Motivating the interest in Danish literature with Mobile Persuasive Learning

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This paper analyses and discusses the potential of Mobile Persuasive Learning (MPL) in relation to learning scenarios that involve complex and interdisciplinary learning material. A specific example of MPL is presented, which has been developed with the intent to motivate the interest of the life and works of Danish author and playwright Kaj Munk. A Persuasive Learning Design (PLD) is tried in a specific learning scenario that aims to introduce the history of Kaj Munk to students in lower secondary education in Vester Hassing in Northern Jutland. The methodological background for the chosen scenario is described and evaluation activities are presented and discussed and it is argued that while the topic is possibly too complex for the particular age group of students chosen, evaluation feedback and researcher observations point towards a significant potential in further developing MPL-designs in a school context.

Keywords: Mobile Persuasion, Collaborative Learning, Kaj Munk, e-PLOT, Mobile Persuasive Learning

Introduction

This paper presents and discusses a test project concerning MPL in a small Danish village, where a group of students were involved in a number of learning activities regarding the historically significant Danish vicar Kaj Munk.

Kaj Munk served as vicar in Vedersø in Western Jutland, and was assassinated by Gestapo in January 1944 after having aired his resistance against the German occupants through his sermons and his literary works. As a result, Kaj Munk has become an important figure not only in Danish literature, but also in Danish history, and the mediation of his life and works receives attention both in learning and in mediation of cultural heritage. One of the interesting aspects of the works of Kaj Munk is the fact that many of his dramas and other texts are closely related to specific places – mainly in Denmark and very often in the area around Vedersø in western Jutland where he lived and served as vicar. The close connection between many of Kaj Munk’s texts and specific locations in different parts of Denmark, constitutes the primary reason why MPL may show particular potential in this work case (Gram-Hansen & Gram-Hansen, 2013) (Gram-Hansen, 2013b).

The Kaj Munk example springs from research conducted within the EU funded e-PLOT project. E-PLOT aims to explore the theoretical and practical overlap between persuasive design and learning technologies, through further development of two existing technologies;
PLOT Learner and PLOTMaker. It has been argued that mobile devices hold potential which may ease the task of incorporating the surroundings in a design (Fogg & Eckles, 2007) (Bødker, 2012), and as a result PLOTmaker now provides teachers with the ability to create not only traditional but also mobile learning objects which can be executed through smartphones and tablet computers. In order to test both types of learning objects, the Persuasive Learning Design (PLD) presented in this paper, includes both traditional and mobile learning objects all of which are linked to an overall intended outcome.

The trial took place at the local school in a small village in Northern Jutland called Vester Hassing. The link between location and learning material in this case exemplified by a historical anecdote describing how Kaj Munk once agreed to give a sermon in Vester Hassing church, but only after having received written notice from the village snow bailiff, letting him know that the local pastor was in fact a very funny man - a notice which Kaj Munk found funny enough itself to make him agree to visit the village. The anecdote itself is not of major significance to Kaj Munk’s works in general, but it does provide an example of the mentality of Kaj Munk which might facilitate the student’s understanding of him as a historical figure. Furthermore, the fact that the home village of the students was somehow related to Kaj Munk was also expected to motivate the students’ interest in the topic - especially as Vester Hassing is a small village with little significance in the overall history of Denmark. The persuasive learning design in Vester Hassing was divided into three phases, followed by an evaluation session involving all participating teachers, observers and the entire group of students. The inclusion of both traditional and mobile learning objects, sought to constitute a multimodal learning experience with a strong emphasis on collaborative learning.

From Geocaching to Mobile Persuasive Learning

A 2006 pilot study from Thorning elementary school, Denmark, used mobile technology to enable teaching outside the classroom (Thomsen, 2008). Using the location-based GPS-hunt Geocaching, teachers motivated students to learn different subjects in appropriate surroundings leveraging the students’ fascination with technology to spark their interest. Generally, the students were successfully motivated to engage in learning via location-based mobile technology, and even in situations when the educational benefit was minimal, the students were still motivated by the idea of doing classes outside the classroom. However, the teachers learned that they needed to carefully prepare material for this specific type of teaching. When the content was planned more thoroughly, the geocaching activity could be used to motivate students of all ages and in a wide variety of subjects.

Subsequent research has argued that the dynamics of Geocaching hold an interesting persuasive design potential, as Geocaching combines elements such as location and context aware technologies with elements of competition, rewards and a number of persuasive design principles (Gram-Hansen, 2009). Ongoing research in digital dissemination of cultural heritage suggests that the dynamics of Geocaching holds the potential to motivate an interest in areas of cultural heritage, which may not receive much attention otherwise. The research is exemplified by a number of Geocaches located in the area around Vedersø where Kaj Munk served as vicar.

The results of both the pilot study and the ongoing investigation of Geocaching in a PD context in Vedersø, serves as a primary source of inspiration for the Persuasive Learning Design (PLD) in Vester Hassing. The overall plan for the design was to create a multimodal learning experience where an appropriate balance was established between the learning material, the intended learning outcome and the learning context. Of particular importance was the understanding that being at a specific location when receiving learning material,
influences the way students perceive the material. In consideration of the time that has passed since WWII, the students have no natural understanding of the age in which Kaj Munk’s literary works were produced. As a result, the learning design sought to not only present the learning material in an appropriate and motivating manner, but also to enable the students to create their own references to locations and events which were important in that time.

Mobile Persuasive Learning in Practice

Previous research has argued that the unique claim of persuasive design is not tied to certain technologies, but rather depends on how these technologies are applied within a specific context. As such, persuasive design becomes the discipline that creates the link between technology and context, based on a strong focus on appropriateness within that context. Rather than constituting an approach to technology design which offers little novelty when related to more established research fields, persuasive design becomes a Meta layer, where the context is explored in a wider sense, and where the focus of the designer is to establish a link between the context, the persuasive intention and available technology while remaining a recurring ethical perspective (Gram-Hansen, 2013a; Gram-Hansen, 2013b). When related to learning design, this new and more nuanced understanding of persuasive design acknowledges the various recognised approaches to learning, which are already applied in a variety of setting. The PD approach supports these approaches by adding an overall reflective perspective, which motivates teachers to consider ways to actively adapt the surroundings in the learning design.

One of the challenges for teachers who work with a constructivist approach to learning, is argued to be contradiction between intentions related to the learning scenario and the physical frames of the setting (e.g. an auditorium does not motivate student activities; see (Leijon, 2012). By its wide and context-oriented perspective, persuasive design may potentially provide teachers and learners with new approaches to teaching and learning, which may help overcome the challenges related to physical surroundings. As a result, the persuasive learning design describes the overall understanding of the intended learning scenario, and the learning technologies applied within the learning design become facilitators for reaching the intended outcome. Thereby it is still agreed that a technology is only persuasive, when applied appropriately within the intended use context.

As described above, the described understanding of persuasive learning designs has been tried in a specific learning scenario that aimed to introduce students in lower secondary education in Vester Hassing in Northern Jutland, to Kaj Munk. The 18 students that participated in the trial were 13-14 years of age and did not have any previous knowledge of Kaj Munk. From films and literature, they did however know a little about WWII, and did as such have some understanding of the dynamics that influenced the world when Kaj Munk was murdered.

PLOTMaker enables teachers to produce both traditional and mobile learning objects. In order to test both types of learning objects, the persuasive learning design developed for the students in Vester Hassing, included both traditional and mobile learning objects all of which were linked to an overall intended learning outcome. The use of mobile learning objects were of particular relevance to the Kaj Munk case due to the connection between historical events, literature and specific locations, which is a particular distinction for this work case.

The overall persuasive learning design was widely inspired by the previously mentioned results from applying geocaching in digital mediation of cultural heritage. In particular, the notion of Mystery Caches, where the users must solve a puzzle in order to find a specific location, was a motivating factor in the development of the learning design.
The overall approach to the development of the persuasive learning design is based on the 6 step guide to persuasive learning which has been developed in relation to the e-PLOT project (Kristensen, 2013). The 6 step guide combines an acknowledged Danish approach to learning designs with Fogg and Eckles’ 8 step approach to persuasive design, and seeks to provide teachers with a step-by-step framework for developing persuasive learning designs. The guide approaches learning design preparation through two different phases, the first one placing a focus on the learning scenario, and the second phase focusing more specifically on the learning material. Both phases include contextual reflections based on the rhetorical notion of Kairos, and both phases undergo a recurring evaluation process, in order to ensure that the final learning design meets the requirement of an appropriate balance between intended outcome, technology and context.

Put to practice, the guide served as a supporting framework throughout the design process, ensuring that particular attention was drawn towards the context, and more specifically the balance between student’s ability, the technologies used, and the intended learning outcomes. With reference to the wider understanding of the concept Kairos and the notion of context adaptation (Gram-Hansen, 2013a), the influence of persuasive design in this particular learning design is defined by the reflections regarding how the student’s normal surroundings and media can be applied in the learning scenario. As the intended outcome of the learning design is for the students to learn about Kaj Munk, it is important that the technologies do not outshine the learning material by drawing all attention. Nor must the technology appear too complex, as the students may then focus more on how to use the devices and less on what the technologies are mediating. Instead, the technologies and the learning objects mediated through them must function as facilitators that underpin important arguments at appropriate moments, for instance when the students are at a specific location, or as a way to follow up on a more general introduction. These reflections proved themselves to be particularly important due to the age group of the students. Whilst older students may be able to distance themselves from the excitement of new technologies in a learning scenario, the students in Vester Hassing appeared be more easily distracted by new devices.

Prior to the trial, the students were told about the e-PLOT project and explained that their input and comments about both the learning experience as a whole and the different technologies is both welcome and important to the researchers in the project. They were also informed about the overall plan for the day; that they would be doing a combination of group work in the classroom, and a trip around their town, during which a tablet computer would guide them and supply them with additional learning material. They were informed that an observer would accompany them, both in the classroom and en route, but that they were expected to work independently. It was heavily emphasised that from a research perspective, the aim of the day was to explore how the students respond to this approach to learning, and to learn more about what motives the students.

In practice, the learning design consisted of three different phases followed by an evaluation:

1. **The introduction phase**, during which the students were given a general introduction to Kaj Munk and the intended learning outcomes of the day. The theoretical framework in e-PLOT includes reflections regarding the notion of Constructive Alignment in relation to outcome based learning, which emphasises the importance of letting the intended learning outcome be known to both teachers and students (Biggs & Tang, 2007; Gram-Hansen, 2012). The intended outcomes for the students were as follows:
   - The students will gain a basic understanding of Kaj Munk as a historical figure and of the role he played during WWII.
The students will be able to identify the link between Kaj Munk’s works and specific locations in Denmark.

This phase took part as a traditional classroom setting, where the material was presented through PowerPoint. The introduction was kept very short (approx. 15 mins.), and was mostly used for practical information. The introduction to Kaj Munk was limited to three points:

- Kaj Munk was a Danish Vicar
- He was a poet and a playwright
- Gestapo murdered him during WWII.

As one of the aims of the trial was to evaluate the potential of persuasive learning objects, it was considered important to let the students know as little as possible before engaging in the learning material.

2. **The classroom phase**, during which the students worked in smaller groups (4-5 students in each group), and engaged in more specific exercises. All groups were presented with a worksheet with different questions about Kaj Munk and WWII, and in order to answer these questions the students had to explore a number of Kaj Munk related Learning Objects. Originally, the intention behind the exercise was that by answering the questions correctly the students would be provided with a series of GPS coordinates that would determine their route around Vester Hassing. However, in order to ensure that not all groups would be on the route at the same time, it was decided to simply dispatch groups every 10 minutes, and let the groups which returned back to the classroom first, complete the worksheet upon their return.

3. **The Mobile Learning phase**, which took place on a tour through Vester Hassing. As the groups were dispatched, they were given a 7” tablet that had been prepared to execute the learning material. The students were sent out on a specific route to explore the village and amongst other things discover how buildings that no longer serve a specific purpose, carried historical significance. For instance, the students were sent by the old train station in Vester Hassing, and asked to solve a photo challenge, whilst learning about the time when members of the Danish resistance in WWII blew up the railroad in Vester Hassing in an act of sabotage. While at the specific location, the students were presented with a photo of the station as it appeared during WWII, and asked to use their cameras in their mobile phones to capture a new picture of the station, in the same angle as the old picture.

The learning material and the tasks presented to the students during the tour of the town, was presented through mobiles GLOs, which were activated by scanning a QR code. The decision to activate the Mobile GLOs with QR codes rather than GPS, was based on the students working in groups rather than individually. The GPS option would enable the learning material to be activated on specific locations, however the QR codes held the benefit of engaging all members of the group in searching for the location, rather than just the person holding the tablet.

**Evaluation and reflection**

Once having completed the 3rd phase, the students reconvened in the classroom for a closing evaluation session. Through a combination of quantitative and qualitative evaluation methods, the aim was to evaluate not only the learning potential of the design, but also the
persuasiveness of the experience as a whole. Evaluation the persuasive potential of the design called for careful consideration, as the students due to their age group were believed likely to respond positively to the learning experience, simply as a result of the activities being something new and technology-based.

In practice, the evaluation phase consisted of a number of activities which sought to be inclusive towards all students, and which allowed students to respond anonymously to questions regarding the learning experience.

In order to assess if the students had met the intended learning outcomes, the evaluation phase started with a group competition in terms of a quiz. A number of questions were read out one at a time, and for each question, the groups were given a moment to quietly discuss their answer and write it down on the quiz form. The questions were all based on information the students had been presented with during the day, either during the classroom phase or on the route in Vester Hassing. The groups were informed that they were not allowed to use their notes from the earlier phases to answer the questions; they were however allowed to use the pictures they had taken while solving the tasks of the MLD. If the photo challenges had been solved correctly, their pictures would include some of the answers to the quiz.

Although the students had only been told very little about Kaj Munk in the beginning of the day, all groups performed impressively well in the quiz. The quiz included questions such as “Why was Kaj Munk murdered?”, “Why did he agree to speak in Vester Hassing?”, “How many of Kaj Munk’s literary works can you mention?” and “What is Kaj Munk trying to say in his song about The Blue Anemone?”, and did as such require the students to not only know facts about Kaj Munk, but also be able to reflect upon the material they had worked with. Results showed that even though the students had not been told much about Kaj Munk before engaging in the different phases, three out of five groups were able to answer all ten questions correctly, and the remaining two groups each had one wrong answer.

The positive results of the quiz may be credited to the students’ engagement in the MPL tour around town. One of the particularly interesting observations made in several of the groups, were that when reaching one of the intended location, one group member would read aloud the content of the learning object, and the remaining group members would appear fairly uninterested. The technology itself did not motivate much interest, and in some cases no one really wanted to be the one in charge of the device. In spite of showing such little enthusiasm on location, observers noted that as the groups were walking from one location to the next, they would discuss and reflect upon the material they had just received, and in some degree translate it into something they could all understand. As such the application of mobile learning objects appeared to motivate an important degree of collaborative learning, which all members of the group were able to engage in and benefit from.

As mentioned, the evaluation of the persuasiveness of the PLD had called for careful methodological considerations, as the students were perceived to potentially be more easily influenced by the situation. The evaluation was approached form a qualitative perspective, as it was considered of greater importance to gain a deeper understanding of how the students experienced the PLD, and whether this approach to learning had any motivating effect. The overall approach to the qualitative evaluation is based on phenomenography (Ashworth, 2010), and sought to influence the students as little as possible, and to allow them the anonymity to respond critically if necessary.

Much was gained from the observation studies, and in particular the walk along and in situ interviews during the Mobile Learning Phase provided valuable insight to the potential of the learning design and to the actual application of mobile devices in a learning scenarios. For instance, the mentioned lack of enthusiasm from the students as they were on the route was
surprising, as expectations were that the use of tablet computers in itself would be a motivating factor, as this is not yet widely applied in Danish schools. The original concern that the students might be so engaged in applying mobile devices for learning, that the device would outshine the learning material was proven to be unnecessary. Contrarily it may be that as the students are born as digital natives and with mobile devices as a natural element in their everyday surroundings, the future of MPL calls for much richer ways to present learning material. Technologies themselves do not impress the future users, so the design of the device applications must constitute an engaging and intriguing experience. Particularly if the design is to hold persuasive potential, as likeability is argued to be an important motivational factor (Fogg, 2003).

In order to supplement the observations made during the day with specific input from the students, the day was finished with a couple of evaluation activities that enabled the students to submit individual feedback. All students were asked to fill out a questionnaire regarding their attitude towards both Kaj Munk and the subject of history in general, and finally all students were given a blue and a yellow piece of paper. On the blue piece of paper they were asked to complete the sentence “I learned a lot today because…” and on the yellow piece of paper they were asked to write down three adjectives, which described their impression of the day. The dominant adjectives entered on the yellow piece of paper were “Fun”, “Exciting” and “Different”. A majority of the students credited the MPL experience, the collaborative learning and the high level of physical activity as the main reasons why their learning outcome had been good. On student did comment that he/she was unsure about the actual learning outcome, as many of the details about Kaj Munk would most likely soon be forgotten.

Results of the questionnaire showed that a majority of the students found that the PLD experience motivated them to learn more about history in general, however only 4 out of 18 students replied that the experience motivated them to learn more about Kaj Munk. 4 students replied that they did not feel motivated to learn more about Kaj Munk, and 10 students replied that the experience did not influence their interest in Kaj Munk in either direction. These results were not as positive as hoped, but also not entirely unexpected. Although a majority of the students responded positively with regards to being motivated towards history lessons in general, one of the aims of the learning design was to motivate an interest in the life and works of Kaj Munk and this was not entirely achieved by the learning design. One reason for this may be that although the students do learn about WWII, the history about Kaj Munk and in particular his literary works constitutes material that may be too complex for students of this age to comprehend. Nonetheless, the benefit of testing the PLD with Kaj Munk material remains that as the students have not previously been introduced to Kaj Munk specifically, they students commonly engage in the experience with no knowledge about the material they are to work with, This taken into consideration, it can be argued that the learning potential of the design is considerable.

In summary, there is no empirical support for claiming that the MPL trial in Vester Hassing directly motivated the students’ interest in the subject of Kaj Munk. However, the students showed that they were able to learn about a complex subject through the combination of learning objects and different learning activities. Furthermore, the trial provided a valuable experience in the use of mobile persuasive learning objects in practice. Based on the experiences of this trial, it would be interesting to explore the outcome of a similar PLD, in which the learning material is better matched to the specific user group.
References


