Goals of the ViduKids project

Early childhood mathematics is in the international spotlight. The recent release of the PISA study has forced many countries to reconsider their curricula and pedagogical approaches as results have either stagnated or declined. This leads to an international systematisation in education, a global standards movement with a shift in policy focus from educational inputs to learning outcomes. An increase in educational measurement may result in the 'schoolification' of early childhood education and moves away from play-based pedagogies. Early childhood professionals meet this tendency with scepticism. They prefer a play-based approach rooted in children's everyday life experiences.

ViduKids contributes to this discussion with innovative pedagogical methods taken from the ideas within the rich technology ecosystem that surrounds video production. Video is a very motivating tool and brings in many different facets compared to conventional means. The moving images can help illustrate mathematical concepts like space, numbers and shapes and can easily connect them with the real world. However, video production by kindergarten children is a very new approach in the field of early childhood mathematics.

The core idea of ViduKids is that children themselves become an active part of the video production process. In this process, using creative thinking, mathematical content will be reworked and visualised. In this approach:

- Children will playfully discover mathematical concepts like space, numbers and shapes
- Children will document their ideas and discoveries themselves on video
- Other children will be engaged as viewers of the videos
- Children will be given ample opportunities for self-reflection
- Early childhood educators will support the children appropriately; in particular, provide ideas, and examples and technical support
- The ideas will be developed further with early childhood educators from other EU countries

Early childhood educators will be the interface for reaching the learners and the project will take great care to address and include them appropriately.

Getting into ViduKids

ViduKids helps children visualise and reflect on abstract mathematical concepts to support learning and understanding. ViduKids provides task sheets, video examples and video tutorials to give a clear picture of how you can use the project in kindergartens and preschools.

It is crucial to start with elementary exercises, especially when there is little experience with video education. These can include simple photos or video clips connected with mathematics content. Basic practices can be implemented in a single activity or be a part of a larger project. You can see our matrix document for examples.

The key idea is to use video as a help for supporting mathematics understanding – the quality of the video is not essential. The children do not need to produce professional-looking videos, as it is the process that matters. You can use available technology that records video, such as smartphones or tablets, camcorders or a digital camera with a video function. There is no need to buy technology primarily for the project.

Figure 1: Link to the ViduKids matrix

Assessment, privacy and copyright

ViduKids is based on children's teamwork. Media work is teamwork and collaborating leads to meaningful discussions about the approach to the mathematics content and a reflection on the moving images created.

The assessment of video mathematics projects will need to look into these project processes. It is not enough to appraise the final video outcome. Children need to present a plan, sketch or storyboard of what they plan to do before they start recording and they will need to talk about the challenges they have faced during the whole project.

Before any video project starts, educators have to get written permission for children to be seen and/or heard in a video. If this is an issue, there are ways around it, e.g. concentrating on just showing the hands or only objects and not including any sound. You will find many examples of such an approach in the ViduKids pilot videos.

And finally: Copyright needs to be observed. Commercial images, video clips or music, copied or downloaded, cannot be included in the children's work.