



## **Empowering the Learner Through Digital Animated Storytelling-Developing Innovative Learning Designs for the Multimodal Classroom**

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### **Introduction**

The advent of new media offer potentials for multimodal learning [1] to the learners. This also calls for new learning designs that fully make use of digital media and explore how they can be used to create a motivating and meaningful learning environment that addresses the learner's individual needs and different preferences for expression.

With the old norms for authority based on teacher centric classrooms changing, there is a need to develop ways that can engage, motivate and empower the learners to take part in learning activities that are inherently meaningful to each student. Storytelling and narrative is fundamental to the process of meaning making according to the seminal works of cultural psychologist Jerome Bruner [2].

.As the Canadian educational theorist Kieran Egan [3] suggests, there is an important relationship between storytelling and imagination because it is "central to the general ability to make meaning out of experience."

One way to design for narrative multimodal learning is to introduce the learners to the tools to make digital animated stories as a way to work with literacies in the classroom. In this way it may offer the learners a platform for meaningful involvement in the school, where they are intrinsically motivated to perform task that they feel are relevant in the context of the narrative universes they are creating, fostering self-efficacy and a sense of empowerment, which may be important to further learning experiences.

### **Background**

Previous European projects have explored the general use of Animation in the classroom (Teaching with Animation) [4] and the use of animation in the teaching of science in primary school (Animated Science) [5]. The Animated Learning project transfers innovative results from these previous animation pedagogies to reading education and pedagogies in order to expand the view on literacy and give all students a fair chance for learning in a motivating and engaging way using new media. The project explores the potential of animation pedagogies on developing the literacy of children, and has a focus on children whose needs are not met by the mainstream literacy education, or have special needs. The final goal of the project is to produce an innovative didactic ict-based teaching tool to work with children's literacy through animation.

The inclusive classroom accommodates learners with a wide spectrum of abilities and challenges and learners may be challenged by having to make sense in a society that more and more is moving towards visual representations in the media, with more and more information and experiences happening in a multimodal environment, including film, video, animations graphic representations, etc.

### **Animated learning – exploring multimodal literacy**

The LLLP project Animated Learning has had test runs of a framework for learners expressing themselves through digital animation in the different partner schools across Denmark, Estonia and the UK, representing learners with different abilities, challenges and potentials.

One of the test schools is Maglegårdsskolen, a school in the Municipality of Gentofte close to Copenhagen, an area that has had school development as an area of high priority. The school is open to pedagogical innovation and was looking for new ways to include learners with special needs in the classroom. The aim of the study was to explore how animation can be used as a multimodal tool for teaching literacy in a classroom that includes children with dyslexia, aspergers syndrome and general learning challenges.

### **Methodology**

Digital Animation was introduced into the grade 6 classroom in a two-day workshop with guest teachers who were professional animators from the Animation Workshop and some of the regular teachers of literacy, English and music.

After the introductory workshop it was later introduced by one of the teachers to a year 4 class, and a remedial class in English year 6.

The research drew on actions research methods, designing the interventions in collaboration with the teachers, who chose the classes to take part in the invention, and how animation could be used in a remedial English class for special needs learners.

The researcher observed the workshop that introduced the use of animation at the school, and did interviews with the teachers before, during and after the intervention. Qualitative interviews were done with the teachers before, during and after the classes, as well as focus-group interviews with the learners.

Two different types of software and cameras were introduced: Stop Motion Pro and the HUE animation package. This was done in order to get feed-back on the preferences and pedagogical usability of the different types of software. Stop Motion Pro is a professional program for doing digital animations, while the HUE software was especially developed for schools and had only the most basic features.

The students were observed during the workshop and interviews were done with groups of students. The teachers had observed that the challenged students, together with the other students, were very engaged in the production of animation, and care was taken that all learners mastered the technique. After this introductory period the HUE cameras and software were left in the classroom so that the learners could use them on their own as a means of expression if they wanted to. The special needs learners had preferred to work with the simple HUE software. One of the challenged students helped introduce the technique to students in grade 4, who made animations to music, as part of their music lessons. This implementation worked very well according to the teacher, and for students that are challenged in the schools ordinary focus on written literacy it can be a great stimulation for their self-esteem to excel in another media and multi-literacy.



Fig.1. Bottom left to right: Learners making a story-board, doing cut-outs, recording the animated film using the flexible camera designed by the Animation Workshop, recording the film and editing it.

The experimental intervention of leaving the animation set-up with cameras and software was observed by the teachers, who introduced the option to the pupils of using it on their own in the classes. This option however was not taken advantage of, probably due to structure of the lessons and the fact that the challenged learners needed support from the teacher to see where it could be used in the classes – a two-day workshop had been too brief a span to effectively make them master it to the level where they could use it on their own in relation to the subjects. The teacher of the remedial English class reintroduced in the year 6 class where a group of special needs learners were working with it during a four-week period making a story about a Zoo, developing a story-board and vocabulary in English, and using it as a frame for English conversation, where all the interaction with the characters was conducted in English. Follow-up interviews were conducted with teachers and students after this period, which were recorded. The teacher commented on how working with animation provided a framework for creativity and collaboration that was much more engaging to the learners than just rote learning of vocabulary, and that he saw great potentials for further work using animation. The students were concerned with the amount of time spent on technical challenges such as saving it on the computers and the production of the figures, but when showing their work they seemed very engaged and proud of it. One of these learners compared the process of learning to do the animation with going for a bicycle trip; the first time you take the trip it seems to last forever, but when you have done the journey a few times it seems much shorter.

They also indicated that they could see it implemented in subjects such as history and religion.

Previous research has shown that learners with problems in narrative expression can be scaffolded using narrative artefacts [6] and that animation can play an important part in supporting special needs learners develop narrative competences.



Some of the qualities of the digital animated story-based learning environment include:

- Narrative as a scaffold for knowledge – the story-line and story-board scaffolds the knowledge at different levels.
- Narrative as a medium for knowledge – through the story contextually anchored knowledge is mediated. [7]
- Narrative as a creative avenue for construction and expression of experience-based knowledge – through the process of producing an animated story.
- Narrative learning approach based on the construction of meaning and production of knowledge rather than rote-learning and the reproduction of information.

### **Conclusion**

The case study indicates that using animated digital storytelling is providing the learners with cognitive tools for meaning-making, using a multimodal approach and engaging the learners in developing multimodal media literacy as part of using this approach.

The case study indicates that it is important with a dedicated area to do animation work in and to provide storage for the work in progress, as well as having established procedures for saving and backing up the work. It also calls for further exploration of using animation in other subjects and with different target groups. Using animation in the inclusive classroom, calls for support and scaffolding from the teacher.

It offers learners with special needs an alternative platform for expression, where the use of media and multiple modalities compliments the verbal written modality that is dominant in the schools of today. The learning platform using animated digital storytelling affords the use of different materials, and techniques to engage the learners. Using a story-based learning approach in combination with constructing and recording animated artefacts, that are moving and movable brings in another embodied dimension of self-expression.

However for better integration of this approach in the classroom there is a need for having the multimodal literacy more appreciated in the classroom, and a greater emphasis on it in the curriculum that matches its use in the cultural media landscape of the 21st century.

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