Involving preschool teachers in the design of technology: challenges and issues

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Involving teachers is necessary to design technology for the use in the classroom; however, both in the collaborative design and testing phases, there are significant challenges and issues that emerge. These have been made more significant by the Covid-19 pandemic and the impact that it had on the school environment. In this position paper, I will explain and detail the challenges that we have encountered, as well as discuss possible solutions.

Additional Key Words and Phrases: teachers, preschool, collaborative design

1 INTRODUCTION

In the last months, we have closely worked with preschool teachers in Ticino, both as experts and proxies for child users, and as design partners in our collaborative design approaches. There is evidence that the involvement of kindergarten teachers in the design of technology for early literacy can have a positive effect on learning outcomes [1]; primary school teachers have also been involved in the co-design of technology for learning, resulting in them taking ownership and agency not only in the design, but also in the dissemination of the innovation [2].

However, during our work we also encountered significant challenges, that we will detail in the following sections.

2 DEALING WITH THE SCHOOL CURRICULUM

Obtaining permission to perform studies and activities during school time in a public school is almost impossible, as public schools have to closely follow the curriculum set by the cantonal authority. Because of this, we decided to work with a private school that also offers after school activities. While private schools too are bound to follow the official school curriculum, they have more freedom to pursue different activities during non school hours (for example, in the afternoon).

This choice came with an unexpected positive side: as Lugano is right on the border between Italy and Switzerland, and since private schools have more leeway in hiring teachers, the private school with which we worked had a mix of Italian and Swiss teachers, giving us a significant diversity in their viewpoints, as Italian and Swiss pedagogic approach and teaching methods are quite different.

However, there was also a drawback: as private schools are very expensive, with few to none income-based scholarships, the socio-economic characteristics of students and parents tends to be very uniform and consistent.

3 NOT ENOUGH HOURS IN THE DAY

Teachers are very busy, especially in a private school, and it is not always easy for them to find time to work with us. Because of this, we had to be very creative, for example offering to meet them at lunchtime or proposing written interviews instead of online interviews on Skype.

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Unfortunately, this means that the time necessary for any kind of study also expands significantly. Besides, due to the current restrictions which allow us limited time in the classroom, we need to rely more and more on teachers to pass on their observations, as we are unable to observe children ourselves. This is also a significant burden on their time. While this problem will most likely resolve itself as the pandemic comes to an end and we are able to enter the school and observe teachers directly, being involved in a collaborative design project will continue to consume a significant amount of time and energy of our teachers.

However, this also means that the teachers that are more likely to work with us are the ones with a personal interest in the topic, which in turns implies that they are more likely to be proactive and engaged.

4 SKEPTICISM OF TECHNOLOGY

The use of technology is still not widely implemented in the official curriculum for preschool, and many teachers and parents are skeptical of its benefits. The teachers with whom we are working use very little technology in their classroom, and regard it as something "special", that should only be reserved for special occasions.

Because of this, when they do use technology there is a noticeable novelty effect: e. g. teachers report that children are very excited and distracted by the interactive whiteboard or the projector.

From questionnaires we collected in a previous study, we could see that parents too are skeptical of technology: this is an important aspect for us to consider, because we need their written consent to allow their children to participate in our studies.

5 HOW DO WE BENEFIT OUR USERS?

Teachers and children employ their time for the benefit of our research. However, they should also benefit from our interaction. In order to maximise their benefit, we are making sure to support activities that they would anyway conduct in the class, e.g. reading aloud, for which we provide them with new material in digital and paper form. We also help teachers get familiar with technology that they already have available - such as interactive whiteboards - but that they rarely use as they never got trained for that, and that they feel is too complicated and cumbersome to use.

Therefore, our main challenge consists in finding a way to make the collaborative design process engaging and fruitful not only for us, but also for our busy fellow co-designers.

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