When Ideas Learn How to Fly: Children at the Intersection of Formal and Informal Learning Settings

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Abstract: With after-school initiatives on the rise and an increasingly standardized educational system, children's learning is influenced from two rather different ends. The children's learning processes are torn between the necessity to 'function on demand' and perform well in school lessons, tests and educational surveys, and the need for playful exploration. This study of computer-related project work in an intercultural after-school initiative explores the interplay and interdependence of child learning in formal and informal contexts. Main findings indicate that a close link of both contexts can 1) support the learning effect, and 2) strengthen the after-school initiative's standing, 3) increase potential learner's motivation to participate in it, and 4) locally support cross-cultural understanding and respect.

Introduction

How can learning be promoted in an everyday life that has become increasingly socially and culturally diverse? The answer to this question lays the foundation on which learning opportunities in intercultural settings are successfully implemented. They can help learners of various cultural and social backgrounds see the relevance of their learning in their everyday lives, newly value the importance of learning as an entrance key to multiple parts of life, and contribute to cross-cultural respect. Educators have approached these answers from different ends. The understanding of learning as a lifelong activity has spread, and after-school initiatives have become increasingly popular. Also, the formal educational system became much more focused on excellence and performance. This study of computer-related project work in an intercultural after-school initiative explores the interplay of learning in formal and informal contexts. We analyze how the link of formal and informal learning can support the effect as well as strengthen the informal learning setting's standing, increase motivation to engage in it, and thus contribute to cross-cultural understanding and respect on the local neighborhood level.

Related Work

The development of formal and informal learning has long been on the agenda of researchers in education and the learning sciences. Hsi et. al. describe the *'core identifiable features'* (Hsi et.al. 2004, p. 12) of informal learning to be the self-directedness, temporal absence of administration; fluid arrangements with regard to participation, time, and space; and great diversity of learners with regard to age, race, and ethnicities. Clegg et. al. (2006) explore the transferability of learning experiences, concentrating on activities and artifacts that worked well at motivating learning. Several other studies share the focus on motivation (e.g. Barkhuus & Lecusay 2011). Regarding formal learning, research is concerned with ICT use in schools, with children's ICT related learning and play strategies, and with teachers' use of ICT in class (e.g. MacFarlane et. al. 2005).

Computer clubs 'come_IN' are situated at the intersection of formal and informal learning. This setting provides the chance to study not only the development of a project-related learning process, but also see how formal and informal learning intersects, overlaps and can assemble in a fruitful combination contributing to integration in an increasingly diverse society. The 'come_IN' computer clubs build upon the US initiative of computer clubhouses. Relying on principles of situated, collaborative learning and constructionist thinking, the latter address inner city youth with educationally and socially deprived backgrounds, aiming to open up chances. Their success is well documented (e.g. Kafai et.al. 2009). Building on this, 'come_IN' clubs foster community dynamics and strengthen social ties on the family, school and neighborhood level. Also, the project work strengthens individual skills. Schools in intercultural German neighborhoods as the clubs' location are the starting point for interactions drawing on shared experiences. Project work is conjointly decided upon and often relates to local issues (e.g. Schubert et.al. 2011). The first 'come_IN' club was founded in Bonn Nordstadt in 2004. In Siegen, the transferability of the concept was tested in 2006. Four clubs were founded in 2009: two in a school complex in Bonn Tannenbusch, one in a primary school in Dortmund (being in the focus of the study presented here), one in a youth center in Kreuztal. In 2010 another club followed in a school in Kreuztal.

Method and Data

Field notes have been taken by the researchers acting as tutors during club sessions, following a participatory action research approach (Kemmis & McTaggert, 1988). The club in Dortmund is at the center of this study. It sees 4-7 adults and 7-10 children every week. The project developed over the course of seven months. Online trackable log files have also been analyzed. Coding (Strauss & Corbin 2004) was guided by our focus on the interplay of formal and informal learning and its technological support in an intercultural after-school setting.

Intercultural Project Work in Practice: Results

The idea of constructing items that would then be sent as so called trackables on a geocaching *'world tour'* appealed to the participants. It was decided to build dragonfly trackables, because the school mascot was a dragonfly. For the finalizing of their design, participants would write texts about themselves, the computer club, their dragonfly, and its destination. This text was also put online on the geocaching website. Each trackable was given a geocaching coin with a unique number used to track the item. Several participants linked the trackable design to their migration backgrounds, e.g. deciding that the dragonfly should see Albania. Others related travel descriptions to local things, or to personal issues – like one boy, who was facing a lot of conflict at home: he made his dragonfly fly to places *'where there are happy people'*. A large nearby cache was identified by means of GPS-devices, so all club teams could 'set their dragonflies free'. The geocaching website was used to follow the route of the trackables. A map was put on a wall in the computer room, on which the location of each trackable was updated weekly. As the dragonflies crossed borders the club participants turned to online maps to keep track of the travels. Children would also watch their trackables online from home, or demand access to the classroom's PC to view the progress. Children were calculating distances and excitedly handling large numbers they had just familiarized themselves with in their math classes. Enthusiasm with the 'dragonfly world travels' carried the club that far that the project was never finished but turned into an underlying long-term endeavor.

Intercultural Project Work in Practice: Analysis

Our analysis saw the project work unfold in three subsequent phases, each combining formal and informal learning processes. There was the first phase of the project, where club participants developed the idea, familiarized themselves with the concept of geocaching, planned and implemented the actions necessary for the project to start. We saw how formal learning from regular school lessons had laid a ground that the project related informal learning could build upon. Children made use of the language and writing skills they had acquired in class, and used it first to negotiate a travel destination, and then to write the accompanying texts for their trackables. Awareness for individual characteristics and cultural background unfolded on the informal level of learning, and children explored how these could find an expression. The excursion part provided participants with the opportunity to familiarize themselves with their neighborhood. By following their trackables online, this awareness was deepened. The competitive aspect turned out to be a great motivator: not only did children ask *Where is my dragonfly?*, they also compared *Where is my dragonfly in relation to other dragonflies?*, playfully engaging with math. Finally, children informally learned: 1) cool things can be achieved by working together, 2) some things take time to develop, and 3) supposedly boring lesson contents can serve fun purposes.

Conclusion

In our case study of the geocaching project we saw several formal and informal learning steps unfold. Most prominently among them was the support of language acquisition and eloquence promoted through the writing and reading involved. We saw the project trigger self-organization among participants. Also, children and adults learned more about themselves, their neighborhood, about their position in the city and beyond. Finally, we saw self-confidence and openness with regard to other people, and patience with regard to backlashes be involved.

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