

THE NORDIC KNOWLEDGE TRAIN

OBJECTIVES, ACTIVITIES, EVALUATIONS AND RESULTS

SHORT SUMMARY

The Nordic Knowledge Train (NKT) project aimed at exploring new methods in formal and informal education, connecting natural sciences, technique, art and innovation across school stages, subjects and sectors. The activities of the train were intended to spark interest in STEM subjects and the joy of learning. By using outreach methods, the train provided opportunities for reaching remote areas or hard to reach communities, opening up new possibilities of social inclusion. Furthermore, NKT was a contribution towards a Nordic-Baltic platform for science communication outreach.

Teachers and school authorities were introduced to interdisciplinary and creative hands-on methods where science, art and technology were merged. Reactions were positive and many saw this as an opportunity to make changes in their own practice, by adapting new cross-subject methods. Students of all ages participated in the diverse activities of NKT and showed great interest, curiosity and creativity in the activities. They expressed surprise, eagerness, positive attitude and often renewed interest in learning and discovering.

Remote areas and hard to reach communities, geographically or socially, benefited from the visits of the train and special measures were taken to meet pupils and parents among fugitives or asylum seekers. The Nordic partners in the project strengthened their network and collaboration opportunities both in their local communities, with other educational and cultural institutes, and between themselves. New methods were developed, piloted and evaluated and all participating partners have taken steps to continue their knowledge exchange and practice of new methods.

The Nordic Knowledge Train project was rated highly by pupils, school-teachers and visitors at the diverse science events. Also by the participating partners who claim that the project has added to the knowledge of their staff and sparked new ideas in outreach science communication, especially in their collaboration with schools. This strengthened connection between formal and informal educational venues can in the future strengthen a Nordic platform in the development of new interdisciplinary methods and innovative approaches.

OBJECTIVIES

The goals of the Nordic Knowledge Train can be divided into four main parts:

1. That through a number of activities, it would explore new methods in formal and informal education, connecting natural sciences, technique, art and innovation across school stages, subjects and sectors.
2. The activities should spark interest and self-confidence in youngsters for learning and discovering, as well as encouraging curiosity in STEM subjects.
3. By using outreach methods, the train should provide opportunities for reaching remote areas, or hard to reach communities, thus opening up new possibilities of social inclusion.
4. The train should contribute to the development of a Nordic-Baltic science communication outreach platform, by bringing together universities, research institutes and science centres in the Nordic countries, who shared experiences, knowledge and results of the activities carried out during the project.

All those objectives were met with great success.

Firstly, each participating country developed, piloted and evaluated new activities and methods during the project and / or established new connections with other cultural or educational institutes, as well as companies. For example in Finland, Heureka worked with the State Opera and in Sweden Technichus worked with the Mid Sweden University and a dance ensemble. Frodskaparsetur Foroya (University) developed and started their very first outreach activity to elementary schools and in Norway the Science Circus started new collaborations with municipalities, companies and schools.

Secondly, the outreach methods and new activities showed clearly, through evaluations, (questionnaires, observation and interviews), that there was an increase of interest in STEM subjects.

Thirdly, the train managed to include hard to reach social communities, such as asylum seekers and fugitives, as well as geographical areas that had not been included earlier in such activities. And by using methods that mixed science, art and technology, in addition to including young Arabic interpreters in the travel, important steps were possible in the social inclusion.

And finally, meetings, collaborations, visits and active knowledge transfer, the participating partners in Nordic Knowledge Train project brought added value to both their own work venues and to their partners. A strong network has been established between the countries in the field of science communication. One of the results of this project is also that material, instructions and ideas for STEAM workshops and other activities are now available online for use of both participating partners, their Nordic colleagues and schools. Also the final project reports that can give practical advice to other actors in Nordic-Baltic science communication. Thus, the platform became a reality.

[Following are a short comments from the participating countries:](#)

FAR: The experiences from the train is that the pupils really enjoy and appreciate the train visit. Further that they are both motivated and focused, and we also think that they learn from the activities.

The Train activities have had their impact on the working methods with the Natural Science Teacher students, as working with workshops has proved being a very efficient method of improving the students teaching, since they can repeat the sessions in a row, correct mistakes, and test new approaches. The activities have also had an impact on the central educational centre (Nám).

Exchange of both staff, material and ideas has made all the difference for the Faroese Train. In the future, there is a need of both short inspiring courses, and for coursework qualifying for ECTS.

FIN: The workshops and performances did offer something different for the children. For example in Vantaa in Finland it was a unique experience for the kids to participate in a Science Opera in the science centre. It was the first time for many to hear and see opera performance and/or to visit the science centre. This way the two cultural institutes got to work together for the outreach purposes.

We produced STEAM-based workshops for participants from many different school stages (from preschool children to 9th graders). As a science centre we can offer an informal learning environment for children and inspire schools to use new methods that are based on the involvement of the participants. The understanding of things requires the experience of meaning and the meaning is produced by the participants themselves. To achieve this we used dynamic pedagogical approaches that started from the interaction with participants.

Heureka has been active in giving science shows around Finland in schools and also in shopping centres, but this project gave us an idea to do outreach as well with the educational workshops in schools.

This project managed to bring together the people from different science centres in the Nordic countries to exchange ideas and practices. We had meetings in different countries which gave us the possibility to see how the science education is executed in different institutes.

NOR: The Science Fair in Flekkefjord shows that it is possible to get businesses, local business association, fire brigade, the local scouts and a Science centre to cooperate to make an event that sparks curiosity and excitement about science, engineering, technology and mathematics for children, teenagers and adults. The day after the event the local school was in contact and declared the event and school visit a success, and asked if this could be repeated next year.

Flekkefjord is one of the places in this region that is placed furthest away from a science centre, actually it belongs to the region of another science centre that is placed 5 hours drive away.

Our experience with the teacher students in the Faroe Islands showed us a more efficient way to reach the teachers than doing workshop with them after they have finished their education. We are currently working on getting an agreement with the university in Stavanger which hopefully will allow teacher students to do part of their practical periods with us.

The cross disciplinary cooperation across borders between the universities and science centres have been a good one. And it have given Jærmuseet as both a science centre and a museum new contacts with universities, museums and science centres in the Nordic countries.

SWE: Due to the refugee situation the two Arabic teachers/explainers on the tour acted as role models to the newly arrived children and their parents. Although our two co-workers arrived to Sweden as late as September 2015, they could act as a bridge between refugees and Swedish pupils/persons. That confidence was probably the most visible effect we could see on the tour.

All the new technology which causes information to be available everywhere sets new expectations on the teachers. They have to learn side by side with the pupils. The tour we made was therefore set up to co-learn with the pupils. They could be the one who explained and visualized while experimenting. This is a model to increase self-confidence in pupils.

At every community we visited, we also invited the society and parents for evening workshops. When we had the evening workshop AFTER the school activity we could see that the pupils took the roles of being tutors to their family members in a very pedagogical way. This is something we really will use in the future touring events.

Since we as a science centre already use new methods we are using this project to encourage teachers and teacher students to break traditional educational methods and create new.

Thanks to the outreach work we did during this project, we realized that by altering the environment and the tools for teaching we can change teacher's educational method. That has resulted in two different research projects where Mid Sweden University and Technichus is involved. In one of those projects we applied a Bazaar Environment in a public school and the different teachers are supposed to use that environment as inspiration for multi-disciplinary teaching.

Full reports can be accessed at <http://haskolalestin.hi.is/node/199/>

ACTIVITIES

Activities varied between countries and took place in different times and areas. All in all, the project proceeded as planned. The activities were carried out as planned and with great success, with one exception, i.e. the development and piloting of a new app for evaluating sci-comm events. Apart from this, all countries carried out their planned activities. A couple of activities were delayed for a few months, but were nevertheless carried out well within the time limit of the project. Two project meetings were held as planned, in October 2015 at Heureka and April 2016 at Technichus.

[Following is a short description on the activities in each partner country:](#)

FAR: "Seturstokid", the Faeroese Knowledge Train visited three destination in 2015, Hvalba, Suðuroy and Nólsoy, in addition to a science feast and workshops in Thorshavn. This was the first time such outreach science communication activities were offered in the Faeroe Islands. The Norwegian Science Circus also visited Thorshavn and a workshop from the Icelandic Knowledge Train came there as well.

FIN: Heureka developed the two planned workshops and piloted them, and also staged a Science Opera. In addition they gave a Teacher's Education Night + a Teacher's Science Camp, both themed to support the STEAM approach and interdisciplinary teaching in schools. Heureka also delivered detailed descriptions of their workshops in three languages, Finnish, English and Swedish found at http://haskolalestin.hi.is/heureka_workshops_0

NOR: Science Circus visited their planned destinations in Flekkefjord and Strand commune and gave inspirational visits to Biophilia schools. They trained and prepared the staff and students of Frodskaparsetur Foraya for their Knowledge Train project and gave workshops and science shows for pupils and the general public in Faeroe Islands. In addition, they took part in a museum festival in Faeroe Islands and did science "busking" in public spaces.

SWE: Technichus travelled to communities that seldom visit Technichus due to transport problems. In those destinations there were many newly arrived refugees. This situation was not foreseen at the onset of the NKT project, and it gave added emphasize to the social inclusion and hard to reach communities factors.

The outreach travels of Technichus had started later than planned, but in the meantime this new situation had arisen and Technichus adapted their tours to those unusual circumstances. Four communities were visited in the beginning of year 2016, with varied programs. In addition, Technichus had started a "pre-tour" in 2015, in collaboration with a dance ensemble, where science and technology were interpreted with interactive dance performances. This program toured two places.

Technichus had planned, in collaboration with the Swedish Science Centre Association (FSSC) to develop and pilot a new app for evaluating audience experience at sci-comm events. This did not work out as planned, the FSSC backed out of the project and technical problems were encountered. This affected both the financial situation and the piloting process. For this reason, a cheaper version of the app was used, this is defined in the financial report. Even though the app did not fully work for evaluation purposes in the NKT project, it can be a valuable evaluation tool in future Nordic science communication events.

COMMUNICATION AND SHARING OF RESPONSIBILITIES

1) UI, Frodskaparsetrid, Heureka, Science Circus and Technichus communicated on a regular basis through e-mails and a closed FB group on the progress of the planning and the activities. Also on the preparation of project meetings, questions that arouse and / or problems. Much idea exchange went on throughout the project.

2) Since the main part of the activities were the responsibility of each respective country, they planned and carried out their events and were responsible for all the content. Also for the local travel arrangements and the evaluation processes.

3) All partners were responsible for delivering two detailed reports twice during the project period to the coordinator, attend the two planned project meetings and inform their participating colleagues of what was expected of them. Finally, they were responsible for the dissemination of the project on their websites, their colleagues and to the media, where applicable. The same applied for the collection of financial documents, photo proof or other visual material.

4) Since the project had a public Facebook site, all partners were responsible for adding material there, as well on their own Facebook sites, although the coordinator took on most of the responsibility of adding content to this site.

5) The coordinator was responsible for the general planning of the project, communication between partners, preparation and recording of meetings and the finances of the project. The coordinator also had the role of an advisor and giving support in general, was responsible for gathering documentation and for providing the digital platforms needed for project. A google drive was used for storage of all documents and the coordinator took the main responsibility of uploading relevant material there.

EVALUATION

The project was evaluated and combination of different evaluation methods was considered appropriate for our means, as the activities and circumstances were different between countries. Target groups were also varied. Nevertheless, all partners had shared aims and purposes to measure: From the activities and events the intention was mainly to measure and evaluate the possible impact, such as increased interest in science and learning or attitudes towards science. Another common evaluation aim was how the project had succeeded in changing methods and developing new, both within our own groups and the schools visited.

Each partner was responsible for the evaluation and measure of his activities, including statistics on participating individuals, collaborating companies or institutes. Two other aspects were evaluated as well; the networking and collaboration between the participating countries, and the result or impact of the project for the organizations and their staff. The coordinator was responsible for that part of the evaluation, in collaboration with the project partners.

Following are the main evaluation methods and results:

FAR: Methods of evaluation were 1) Evaluation sheets that were distributed to pupils after workshops. 2) Observation during the workshops. 3) Surveys. 4) Interviews with teachers and pupils.

The overall experiences from the train is that the pupils really enjoy and appreciate the train visit. Further that they are both motivated and focused, and we also think that they learn from the activities. However, it is not straight forward to measure issues as motivation and learning. The workshops have been evaluated and observed and the staff has done surveys to test what the pupils have learned. Several essays have been written on the workshops, both on methods, on motivation and on outcome. These results, together with more focused observations and surveys made in spring 2017 will be combined with literature studies to an article on motivation and learning with outreach activities. The article will be an exploration of to what extent the intentions of the train has been achieved.

In Faeroe Islands we decided to have university students in Teachers Education on board the train, in the role of explainers / science communicators. This was intended to better prepare them for their future work, and that they would hopefully bring new methods into the schools later. We therefore evaluated specifically the impact on those members of our staff. It showed that working with Train activities had their impact on the working methods with the

Natural Science Teacher students. It proved to be a very efficient method of improving the students teaching, since they can repeat the sessions in a row, correct mistakes, and test new approaches.

This method has also proved suitable when working with outdoor teaching, and the same students worked with class 1-6 on nature: plants, geology, and animals.

FIN: Heureka emphasized gathering feed-back from teachers. For the evaluation of the two workshops Whispering Moon and House of Light were used A4-paper sheet with couple of questions, that the participating teachers filled it right after.

We also had teachers giving comments about the Teachers' Science Camp Day. According to these comments the workshop was very well suited for the elementary school children and had succeeded to combine the science and the art in a fresh way.

The teachers' day was received very well, teachers said that they got a great deal of concrete ideas to try out with their pupils and that it was a good experience about how to use the learning by doing pedagogy in practice. Many said that the lecture about coding and the chemistry lab were genuinely useful. All in all the best part was to be able to participate themselves as kids would: "When you are able to participate, it teaches you a lot to get to do by yourself; you get more intimate view of the activity. You get motivation, excitement and ideas to your own teaching."

In the feedback of the Whispering Moon workshop, teachers explicated that it was great to see different kinds of working methods and they believed that the workshop was good because it gave the kids an opportunity to share their experiences with others. They also liked it that it was cross-disciplinary and that it had as well the facts of the phenomena as the action combined. This could encourage teachers to try cross-disciplinary teaching themselves as well. Also at the teachers' day we organized, we did manage to give the teachers new ideas about how to connect science, technique, art and innovation in school.

The app that had been planned for evaluating part of the project, mainly the outreach activities that happen in public spaces or informal educational venues, was tested and tried in some of the events. But since it was ready rather late, and was more limited than intended, it was not considered a reliable evaluation tool for this project. Nevertheless, it can be a valuable tool for evaluation in future outreach science-communication events of all partners, and can be adapted further to their needs. We think it's a very important aspect to know what the kids learned and through what kind of feelings did this learning take place. We have to try more on this matter. It would be great to come up with an idea of how you can put into words these things.

NOR: Our main task as a Science Centre is to encourage young peoples' interest in STEM, but it is also the most difficult goal to measure. All events and school visits have been evaluated in meetings shortly after the visit/event. We have not asked the children, but talked to the teachers, headmasters and other individuals involved. Following are two quotes from those interviews:

"Visits from Science Circus is a big motivation for the pupils, as well as a lot of fun. The pupils get to explore and discover by themselves, and get fascination and new knowledge. The outcome of the visit was higher the second visit. This due to that all teachers knew what to expect, and prepared the classes for the visit. One of the workshops in the second visit

was to make your own instruments out of straws. This has been a favourite activity in many homes after the visit. We hope for new visits, there still a lot to be learnt and discovered. “

Mette Bakke, Headmaster Fjelltun skole/project leader Biophilia educational Norway

“Samstemte i at dette var veldig bra!! Positivt at det skjedde NORe på kvelden også. Ønske om at de kommer igjen neste år. Med andre ord veldig positivt. Velkommen tilbake! Lykke til videre !”

Svein Tore Åtland, rektor Sunde skole

SWE: With the app, we had aimed at evaluating what feelings are expressed while learning, but this goal was not reached within the train project, due to the change of the app and lack of time to quality communication with the participants during the tour. Instead, we aimed our evaluation on the methods used, the environments for teaching / learning and the impact of our visits on teachers. The evaluation method on our behalf was mainly observation, but the Mid-Sweden University are also doing research on our approaches.

We specifically observed 1) how the teachers succeeded in stepping out of their traditional roles and working side by side with the students 2) how making a “in school science-centre environment”, outside the classrooms, could assist the teachers in adapting new methods. Our main findings indicate that considerable work is needed in assisting teachers towards more cross-subject and creative teaching methods. We also found out that this method of working with STEM + arts is one of the keys to get closer to our goals.

More details can be found on <http://haskolalestin.hi.is/node/199/>

RESULTS

The project had 5 specific results

- 1) Teachers and school authorities were introduced to interdisciplinary and creative hands-on methods where science, art and technology were merged. They showed very positive reaction and saw it as an opportunity to make changes in their own practice. Teachers stepped out of their traditional comfort zone by learning side by side with students.
- 2) Students of all ages participated and showed great interest, curiosity and creativity in the activities. They expressed surprise, eagerness, positive attitude and often renewed interest in learning or studying.
- 3) Remote areas and hard to reach communities, geographically or socially, benefited from the visits of the train so important steps were taken in social inclusion. In some cases this was the first occasion that this sort of event was offered, both in the schools and for the general public. These visits also encouraged local institutes and companies to take more active part in such event in the future.
- 4) The participating Nordic partners in the project strengthened their network in many aspects: in their local communities with new connections and opportunities, with cultural and educational institutes where new collaborative projects have already begun, and last but not least between themselves. All participating partners express interest in continuing their knowledge exchange and to develop and practice new methods that benefit future education systems.

5) All partners also emphasize that the project has added to the knowledge of their staff and sparked new ideas and methods, especially in their collaboration with schools. This will furthermore strengthen a Nordic platform for outreach science communication activities with interdisciplinary methods and innovative approaches, both in schools and in informal educational venues.

Results - a few examples from the partners:

FAR: There are no science centre facilities in the Faroe Islands, and this project has demonstrated very clearly the importance of such activities, as the children both enjoy it, and are very keen on working in workshops, but have few opportunities to do so. However, this project has also demonstrated that there is a lack of both material and knowledge on how to run such workshops. In this project we have had several occasions of exchange of staff to teach and instruct the local teachers, that shall run the workshops, and this is crucial for a successful outcome of the workshops. Exchange of both staff, material and ideas has made all the difference for the Faroese Train. In the future, there is a need of both short inspiring courses, and for coursework qualifying for ECTS.

Having both university students and staff from Teachers Education Department on board the train has left valuable experience for us. This has prepared the students better for their future work, and they can bring new methods into the schools later. Working with Train activities had impact on the working methods with the Natural Science Teacher students. It proved to be a very efficient method of improving the students teaching, since they can repeat the sessions in a row, correct mistakes, and test new approaches.

FIN: With our Teachers´ Day we got to hear how teachers felt very positive about the possibilities of cross-disciplinary approach. They had their doubts about the time resources and also about the collaboration of the teachers. Every teacher has got their own strengths and it is very difficult to try new things, because you don´t know how you will succeed. During the day the teachers got some idea of how to use the science centre in teaching: “(I got) good ideas for the concrete teaching and an understanding of how to use Heureka in teaching.” We had one innovation group work that showed an example on how to motivate children to innovate and how to teach about the processes and group work the innovation work requires.

We also had a lecture and a conversation in the end of the day about coding in schools. This was very helpful for the teachers since this autumn 2016 there is a new curriculum in Finnish schools that includes teaching about coding.

We do think that these kinds of different ways of teaching science, that are based on action and one´s own feelings, are very effective way to teach science to children. In laboratories we always make fun experiments and this is the easy way to get children to remember a thing or two and what is more important, to give them inspiration and motivation to science in general. Science centres have this kind of knowledge and we would like to do more in the future to help teachers grasp this knowledge.

There is a wish to continue the collaboration with the partners in this project to share the ideas and outcomes of science education.

In the future it would be necessary to find a way to measure or capture the feelings and experiences of the participants in a way or another, preferably by some participating, easy

and quick, but in the same time revealing way. HEUREKA would like to be a partner in developing this through ideas and pilot cases.

We should also have an exchange of the staff between the science centres and other participating institutes, because this project showed that there is much to learn about the ways how others are doing things. This would be the platform for cooperation, consultation and dialogue that was started in this project, but could be even more effective in a new project. This project would also include children in the workshops and events.

The possibility to take a workshop to another country gave a lot of confidence and ideas how to make the work even better. It showed us that the participating methods do work exactly because they are based on doing, not on speaking. This kind of work brings the Nordic countries closer to each other.

NOR: The Science Fair in Flekkefjord shows that it is possible to get businesses, local business association, fire brigade, the local scouts and a Science centre to cooperate to make an event that sparks curiosity and excitement about science, engineering, technology and mathematics for children, teenagers and adults. The day after the event the local school was in contact and declared the event and school visit a success, and asked if this could be repeated next year.

We think we may have accomplished in some way to promote a cross-disciplinary approach by our visit in the Faroe Islands by introducing new activities and new ways to teach science. This is also accomplished by showing teachers how to teach science by activities, and leave them equipment so they can do it themselves afterwards.

Jærmuseet Science Circus is positive to future collaborations. Our management has also signalled that Nordic/ international cooperation is something worth using time and resources on. These collaborations could be for example: Partnerships with other institutions (Science Centres, Universities, etc) - Staff exchange - Larger projects with external funding - Day to day cooperation such as sharing ideas, information, where to get equipment etc.

SWE: The tour along with the shows and workshops started a journey for both our science centre, as well as the schools we visited and the university cooperation. Two of the schools have contacted us after the tour to plan future teacher training for their staff.

Since the Mid Sweden University decided to profile their programs with inspiration of the methods of the project we must consider that a good result.

The methods a science centre usually uses is called "science centre pedagogics". The method is not defined but often referred to. As a result of the Nordic Knowledge Train project, Technichus, the Mid Sweden University and the Interactive Institute will start a definition and content research project, probably in 2017. Multi-disciplinary teaching is one of the main focuses in "science centre pedagogics".

A quote from Sofia Erikström-Bergström, Teacher Education, Mid Sweden University: "Our cooperation with Technichus Science centre under the Biophilia educational project / Nordic Knowledge Train, has given the teacher students valuable insights in how to promote innovation in schools through the development of educational methods. The students have by experiencing practical workshops received inspiration and knowledge to develop theme work which they have examined both practical and theoretical. Collaborations that we look

forward to continuing to develop in order to increase student learning and motivation as well as their knowledge of innovative teaching strategies."

The work to primary change teaching, to secondary increase young people's interest in science is a long process. We have just begun, but found out that this method of working with STEM + arts is one of the keys to get closer to the wide goal.

One of the ideas from the project was the question "how does the environment affect the teaching process?" Therefore we built two Bazaar environments and installed at two schools, in agreement with the principals. The teachers are now working in teams trying to work out which methods they can use in each subject during the school year, using these environmental changes.

The Nordic Knowledge Train (NKT) was a science communication outreach project between Frodskaparsetur Foroya (Faroe Islands), Heureka science centre (Finland), Jærmuseet, Science Circus (Norway), Technichus (Sweden) and The University of Iceland who was coordinator.

DISSEMINATION

Heureka developed and piloted two workshops, using STEAM methods. The workshops, "The Whispering Moon" and "The House of Light", with detailed guidelines in English, Swedish and Finnish can be accessed here: http://haskolalestin.hi.is/heureka_workshops_0

Presentations at conferences and meetings:

The main findings and results of the project were presented by the coordinator in the final conference of the Biophilia Educational Project and The Knowledge Train, in Iceland, October 2016. The PPT of the presentation can be accessed: <http://haskolalestin.hi.is/node/199/> On the same occasion, conference guests were invited to participate in workshops and activities from the Nordic train partners.

Progress of the project and the results have been introduced to the Icelandic Ministry of Education

Olsen, E. & Ólavsstovu, V. (2016) *Kreativ, aktiv og tvørfaklig undirvísing* (Creative, active and interdisciplinary teaching). Presentation at Frændafundur 9, 27. aug. 2016 in Reykjavík. This presentation combines surveys and workshops done as train activities.

Print, newsletters, meetings:

Thesis:

Sigurðsson, A.S., Olsen, I.F. & Hansen, S.K. (2016) *Seturstokið – The Knowledge Train*. Bachelor thesis at the Department of Education, University of the Faroe Islands.

Articles (in progress):

Olsen, E. & Ólavsstovu, V. (2016) *"Kreativ, aktiv og tvørfaklig undirvísing"* (Creative, active and interdisciplinary teaching). Frændafundur 9. – submission in January 2017.

"Motivation and learning with outreach activities, formal and informal teaching and learning", – expected finished autumn 2017.

At Heureka the project was introduced in newsletters to teachers and in two organized meetings with teachers. The project was also introduced in staff meetings, where photos and experiences were shared with colleagues.

ScienceCircus also introduced the project and main results in meetings for all Jærmuseet staff. In addition, the project has been presented to staff from other Norwegian Science Centre during other project meetings.

Technichus presented the project at a meeting for co-operational projects between the Mid Sweden University and Härnösands Kommun. in February 2016. Also at FSSC meetings the same year. A presentation of the main result in the Swedish Knowledge train is on the agenda for the FSSC meeting in February 8, 2017.

Websites and social media

The yearly magazine of The University of Iceland, print and web:

http://vefbirting.odd.is/HI/timarithi_2016/index.html#42

Public Facebook page and webpage of the project:

<https://www.facebook.com/nordicknowledgetrain/?fref=ts>

http://haskolalestin.hi.is/the_NORrdic_kNORwledge_train_in_english

FAR:

The Faroese train facebook page. <https://www.facebook.com/seturstok/>

The activities at the Umhvørvisvikan (environmental week)

<https://www.facebook.com/umhvorvisvikan/photos/pcb.1033760223384166/1033754163384772/?type=3&theater>

Portals where the project has been mentioned:

[http://www.in.fo/news-detail/news/royna-at-gera-tad-](http://www.in.fo/news-detail/news/royna-at-gera-tad-stuttligt/?L=0oral.fo&cHash=da234c3d991af05021305a1f6723f16a)

[stuttligt/?L=0oral.fo&cHash=da234c3d991af05021305a1f6723f16a](http://www.in.fo/news-detail/news/royna-at-gera-tad-stuttligt/?L=0oral.fo&cHash=da234c3d991af05021305a1f6723f16a)

<http://sudurras.fo/?p=46799>

School homepages:

Nólsoy: <http://www.NORlsoyarskuli.fo/?m=201510>

Skúlatrøð in Klaksvík:

http://skulatrod.fo/?p=17&_sp=albumcollections_albums&AlbumId=349

http://skulatrod.fo/?p=newsgroup&_sp=newsarticle&_NewsarticleId=134

FIN:

<http://www.Heureka.fi/en/biophilia>

<http://www.Heureka.fi/sv/biophilia>

NOR:

The NSCF newsletter, in June 2015

http://media.voog.com/0000/0037/4718/files/NSCF%20Newsletter_06_2015.pdf

Newspaper article from the Science Feast in Flekkefjord.

<http://avisenagder.NOR/reportasje/nyheter/science-circus-pa-sunde-skole/19.37816>

SWE:

Sundsvalltidning

<http://www.st.nu/medelpad/sundsvall/teknik-och-kultur-ska-inspirera-elever-i-alla-aldrar>

University of Iceland webpage:

http://english.hi.is/frettir/knowledge_train_and_biophilia_travel_overseas

http://haskolalestin.hi.is/norraena_thekkingarlestin

http://www.hi.is/frettir/norraena_thekkingarlestin_baud_i_visindaveislu

https://www.facebook.com/pg/HaskoliIslands/photos/?tab=album&album_id=10153719456700728

http://www.hi.is/frettir/thekkingarlestin_og_biophilia_i_utras_til_norraenna_rikja

School webpage in Reykjavik, Fossvogsskoli:

<http://www.fossvogsskoli.is/eydhubloedh/46-uncategorised/1257-NORrraena-thekkingarlestin-bydhur-reykviskum-boernum-i-visindaveislu>



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