Traces of the past and current spatial changes

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Children in Primary school age are by no means unaware or disinterested. Especially within non-school based activities, children often become familiar with the historical aspects or spatial changes in their local environments. Usually, they already have recognised specific place names, they already have seen historical buildings such as city walls, churches and/or castles, and observed spatial changes - for instance the construction of new houses, a new shopping centre or new roads. However, within these non-school based activities, the experiences usually remain in the subconscious. An unsolicited personal reflection by the child on these changes is rather rare. A planned discovery tour through their own hometown or village therefore is a great opportunity to explore, where in the immediate surroundings of children, traces of the past can still be found today, and where spatial changes are currently taking place. This paper describes the potential use and benefit of digital media for historical learning on a discovery-based geographical field-trip.

DIDACTICAL BACKGROUND

The engage with real things as well as the integration of fieldwork or fieldtrips for the initiation of learning processes is not a new invention in the field of teaching and learning: As an example, already in the 17th century, Johann A. Comenius (1592-1670), one of the most important and recognized representatives of pedagogical realism and considered the father of modern education, proposed a "twin-track" approach in which direct observation should be the norm. In his book "Didactica magna" he stated "[…] a golden rule for teachers may be derived. Everything should, as far as possible, be placed before the senses. Everything visible should be brought before the organ of sight, everything audible before that of hearing. Odours should be placed before the sense of smell. And things that are testable and tangible before the sense of taste and of touch respectively. If an object can make an impression on several senses at once, it should be brought into contact with several […]" (Comenius 1896, p. 336-337). In the 18th century, the "century of enlightenment", Jean-Jacques Rousseau advocated the principle of learning through experience in natural situations. In his novel "Emile or On Education" (1762), Emile receives his lessons from nature instead of books (Rousseau 1979). Also

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in the current discussion, fieldwork is seen as an important way to develop an understanding of the world, during which cognitive and affective learning reinforce each other (Oost, De Vries & Van der Schee 2011, p. 309).

Although there is fundamental consensus about the effectiveness or the added value of these type of activities among experts and in the literature, a look at teaching practice shows that in the majority of cases primary science and social science teaching (including history teaching) is mainly taking place in the classroom. The arguments of the teachers to justify this situation range from increased organization and time requirements, regulatory requirements and restrictions by timetables, lack of support and problems of legitimacy towards colleagues, school management or parents up to financing problems.

However, fieldtrips and/or fieldwork are not just an exciting alternative to ordinary knowledge transfer and learning in the classroom. In fact, the visit of an out-of-school learning location or a fieldtrip can help to mediate or intensify learning outcomes in a practical and vivid manner. The original encounter as well as the direct examination of reality by means of discovering and/or inquiry based learning not only promotes the motivation and the learning progress of the children, but also supports the development of their social and personal skills. The often very inherent complexity of places, also offers ideal conditions for an integrative approach for teaching primary science and social sciences.

Concerning the possible contribution technology can make to learning at all levels of education several studies in the last years have explored the new opportunities that are becoming available for and focussed on the question how these resources may be useful for supporting effective learning (Falloon 2017).

Within the framework of the teaching unit, presented in this paper, the children are discovering their hometown/village by using the interactive iPad app BIPARCOURS.

TECHNICAL BACKGROUND

BIPARCOURS is a mobile device app that allows teachers to easily design interactive learning arrangements (e.g. theme rallies or fieldtrips) for their students. Teachers can thereby take advantage of the already existing course, or develop their own course with the online "course creator". Thanks to its intuitive usability, BIPARCOURS can be easily used in both primary and secondary schools. The app is free, developed by Bildungspartner NRW (North Rhine Westphalia) and can be only used in all educational institutions of the federal state. However, as an alternative to BIPARCOURS, comparable apps like e.g. Actionbound, with nearly identical functions are available in the various app stores.

Within a self-designed parcour, various information and/or media content can be combined with different questions or task types. Thus, the multimedia learning opportunities can be individualised to the groups of learners and according to the desired learning objectives.

Under "Settings" within the "Parcours-Creator", can be used to specify whether and in what form your course is visible and accessible for other learning groups or teachers.

For example, if you create your course as a "secret course", you exclusively make it available for selected learning groups because the course can only be started by scanning a specific QR code or entering the code itself. After the parcour has been completed by the learners the evaluation function within the "course creator" offers the teacher the possibility to check or compare the answers, results and self-created media of the teams. Additionally, the results can be used for the follow-up of the teaching.

PRACTICAL APPROACH

As part of the parcour, the children discover and explore their hometown in small groups. The own hometown/village thereby not only provides a place to discover traces of the past, but also to identify current spatial changes. It is therefore imperative that the teacher considers safety issues with the children. Before the children start to do the parcour independently and in small groups, the main rules of conduct as well as the important rules of behavior in traffic should be taught and/or repeated.

Each student group gets its own iPad. Once the children have scanned the QR code for the course, the parcour can start. Since the entire contents of the course are downloaded while scanning the course QR code and thus before the start on the iPad, no Internet connection is necessary for the use of the app during the activity itself.

INFORMATION

In the "Information" section, information texts (e.g. directions to the next station, additional background information on the pilgrim's path of St. James), images or photos (e.g. map excerpts, historical recordings of the location), as well as audio and video files (e.g. a suitable song, a read-out poem, a recording of an expert or time witness interviews, a short explanatory video, a suitable animation) can be offered in line of a multimedia learning opportunity.

Nevertheless, teachers need to be aware that the use of media in a parcour is verifiable with a publication on the Internet. Therefore, only media files (e.g. pictures, photos, audio files and texts) of which the author or the author of the course is expressly authorized may be used. Even in the case of self-created media, the personality rights of the persons depicted need to be respected (e.g. right of the own image).

In order to find their way to the next station and also to consider potential dangerous situations, children need to get clear instructions and/or directions. In this parcour, the directions were given in form of an audio-visual route description by short video clips, created using the app Explain Everything. With very few steps this app allows people to create simple explanatory videos or presentations. Of course, these can also be integrated into the "information" area by pure text or as an audio file.

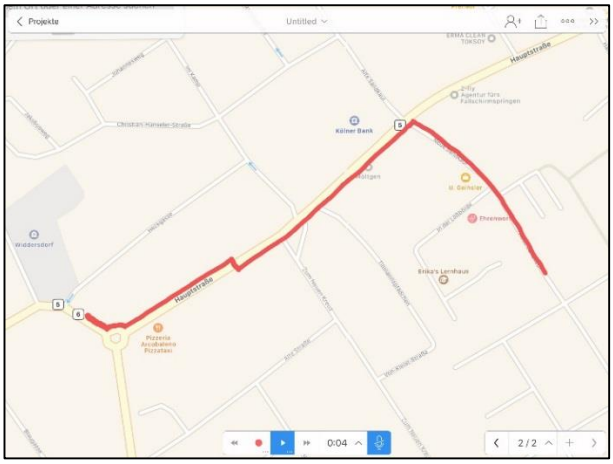

Figure 2. Directions
(Source: Daniela SCHMEINCK)

Figure 1. Guild sign at the entrance door of the old forge
(Source: Daniela SCHMEINCK)

The app offers several question-answer opportunities, which can be for creating your own course. For example, questions where the children only have to enter a certain number or word as an answer (e.g. In which year the old distillery was built?) Answer: 1904; Look closely at the sign at the gate. What was the building used for in the past? Answer: Forge).

Alternatively, multiple choice questions with several correct or even incorrect answers can be asked (e.g. What is the old distillery used for today? Multiple choice answers: museum, apartments, restaurant.) Even questions, in which the given answers have to be put in the right order (e.g. How was the old distillery used over time? Answers to be put in the correct order: Sester Kölsch, brewery, distillery) or estimation questions (e.g. Guess, how high is the chimney of the old distillery?) are possible questions as part of the parcour.

Figure 3. Old distillery
(Source: Daniela SCHMEINCK)

Additionally, special tasks can be given to the teams during the parcour (e.g. Watch out for a sign of the path of St. James near the memorial site and take a selfie in front of the sign; Search for traces of the old school house of Widdersdorf. Take pictures of your findings).

Figure 4. Sign of the path of St. James (Source: Daniela SCHMEINCK)

Figure 5. Traces of the old school house in Widdersdorf (Source: Daniela SCHMEINCK)

In many cases, tasks in a parcour do not have just one solution. For these tasks, there is no right or wrong response (e.g., Locate the little red-and-white house next to the war memorial. Think of an exciting story about the house and record a short documentary based on your story.) Therefore, a range of possibilities exist for some tasks that draw upon the creativity of the group - fantasy stories, produced texts, poems, photos, audio recordings or short video clips.

After the parkour, the final discussion in the classroom should revolve around both the group responses as well as the presentation of the produced results (e.g. videos, photographs taken, guided interviews). In this context, the children should also be given the opportunity to report on their experiences and findings, as well as to critically reflect upon their group processes.

Figure 6. Old transformer house (Source: Daniela SCHMEINCK)

CONCLUSION

The use of BIPARCOUR or alternative apps such as Actionbound within non-school based activities not only promotes the students' content learning and improvement of media competences but also contributes to their social competences. Through the app, children can not only access additional information or interactive resources, the different types of possible tasks also help to improves their active engagement during the field work. Correspondingly, the use of digital devices thus represents a decisive addition for non-school learning activities.

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