

DISSEMINATION STRATEGY

(2012-2015)

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I. DISSEMINATION AND IMPLEMENTATION STRATEGIES

Dissemination refers to “the process by which, using certain strategies, results of a project are made available, comprehensible and usable by potential users.” (Debry et al. 2013) Disseminating materials and ensuring their use is a core aspect of the INSTEM project and working towards this is embedded from the outset, both with respect to short term opportunities as well as strategically planning long term dissemination and exploitation. The activities carried out to disseminate and exploit INSTEM project results and knowledge are either web-based, paper-based or face-to face strategies. (cf. Debry et al. 2013)

Who disseminates?

- Project leaders
- Teacher trainers
- researchers

What is disseminated?

- Reports about IBL
- Reports about project outcomes
- Conference outcomes
- Newsletters
- INSTEM wiki

How are the results disseminated?

- Text-based dissemination (leaflets, poster, international and national INSTEM website etc.)
- Speeches at conferences, meetings etc.
- Workshops

To whom are the results disseminated?

- Practitioners
- Researchers
- Policy makers
- Interested public

DISSEMINATION TASKS

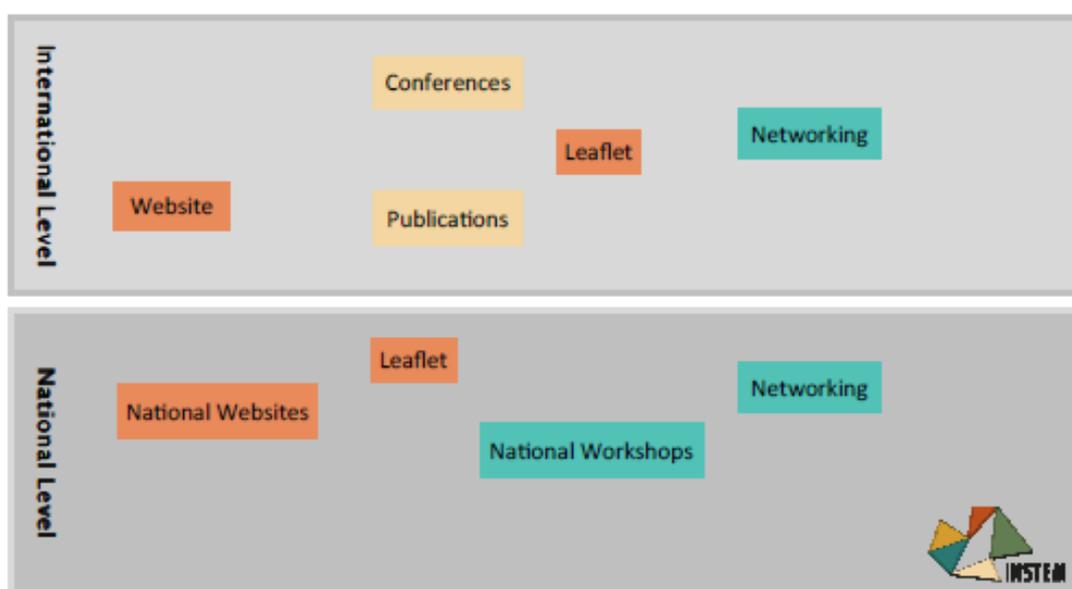
The following strategies are part of the INSTEM's dissemination process according to the description of work:

Talks given at conferences and workshops	This key networking strategy is being applied at any given opportunity. INSTEM representatives regularly participate in conferences and meetings. In addition, national workshops were held in each partner country.
Leaflet	Featuring the project's corporate design with its appealing logo project. This leaflet has already been printed and distributed to all INSTEM partners (5.000 copies in total).
INSTEM Website, including national webpages	The website is used to provide the reports, newsletters and other information to the public.
Existing networks	These networks were and will be used to spread results of INSTEM, as many partners are in close connection with academics, school administrations, professional development providers, policy makers and schools, which provided a good basis for dissemination, for example:
Identifying and involving key actors	INSTEM partners identified key actors through a sectorial analysis and involved them in INSTEM activities to maximise outcomes.
Sending out newsletters on a regular basis	To a broad audience of partners of this network (distributed among 11 universities, 3 schools and 56 associated partners).
Three international conferences	In these conferences partners and participants shared and will share their understanding of inquiry-based learning and on meaningful dissemination and implementation strategies. From conference to conference, the audience of these conferences will include a bigger number of participants from different target groups, such as academics, school administrations, teacher professional development providers, policy makers and schools and teachers.
Initiating national working groups	These national working groups started to develop strategies for sustainable exploitation of synthesized project results. These groups will be internationally linked through a forum, virtual meetings, newsletters about their work and personal contacts at the conferences.

<p>Writing case studies</p>	<p>These case studies are supposed to illustrate successful strategies for exploiting synthesized project knowledge in order to post them on the homepage. Each partnership country will write a case study on how the project knowledge is exploited (description, analysis of effects, focusing on the national impact and the potential for the basis for replicability to other country/regions).</p>
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Summing up, a variety of methods are used to disseminate the results of the project successfully and to ensure exploitation at a national and international level. Particularly worth mentioning are:

- The three consecutive conferences involving the more and more key-actors
- The innovative idea of initiating sustainable national working groups.



SETTING UP SUSTAINABLE STRUCTURES

A crucial point for projects is to set up sustainable structures, which allow continuation of the work after the lifetime of projects on a national and/or international level. This is a major challenge, which INSTEM tries to meet by supporting partners to establish national working groups, which are working together at a national level. It is assumed that these will encourage new project proposals. If this will happen, INSTEM will contribute science and mathematics education reforms, in which widespread long-term cooperation replaces fragmented, short-term initiatives. Ideas about an overall sustainable strategy for innovative science education will be developed, taking account of the challenges of Horizon 2020 and the needs of practitioners.

II. WHAT HAVE WE ACHIEVED?

SHORT-TERM IMPACT TARGETS (DISSEMINATION)

A number of strategies have been used in order to maximize the impact of the project outcomes.

STRATEGY ONE: CONFERENCES

As part of the dissemination process two conferences were held including key representatives from ministries of education, mathematics and science learning centres, school boards, educational authorities as well as teachers, teacher trainers, science and mathematics educators and researchers.

The conferences have been carried out as planned and a total of 185 participants.

1st INSTEM: Conference, 19-20 March 2013 in Amsterdam, the Netherlands

During the first conference with 31 participants, the aims, objectives and methodologies of INSTEM were discussed with the participants in order to:

- Initiate collaboration between EU funded projects, to learn about their findings and strategies
- Inform key actors about the project;
- Encourage key-actors to support the dissemination of INSTEM information and ideas and establish connections to national initiatives on common themes;

For more Information see please consult our website (instem.tibs.at/node/24) where you will find all conference reports.

2nd INSTEM Conference, 25- 27 March 2014 in Halle (Saale), Germany

The second conference with about 60 participants, held one year after the start of the project, reflected on the progress made so far:

- Develop further ideas on how to exchange project knowledge;
- Discuss the use and value of project knowledge and mutual learning about effective implementation;
- Share insights in the national workshops.

The conferences were a ground-breaking step for identifying, extracting and synthesising the learning from previous EC funded projects. Conference partners and participants shared their understanding of enquiry-based learning and discussed meaningful dissemination and implementation strategies. The conferences contributed promoting European co-operation amongst different stakeholders, especially amongst the national workgroups. The conference also helped to spread INSTEM results to a broader community.

For more Information see: instem.tibs.at/node/24

3rd NSTEM Conference, 17-18 June 2015, Freiburg (Breisgau), Germany

In order to address a broader variety of people, INSTEM cooperated with the FP 7 Project Mascil to organise two workshops who took place contemporaneously to the conference. One addressing international stakeholders while the other workshop was a Mascil teacher training course (for more information: www.Mascil.eu), each of them addressing the specific needs of these target groups. Participants of these workshops were invited to join in during the “market of possibility” session and engage in discussions with the conference participants.

For more Information se: instem.tibs.at/node/24

STRATEGY TWO: TALKS AT CONFERENCES AND WORKSHOPS

Research and teacher conferences and workshops are an important means for the project’s dissemination actions. From the beginning, the project’s outcomes, theoretical perspectives and a comparative analysis about project knowledge as well as of the current state of the art of learning and teaching in the participating countries have been disseminated and presented in a number of workshops, conferences and other events. Altogether, about **100 talks at meeting conferences and workshops** have been given, which addressed teachers, academics, stakeholders, policy makers and key-actors.

All these events sums up to **12.500 people reached** via these events.

STRATEGY THREE: NATIONAL AND INTERNATIONAL HOMEPAGES, WIKI

An appealing homepage was set up to inform and attract different target groups. The INSTEM website was created in order to facilitate collaboration among partners and projects as well as to initiate the flow of information and resources etc. involved. The website was continuously updated. A wiki supplements the website and can be easily updated during and after the project (sustainability). The website will be maintained by the Austrian partner for another 3 years.

The website was viewed 71.538 times (31.11.2015)

STRATEGY FOUR: NATIONAL WORKSHOPS

From November 2013 to February 2014 in each partnership country workshops on a national or regional level were successfully organised. **483 participants** from different backgrounds – policy makers, key-actors, project coordinators, teacher educators and teachers as well as pupils – were brought together to initiate national processes.

For more information please consult our resource page, where reports on national activities can be found: <http://instem.tibs.at/node/24>

STRATEGY FIVE: REPORTS

(1) Structured summarizing report about project knowledge (WP2 report)

A major aim of INSTEM was to gather and collate knowledge, experience and products around inquiry-based teaching produced in recent Comenius projects, networks and FP7 projects, into a single synthesis document, available online and in print.

This report has stimulated the work in the national work groups tremendously. The report provides information on a meta-level condensed into recommendations for the EU policy as well as for the national policy.

The report was disseminated at main events (more than 200 participants/event). For instance: ECER 2013 Istanbul, ECER 2014 Porto, ECER 2015, Budapest, ESERA 2013, Nicosia; ESERA 2015, Helsinki, ECRICE 2014, Jyväskylä, MASCIL Conference 2014 Essen, GIREP 2014, Palermo, ICWIP 2014, Waterloo, Canada, EC gender workshop, Brussels, SCIENTIX 2 launch meeting, Brussels, SCIENTIX Conference, in Brussels 2014, Creative Little Scientists Conference, Athens., SiS Catalyst Conference in Vienna, 2014, New Perspective in Science Education Conference, in Florence, 2014, 2015.

(2) Analysis of the current state of the art (INSTEM state of the art report)

One of the major achievements of this project is the state-of-the-art report based on an analysis of EC funded inquiry-based learning (IBSE) educational innovation including inquiry-based teaching, gender issues, science career information and on the exploitation of project knowledge beyond the lifetime of projects across the partnership nations.

This state-of-the-art itself allowed us to contact important target groups and stakeholders from the very beginning as its content was attractive for them and in consequence was a good starting point for our communication within large networks. The report was sent to 88 policy making related people and organisations on an international level. Dissemination also took place through PROCONET, the IOSTE Conference and brokerage event, the INSTEM national workshops (483 participants). It was also distributed throughout the INSTEM network, which consist of 11 universities, 3 schools and 56 associated partners.

STRATEGY SIX: USING EXISTING NETWORKS

The conferences and personal contacts outlined above got the key-actors involved. The INSTEM network consists of 11 Universities, 3 schools and 56 associated partners. They, in turn, not only went on to spread the materials as individuals, but also were and are able to further increase dissemination through use of the networks to which they belong, such as teachers' associations etc.

Examples for those are: EU project platforms e.g. NEO, SiS Catalyst, INQUIRE, MASCIL, SAILS, TRACES etc. the Austrian IMST and NAWI Network Vienna platform and other national platforms in all partner countries.

Previous Impact

In the proposal, the following targets were outlined:

“INSTEM will synthesise the extensive knowledge and experience of current and former (Comenius) projects and actively initiate sustainable national working groups to transform science teaching. INSTEM is unique as all full partners (except 2 schools) are representatives of European projects. It is a network of networks drawing upon materials from 20 projects and 300+ institutions and bringing together 11 Universities, 3 schools and 56 associated partners (12 from additional projects, 44 key-actors for the national working groups e.g. schools, policy makers). This will ensure the best possible valorisation of existing project results to about 45,000 teachers.” (Application Form Lifelong Learning Programme 2012:32)

With the dissemination activities we have carried out we have reached approximately 12.500 people directly via meetings, conference and Events, about 483 via INSTEM workshops. We have reached further teachers, researchers and other key-actors with leaflets, the homepage (more than 71.550 views) and other events. In total, the dissemination of the project can be considered to have been very successful.

LONG TERM TARGETS¹ (DISSEMINATION AND SUSTAINABILITY)

INSTEM has carried out all activities as scheduled in the description of actions, as described in part 3. The main achievements were the publication of the following reports (all available at: <http://instem.tibs.at/node/24>).

INSTEM - State of the Art Report on IBL
INSTEM - Synthesis Report
1st, 2nd, 3rd Conference Report
INSTEM Dissemination Strategy (whole project)
INSTEM Second Annual Report
INSTEM Third Annual Report
WP3 Discussion Paper

The highlight at the end of the project was the 3rd international dissemination conference which brought together main actors of the project, national workshops and policy makers across Europe.

STRATEGY ONE: ENLARGING THE INSTEM HOMEPAGE

Our project website was enlarged in order to provide relevant information on project outcomes and project reports, classroom materials and international collaboration to the different target groups. Seven newsletters are available.

The goals were:

- Providing resources for INSTEM stakeholders
- Providing materials for INSTEM stakeholders
- Facilitating collaboration among projects
- Bundling project outcomes and maintaining these results for the future
- Informing the public about future international and national events
- Providing information in all seven languages of the partner countries.

¹ after project termination

STRATEGY TWO: PUBLICATIONS

We published our activities and outcomes on the websites, in proceedings, journals and in print

For more information see: Resources <http://instem.tibs.at/node/24>

STRATEGY THREE: NATIONAL WORKSHOPS AND CASE STUDIES

On a national level, the most important keys to dissemination were the national working groups. Project partners were engaged in setting up sustainable national dissemination structures via the national working groups. Each partnership country wrote a case study on how project knowledge is exploited its country

The following Case Studies are published on the website

Case Studies <http://instem.tibs.at/node/24>

- [INQUIRE](#) Case Study, Austria
- [Traces](#) Case Study, Italy
- [INSTEM](#) Case Study, Ireland
- [Stencil](#) Case Study, Greece
- [Fibonacci](#) National Case Study, Romania
- [S-Team](#) Case Study, Norway
- [INSTEM](#) Case Study, UK
- [INSTEM](#) National Case Study, Turkey
- [SINUS](#) Case Study, Germany

III. SUMMARY:

Dissemination Activities	Date/Time Frame	Details
1st INSTEM Conference	March 2013	http://instem.tibs.at/node/24
2nd INSTEM Conference	March 2014	http://instem.tibs.at/node/24
3rd INSTEM Conference	June 2015	http://instem.tibs.at/node/24
Leaflets	July 2013	http://instem.tibs.at/sites/instem.tibs.at/files/upload/INSTEM_Leaflet.pdf
National Workshops (reports and posters on website)	October 2013 - February 2014	http://instem.tibs.at/node/24
Conferences/Meetings etc.²	Continuously	-
INSTEM Website	Continuously	http://instem.tibs.at
INSTEM Synthesis Report	May 2014	http://instem.tibs.at/node/24
Brief Report about 1st Conference	August 2013	http://instem.tibs.at/node/24
Brief Report about 2nd Conference	August 2014	http://instem.tibs.at/node/24
Brief report about 3rd Conference	August 2015	http://instem.tibs.at/node/24
INSTEM State of the Art Report	August 2013	http://instem.tibs.at/node/24
Case Studies	Dec 2014	To be published on website
INSTEM wiki	Continuously	https://www.ntnu.no/wiki/dashboard.action

² Cf. Appendix

IV. REFERENCES:

Debry, M. et al. (2013): "Reach out. Improving Science, Technology, Engineering and Mathematics Education in Europe." Toolkit. Brussels: European Schoolnet. URL: http://desire.eun.org/c/document_library/get_file?uuid=19f37a23-d566-4a49-8106-5a29857a16f3&groupId=12834 (12.12.14)

INSTEM (2012): *Application Form Lifelong Learning Programme: Innovative Networks for Science Technology Engineering & Mathematics education.*

V. APPENDIX

LISTS OF CONFERENCES, MEETINGS ...

Talks were given at conferences, meetings and workshops to inform both the research community as well as teachers about INSTEM and increase teacher knowledge of interdisciplinary teaching. Please find a selection of it below:

- One of the German partners (University of Education Freiburg) of INSTEM attended a conference for German mathematics educators in March 2014 in order to promote enquiry-based learning and to inform other participants about INSTEM.
- A meeting of kindergarten teachers in Bucharest took place on 16.05.2013 at the kindergarten “Ciupercuta” in Bucharest. The event was organised in cooperation with the Center for Science Education and Training (CSET) from the National Institute for Laser, Plasma and Radiation Physics and the local school inspectorate. Kindergarten educators attending the meeting participated to an exchange of good practice and demo sessions delivered by “Ciupercuta” kindergarten staff. Dr. Sporea spoke about CSET projects on science teaching and introduced to the audience the INSTEM project. The event was organised in the frame of the nationally funded project “Inquiry-based education in science and technology” (<http://education.inflpr.ro/ro/IBEST.htm>).
- On April 19th and 20th 2013 the 4th International Conference “Science Education in School” was organised in the city of Galati with participation of primary and middle school teachers and school students. The event was organised by the Center for Science Education and Training from the National Institute for Laser, Plasma and Radiation Physics in Galati. Dr. Adelina Sporea and Dr. Dan Sporea spoke about CSET projects on science teaching and introduced to the audience the INSTEM project. Further Dr. Suzanne Kapelari spoke about the purpose and goals of INSTEM. Apart from the conference presentations, courses on inquiry-based science education were organised for 126 primary and middle school teachers, courses delivered by trainers from abroad. A science fair for school students was also organised with the participation of over 500 students from different towns. The entire event was organised in the frame of the nationally funded project “Inquiry-based education in science and technology” (<http://education.inflpr.ro/ro/IBEST.htm>).

- On May 18th 2013 a symposium was held at the private kindergarten “Happy Kids” in the town of Ramnicu-Valcea. The symposium, gathering educators and children from pre-schools and primary school from several Romanian towns, was organised as an exhibition and demo sessions with pupils’ experiments. Dr. Sporea spoke about CSET projects on science teaching and introduced to the audience the INSTEM project. The event was organised in the frame of the nationally funded project “Inquiry-based education in science and technology” (<http://education.inflpr.ro/ro/IBEST.htm>).
- During a FP7 projects’ summer school in Ankara, Turkey, the INSTEM project was presented to 83 science teachers. Altindag’s County Director of National Education, Vural Cakir, and four other persons in his team were informed about INSTEM on September 12th and 13th 2013.
- Researchers, teachers all around Turkey including members of the Turkish Science Education and Research Association were informed about the INSTEM project through social networks and list servers.
- On September 24th 2013 Dr. Dan Sporea paid a visit to the Nanyang Technological University, National Institute of Education, after attending the 2013 International Conference on Creative Education (ICCE 2013) Conference in Singapore. Dr. Sporea spoke about CSET projects on science teaching and introduced to the audience the INSTEM project. The visit was organised in the frame of the project “Creative Little Scientists: Enabling Creativity through Science and Mathematics in Preschool and First Years of Primary Education” (<http://education.inflpr.ro/ro/MiciiCercetatoriCreativi.htm>).
- At the conference “New perspective in science education” (14-15 March 2013), which took place in Florence, participants were informed informally about INSTEM by Dr. Suzanne Kapelari.
- At the ESERA 2013, which is the 10th biennial Conference of the European Science Education Research Association (2-7 September 2013) and took place in Nicosia, participants were informed informally about INSTEM by Dr. Suzanne Kapelari. Further leaflets were displayed and distributed.
- At the European Educational Research Association (EERA), which consists of more than 20 national and regional Educational Research Associations from all parts of Europe, and which took place in Istanbul (10-13 September 2013), participants were informed informally about INSTEM by Dr. Suzanne Kapelari. Further leaflets were displayed and distributed.

- The Austrian Association for Didactics (Fachdidaktik) was founded in 2012 and aims to support a wide range of subject related research networks in Austria. The first symposium was held in Klagenfurt in September 2013. INSTEM was presented there as one of four projects.
- The ProCoNet group currently comprises the coordinators of current European FP7 funded projects in STEM education, together with colleagues from similar projects funded from other sources. The group meets on a regular basis; so on 25th of September 2013 in Brussels. Tricia Jenkins informed participants about INSTEM and the state-of-the-art report.
- At the IMST conference, a support system for mathematics and science teachers, which took place on the 24th of September 2013 in Klagenfurt, science education researchers, teacher trainers, teachers and policy makers were informed about INSTEM and the Austrian national workshop.
- At the Austrian Education Competence Centre (AECC) meeting on 22 May 22, 2014 INSTEM was discussed with representatives of the AECC in Vienna, Austria. Aim of the meeting was a discussion about how to make INSTEM more known to the public and how to efficiently disseminate project knowledge to the respective stakeholders.
- On the 27th of May 2014 the Walther-Rathenau-School in cooperation with the University of Education Freiburg held a big dissemination event to promote inquiry-based learning and INSTEM. In a big exhibition students presented exhibits they made in lessons. All these exhibits were results of students own inquiry. Target group of th s big exhibitions were teachers, students and member of enterprises. More than 100 visitors were impressed by the featured exhibits. There were self-developed computers, virtualized networks, visualizations of technical procedures and much more.
- A meeting of teachers from the Centre for Education and Career Counselling for hearing impaired children and young adults (BBZ) in Stegen took place on 10th of October 2014. The event was organised in cooperation with the University of Education in Freiburg. Teachers from all school types attending the meeting participated to an exchange of good practice and demo sessions delivered by the teacher staff. Dr. J. Passon spoke about inquiry-based education and introduced to the audience the INSTEM project.

LEAFLET



SHAPING THE FUTURE OF STEM EDUCATION

WHAT IS INSTEM SHORT FOR?

INSTEM (Innovation Networks in Science, Technology, Engineering and Mathematics) is a Comenius network, which brings together the experience and learning of a wide range of projects in European Science and Mathematics education. Its links research, practice and policy in a unique way. INSTEM's main goal is to promote inquiry based teaching, to gather innovative teaching methods and to raise students' interest in science.

INSTEM also acts as an integrated provider of STEM education materials and techniques, based on the work of previous projects. It works with national teams on the implementation of good science and mathematics teaching, using inquiry as a starting point whilst being open to all innovative and effective approaches.

It goes beyond previous "clearing-house" activities by taking a critical, reflective and inclusive approach to the various strands of practice and development work carried out in projects across Europe.

WANT TO FIND OUT MORE?

Have a look at our website:
instem.tibs.at

Our website is available in English only, however you will find links to our national INSTEM websites here:
instem.tibs.at/partners

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Education and Culture DG
Lifelong Learning Programme
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FOR PRACTITIONERS

- teaching resources
- gathering of information about European project outcomes
- national activities
- education and training
- development of innovative lessons

FOR RESEARCHERS

- national activity reports
- workshops
- conferences
- online forums

FOR POLICY MAKERS

- information about current and finished projects
- overview of project outcomes
- collaboration with researchers
- insight into other projects

FOR PARENTS AND STUDENTS

- development of new teaching methods
- internationally comparable teaching in STEM subjects
- school development
- careers information
- new insights in STEM subjects



Map locations include: Dublin University (Ireland), University of Liverpool (Great Britain), University of Exeter (Great Britain), Bournemouth College (Great Britain), Norwegian University of Science and Technology (Norway), Martin Luther University Halle (Germany), Walter Benjamin Universität Pädagogische Hochschule Freiburg (Germany), University of Applied Sciences FH Technikum Wien (Austria), University of Ferrara (Italy), National Institute for Laser Plasma and Radiation Physics (Romania), Hacettepe University (Turkey), Hellenic Open University (Greece), University of Napoli Federico II (Italy), University of Napoli (Italy), Hellenic Open University (Greece).