The funding from NordForsk will be used for adding opportunities for researchers in the network, which is now existing without such funding. An informal network without specific resources existed since 2006 initiated by the NoGSME workshop on textbooks research. Now this kernel network will be enlarged by the addition of more groups and researchers and will get a greater radius of action via travels, seminars and workshops. We plan to organize two seminars per year over 3 days with an estimated number of participants of 10-12. For the seminar programmes international scholars will be invited and offer new ideas for research on textbooks. Additionally we plan to create each year two workshops over 2 days each with about 10-12 participating researchers, where analysis work and writing can be carried out in collaboration. Travel resources for some researchers to visit other groups in the network will also be offered. The outcome of seminars and workshops will be publications and dissemination of results to groups like teachers, teacher educators, policy makers and publishers, who could use evidence based research results. The transition of research results into the practices of teaching is not trivial and demands some careful planning and work. Some of the seminars in the final year will be opened to a wider audience in the form of a conference in order to disseminate results from the network.

Among the prioritized questions to start working with in the network we want to mention:
1 Comparative studies of textbooks in Nordic and Baltic countries. Such studies are missing but there exists international studies where several countries are compared when it comes to textbooks. The NorBa-group is highly interested in such studies. Peder Haug in Norway has pleaded for the necessity of such comparative studies, for example of how teachers use textbooks and how it is dealt with in teacher education.
2 Studies of how pupils use textbooks, similar to the one done by Sebastian Rezat (2006ab, 2009) in Germany, in order to see if Nordic traditions are the same or different from the German traditions.
3 There are no deeper studies about how textbooks influence pupils learning of mathematics and thus it would be important to try to design such studies and carry out them (Törnros, 2001, 2005). Knowing that teachers and textbooks are the most influential elements for learning it would be extremely important to find out the relation between textbooks and pupils learning outcomes.
4 International studies indicate that use of textbook is more dominating in the Nordic countries than internationally (Valverde et al, 2002). What are the reasons for this situation and how does it affect the learning offered to students and their achievement?
5 The use of language and pictures is crucial both in the classroom and in textbooks and texts. What characterizes language used in textbooks and the use of pictures? Do pupils understand what they read in textbooks and how do they create meaning and make use of the text and the pictures?
6 Are there hidden messages in the textbooks (Jablonka & Johansson, 2010)? Messages like what is mathematic really and what is knowledge in mathematics and for what and whom can it be useful. What are the characteristics of mathematics and what does it mean to do mathematics, according to textbooks?
7 Swedish studies show that teachers in compulsory school are heavily dependent of textbooks (Johansson, 2006). What are the reasons for this and would it be possible to change the situation and for what purpose?

There exists no easily accessible literature on textbooks research in the Nordic countries and in the international handbooks there is only one chapter about texts and use of texts (Love amp; Pimm, 1996) as far as we know. Thus there is a great need of such books and the network will try to produce it by using papers on research carried out by members in the network. Anthologies with more or less emphasis on research or practice can be created. Such literature would be of great help in teacher education and for practicing teachers when deciding how to evaluate textbooks and what textbooks to choose. Criticism has been directed towards teacher education for not explicitly offering research or practice can be created. Such literature would be of great help in teacher education and for practicing teachers when deciding how to evaluate textbooks and what textbooks to choose. Criticism has been directed towards teacher education for not explicitly offering research or practice results. The transition of research results into the practices of teaching is not trivial and demands some careful planning and work. Some of the seminars in the final year will be opened to a wider audience in the form of a conference in order to disseminate results from the network.

Comments or deviations
The network has managed to achieve what was set up as aims and goals for its work. As can be seen from the Achievements section below a number of research seminars and workshops have been held and the network engaged in three conferences during 2013-2014. The number of active members has grown all teh time. Activities of reviewing earlier research and trying to explore methods, methodology and theoretical frameworks for studies on textbooks have taken place. The members have been active publishing papers and chapters in books for teachers and researchers. From the final conference 15 papers have been sent to a scientific journal and they are now reviewed for
publication in a special issue on textbooks during 2015. Most of these papers and some papers produced earleir will make a book published
by the network in order to give teachers and teacher educators something up to date on textbooks and other teaching resources.

Here is a list of selected publications by members of the network (the 15 papers that are now being review are not included here):


Grevholm, B. (2014). Frågor om läroboken i matematik vilka är de och finns det några svar? [Questions about the mathematics textbook which are they and are there any answers?] In Nämnaren Tema 10, Matematikundervisning i praktiken (pp. 147-160). Göteborg; NCM.


Rezat, S., amp; Sträßer, R. (2012). From the didactical triangle to the socio-didactical tetrahedron: artifacts as fundamental constituents of the didactical situation. ZDM, 44(5), 641-651.


Kudma, R., amp; Preidytamp;#279;, S. (2013), Greimo semiotikos taikymas matematikos tekstap;#371; analizamp;#279;je, [Application of Greimass semiotics in the analysis of mathematical texts]. Lietuvos matematikos rinkinys, Lietuvos matematikamp;#371; draugijos darbai.

The great number of master students and doctoral students who participated in the network is valuable. Many of the master students who finalised their work during the network period have been able to report the work to the network and sometimes network members acted as mentors and opponents for them.

Doctoral students who took part valued the network highly as a source for support and inspiration. Many of these doctoral students will soon defend their thesis and thereby raise the interest for research on mathematics textbooks. In Norway one of the students had a meeting with the new minister of education and the minister has now decided to set up a group that is investigating the situation with textbooks and teaching resources. So this work helped to put light on an area that needed to be more deeply studied.

FINANCIAL REPORT

Financial report

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Comments or deviations

The actual amounts above are for 2013 and 2014 but the budget is only for one year. As can be seen from our reports for 2011 and 2012 we had lower costs than budgeted during these years and so we had more money to spend during 2013 and 2014. That was helpful as we got many new members along the period and the growing interest for the activities could be met.

A book is under production and will show the research projects carried out by project members. Costs for this production of the book (printing and editing) have been set aside.

Members of the network have written 15 papers for the journal Nordic Studies in Mathematics Education and it will appear in the special issue in September 2015. The papers are now being reviewed by the journal.

Overall financial report


Expenses Budget Actual Amount Deviation
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Honoraria 140 000 12 000 128 000
Other 120 000 107 216 12 784
Administration 90 000 90 516 -516
Totalt 900 000 900 000 -

The overall report for years 2011-2014 shows that the funding has been fully used and in principle according to budget. Thanks to generous support from the partner institutions we had very low costs for honoraria and we could then use also these money for travel and participation of members. Each partner institution has for free opened localities for us during seminars and workshops and guest lecturers from each place has generously presented for us without extra costs. Members have used their research time for being able to participate and produce papers and chapters for books.

The costs that we could avoid for not having to pay honoraria to our lecturers and visiting experts have allowed us to cover further costs for travel and accommodation. All members have been very careful to travel at lowest possible costs and so we got very much value for the money. Only real costs have been paid and not subsistence fee according to any fixed levels.

Accountant
Lillian Egeland, department of mathematical sciences, University of Agder

Auditor
I hereby confirm that the information given is based on accounts, and that the project has been audited in connection with the institution's regular audit

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Comments or deviations
A few members of the network (from the Netherlands and UK) were not able to participate during the period 2011-2014 but on the other hand we received many new members, especially among research students. The total number of members increased from 24 to 43 which indicates that the existence of the network created raised awareness and interest for research on mathematics textbooks in wide sense. There was a highly international flavour of the network as we also were able to get experts from many other countries to visit us and lecture, like for instance Hongkong, China (Southampton), The Netherlands and all the Nordic and Baltic countries.

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List of all participants

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International partners who are members of the network but who were not active during 2011-2014
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Professor emerita Linda Haggarty (earlier at The Open University, Milton Keynes)
ACHIEVEMENTS

Achievements

The network has organized a number of seminars and workshops for members in order to inspire to academic writing and disseminating of new knowledge in the area of textbooks research. These meetings have been highly appreciated by the members and at each occasion we managed to have both external experts lecturing for us and own members sharing their experiences and knowledge with others. A website has been set up and all material and programmes are stored there, see http://textbookstudy.wordpress.com/. As the rumor spread about activities of the network we got more and more people wanting to participate in the meetings. Thus the network has grown and the interest for research on mathematics textbooks in wide sense has increased. One of our lecturers, professor Lianghuo Fan from Southampton in UK even decided to arrange an international conference on textbook studies as a follow up of the meeting with us. This conference ICMT2014 took place in July 2014 and 11 of the members of the network were active there with presentations and exhibitions. The final meeting of the network was our own conference in Reykjavík in May 2014, which was announced as an open, international conference, attracted 23 participants and resulted in the finalizing of 15 scientific papers from the network. Here is a list of all the meetings held during 2013 and 2014:

Seminars

Seminar at Gothenburg University, National Center for Mathematics Education, February 21-22, 2013 with 15 participants. Lectures were given by the director of NCM Peter Nyström, professor Bengt Johansson with Reza Hatami, librarian Marianne Dalemar and Barbro Grevholm.

Workshop at University of Oulu in Finland, Mai 29-31, 2013 with 22 participants. The following presentations took place: An introduction about the work in the Nordic network by Barbro Grevholm, Sebastian Rezat and Rudolf Strässer: Methodological issues and challenges in research on mathematics textbooks, Antti Viholainen, Miia Partanen and Jani Piiroinen: Upper secondary students’ experiences and views about the use of mathematics textbook, Jorma Joutsenlahti: Finnish textbooks on the research and views of what we can offer? by Barbro Grevholm, Jaakko Immonen, presentation of Masters Thesis, and Raimo Kaasila: The development of pre-service teachers views of mathematics: a review of Finnish studies. Additionally there was work in groups, discussions and writing sessions.

A seminar at NCM at Gothenburg University in June 25-27, 2013 with 8 participants. This was fully devoted to work in the library and writing of papers.

The next event was a double working session in PME37 in Kiel on July 28 to August 2. Sebastian Rezat, Lianghuo Fan and Barbro Grevholm lead those sessions and got good contacts and ideas for further work in the network. PME is an international conference with participants from all around the world.

A seminar in Mälardalen University in Västerås in Sweden on October 7-9 with 18 participants. External invited expert was professor Lianghuo Fan from Southampton University in UK. Six of the members in the network presented from their own research projects. A seminar in Tallin University in Estonia on December 4-5 with 14 participants. Presentations were held by professor Jaan Mikk: Optimal complicacy of textbooks and their value forming aspects, by doctoral student Hana Moraova A research study on cultural content of mathematics textbooks in the Czech Republic and professor Terje Väljataga: Going digital: reconceptualising textbooks. Work in groups and discussions also took place as usual.

A seminar in Vilnius in Lithuania on February 26-27, 2014 with 15 participants. Presentations were made by Barbro Grevholm on Recent development in the Nordic network, Professor Saulius ukas Mathematics in the context of integrated primary education (upbringing), doctoral student Dyana Wijayanti A comparison analysis of proportionality in the lower secondary textbook and by professor Elmundas alys on a new series of mathematics textbooks in Lithuania. Writing sessions, group work and discussions also took place.

Finally we held a conference in Iceland on Mai 6-9, 2014 with 23 participants. The expert lectures and a working session were given by Désiré Baartman on From printed textbooks to digital resources for mathematics education, by Kristin Bjarnardottir on Handbook on the History of Mathematics Education with Special Reference to the History of Teaching Arithmetic, and by Barbro Grevholm on An overview of recent research on mathematics textbooks in the Nordic and Baltic countries. Peer-review groups discussed papers read by all in advance in order to inspire to finalising the papers written by all members. These papers have now been sent to the journal Nordic Studies in mathematics Education for a thematic issue in 2015. Later a book will be produced based on these papers and some other papers by members.

A list of selected publications is listed elsewhere.

CONFIRMATION

I hereby confirm that all information in this report is correct

Yes