

ISIC 2016, Doctoral Workshop, Thesis Summary

Information Literacy Instruction Methods for Lower Secondary Education in Finland

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Essay-type assignments that require independent acquisition and use of information sources are commonly used to train students' information literacies. These assignments create challenges for teachers and their traditional instruction practices, as they have to guide students to work independently in information environments that a teacher cannot fully control. It has been noticed in several studies that the instruction is often weak and concentrates mainly on technical aspects. (Limberg, Alexandersson, Lantz-Andersson & Folkesson 2008; Sormunen & Alamettälä 2014.)

In this study, information literacy instruction methods for lower secondary education in Finland will be examined. The aim of the study is to develop new practices for information literacy instruction in collaboration with the teachers by applying an *educational design research* approach. Kuhlthau's *Guided Inquiry* is used as an indicative pedagogical framework (Kuhlthau, Maniotes & Caspari 2015).

The preliminary research questions are:

1. What kind of pedagogical designs do teachers adopt in a school year long Guided Inquiry -informed teaching intervention in information literacy instruction for 7th graders?
2. How do the teachers experience the new designs and their outcomes?
What are the advantages and disadvantages?
3. How do the teaching interventions change 7th graders' basic skills and knowledge in information literacy, self-efficacy in information literacy, and learning experiences compared to non-participating students?
4. How do the teaching interventions change 7th graders' inquiry related attitudes, self-regulation in inquiry assignments, and working practices compared to non-participating students?

Research Methods and Materials

Educational design research means a methodology in which both a theory and practices are developed and tested simultaneously. It emphasizes the participatory role of practitioners and aims to improve educational practices. The research is conducted through continuous cycles of analysis, design, implementation, and redesign. (McKenney & Reeves 2012.) This study will be a cooperative project between me and the teachers. I will plan and develop the teaching interventions in cooperation with the teachers. Guided Inquiry will be used as an indicative pedagogical framework: I will introduce the model to the teachers but they are free to apply it as they see fit.

The study will be conducted as a longitudinal intervention study in a Finnish comprehensive school (grades 7-9). Data will be collected from five classes in the 7th grade. The test group consists of three classes taught by teachers involved in the design of the intervention. The control group consists of two classes from the same school taught by teachers working independently from the design study.

Two modules for information literacy instruction will be designed into the 7th graders' courses in Finnish language (the pupils' native language) and Finnish history. Module 1 is a part of the first 7th graders' course in Finnish language, module 2 is integrated to the joint project of two courses: the third course in Finnish language and the second course in history. The aim is to create a pedagogical entity which supports the learning of information literacy in a cumulative way.

Data will be collected and analyzed by using a mixed-method approach. The data will consist of teacher interviews, pupil questionnaires and tests, and observations in the classroom. The pupils' own documentation (for example inquiry journals) will potentially be utilized. The interview and

observation data will be exposed to content analysis. The data from questionnaires and tests will be analyzed using statistical methods.

The First Module – The First Teaching Intervention

The first teaching intervention was carried out with the 7th graders in the first course of the Finnish language in September. Before the intervention, all the pupils filled out a pre-questionnaire that sorted out their self-efficacy in information literacy, inquiry related attitudes, self-regulation in inquiry assignments, and working practices. They also did a pre-test that sorted out their information seeking abilities. In the course, the pupils of the test group made a brochure about the social media. The work was done in pairs. Inquiry logs were introduced to the pupils in the beginning of the project, in order to keep track of the sources. I was following all the project lessons and wrote memos during the lessons. After the first teaching intervention, the pupils answered a post-questionnaire which sorted out their learning experiences. The teacher's experiences were surveyed with a post-interview. The teacher of the control classes was also interviewed in order to find out what the pupils of the control groups had done.

Between the first and the second teaching interventions the pupils of both test group and control group filled out a questionnaire to provide background information about their computer and internet use.

The Second Module – The Second Teaching Intervention

The second module of the teaching intervention with Finnish language and history will be carried out between April and May of 2016. The teachers will be interviewed before the project in the spring. During the project I will observe the pupils' and teachers' working practices. After the project all pupils will fill out the same questionnaire which was also made at the beginning of the school year. The pupils also renew the test that was made at the beginning of the school year. This makes it possible to measure the changes which have taken place during the school year. Students' learning experiences from the project are again surveyed with a post-questionnaire and the teachers' experiences using the post-interview. Also, learning experiences concerning information literacy from the whole year will be surveyed. Inquiry logs and inquiry journals will potentially be utilized. The evaluation will also be directed also to the end products of the project.

The aim is to get a defined model and defined design principles for the school year 2016 – 2017, for the second design cycle to be tested with new pupils.

Problems to Discuss

There are some issues that have been mentioned in the literature that are challenging when conducting educational design research. The researcher may have multiple roles within an educational research project and it's been noticed that it may cause tension between the roles as well as affect the objectivity of the researcher. This is one thing I would like to discuss at the workshop – how to maintain the objectivity while occasionally assisting the teacher and getting to know both her and the pupils quite well.

Another problem arises in analyzing the large amounts of data that is produced as a result of both the process of iteration and mixed-methods data collection. There is a risk that the researcher will select only the data that supports his or her theory and so, objectivity is also needed when selecting data for analysis.

According to Kennedy-Clark (2013) and Hogue (2013), in order to avoid these threats, it's important to have checkpoints during the process to ensure that objectivity is maintained as well as to ensure that the analysis methods are in alignment with the research scope and goals. I hope that the ISIC workshop could be one of those checkpoints for my study.

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Curriculum Vitae

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Name Tuulikki Eriika Alamettälä (née Penttilä)
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Education

Doctoral Student
 School of Information Sciences, University of Tampere 2014 –

Master of Science University of Tampere 2014
 Major: Information Studies and Interactive Media
 Minor: Media Education

Master of Arts University of Tampere 2006
 Major: Scandinavian Languages
 Minors: German Philology
 Teacher’s Pedagogical Studies

High-school graduate High School of Pälkäne 1996

Work Experience

Doctoral Student
 School of Information Sciences, University of Tampere 01.01.2015 –

Supervisor
 Seminar for new students 2015 – 2016
 School of Information Sciences, University of Tampere

Teacher
 Bachelor’s Seminar 2014 – 2015
 School of Information Sciences, University of Tampere

Research Assistant
 Know-Id -Research Project –Information Literacy and Identity,
 School of Information Sciences, University of Tampere,
 27.10.2012–28.02.2013

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 School of Information Sciences, University of Tampere,
 21.05.2012–26.10.2012

Publications

Alamettälä, T. & Sormunen, E. 2015. Opettajien käytännöt informaatiolukutaidon opettamisessa. In: Ropo, E., Sormunen, E. & Heinström, J. (eds.) *Identiteetistä informaatiolukutaitoon : tavoitteena itsenäinen ja yhteisöllinen oppija*. Tampere: Tampere University Press, 278–305.

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