remote education. It requires special planning and preparation from teachers to build up learning tasks where students could collaborate and communicate with each other. This problem was especially difficult for younger students who do not have their own social media channels to communicate with each other. Even older learners who communicate a lot for fun were lacking the social and cooperative aspect of learning. However, some teachers managed to assign project work to smaller groups of students – this approach was appreciated by the children. However, it was also observed that students who previously collaborated a lot also did so in social distancing conditions, whereas students who did not have much connection to their peers earlier struggled more, sometimes leading to their desire to work independently.

We think that social problems can be somewhat alleviated when addressing a common reserved teachers' mentality (with some positive exceptions) towards the use of digital tools and devices for social purposes. Generally, most teachers (as well as parents) are still not aware of pedagogically purposeful uses of the social media tools popular with students. Although these tools – in several cases - provided unique solutions for social and learning purposes in the quarantine period, their usefulness still presents serious doubts for the majority of adults.

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Challenge 9: Sharing practices with colleagues

Traditionally there is little professional communication between teachers and it tends to be quite formalised (for example, one meeting per semester for science teachers). During the COVID-19 era, informal sharing of digital tools related to good practices has considerably increased leading to the emergence of spontaneous informal learning communities. These communities could be used later on, for example, to build strong mutual support networks. As traditional curricula are highly mono-disciplinary in nature, it is unusual for teachers to co-operate, collaborate, co-work or co-teach especially if they belong to different disciplines. For example, science teaching can be structured to that of physics, chemistry and biology. However, although the movement to reinterpret the roles of teachers and support personnel in schools is a growing one, sharing practices between colleagues still have a very limited scope. One of the main reasons that limits the collaboration between peers is the constant lack of time and other resources due to the enormous workload teachers have.

Challenge 10: Communicating with parents and the wider community

The situation was new and stressful for all in society, and for some parents, it was unusual to take responsibility to support their offspring's learning. On the one hand, there was a high expectation from society for teachers to solve all learning-related issues, creating tension and stress for teachers. On the other hand, parents who stayed or worked from home during the COVID-19 distance education era were tempted (sometimes even forced) to take on a bigger role in the education of their children. This caused confusion and tension as both teachers and parents had too little time to have constructive communication around this issue. Another specific challenge identified was related to privacy and safety issues

It is somewhat problematic that students cannot be required to have their video cameras on when learning at home. While this situation can be frustrating to teachers, there are other aspects to consider. One of these aspects is the privacy of students as well as their family members. Students may fear displaying their home environment as it may reveal details that are considered deeply private. In addition, instead of learning, some students focused on watching the rooms of their classmates. The other side of the coin is about the difficulties in interaction and communication that a lack of visual connection creates. In addition, with learning fully online, it may become increasingly difficult to properly identify or report cases like bullying.

For example, in Romania, in order to address these issues, there is growing pressure from teachers' unions on the government to write laws that mandate students to have their cameras on during synchronous classes. Teachers' unions in Romania consider it necessary to use laws to introduce the concept of a virtual learning environment, having established its special rules of conduct for teachers and learners. In Finland, obligatory use of cameras has not been considered as an option. Teachers have, however, strongly recommended it as a way to promote communality and presence. On the other hand, attention has been put to recommendations related to background images in order to protect home privacy in online sessions.

Conclusions

The COVID-19 era enforced education systems to implement technologies and related methods that, on the one hand, had been considered promising, while, on the other hand, had seen relatively little use in real classroom situations. During a relatively short time, many teachers acquired skills and knowledge that were necessary to use existing distance and hybrid learning tools. However, as these tools were, in principle, tested for the first time in such a great volume, the COVID-19 era hybrid learning helped to reveal deficiencies that characterise existing technological tools and relevant methods and approaches. By examining these challenges and learning from the experience of teachers, it is possible to improve both the technological tools and related methods. In addition, it is possible to create better understandings about the conditions where these hybrid-learning approaches should be used or where they rather be should be avoided.

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