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Report on SAILS dissemination activities

SAILS
Strategies for Assessment of Inquiry Learning in Science

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Executive summary

The purpose of this deliverable is to report on the dissemination activities carried out in SAILS during the lifetime of the project. It summarises the various reports and deliverables produced in Work Package 6 and describes the outputs of the different tasks. The dissemination and promotion approach is described in the initial dissemination plan which was produced early on in the project.

A key dissemination activity has been to **establish and maintain a credible and attractive web presence** for the project. There have been three main iterations of the project website, the first was available for the first 2 years of the project and was successful in establishing the project and in building up interest amongst the target community. A new site was launched in early 2014 designed to be more visually interesting and to provide a more activity-based presence for the project. The last iteration is the legacy site, launched in November 2015 which contains the main outputs of the project. The first two iterations also provided access to the partner portal for internal communications and to the communities of practice reported on in Work Package 5. There has been a steady growth in the number of visitors to the websites and by mid-December 2015, **29,657 unique visitors** had visited the site.

An **extensive set of publicity materials** were developed for the project and translated where necessary. These include leafets, posters, pull-ups and gadgets as well as the brochures, newsletters and related resources created for stakeholders. **An extensive set of video resources** have also been created which includes classroom recordings, teacher interviews and event captures. Linked to these publicity materials are the two printed volumes of SAILS units produced towards the end of the project.

Clustering, networking and collaboration have been a key activity and the partnership has achieved a number of important successes in this respect both in terms of relevant national and regional connections made as well as successes at a European level. Key amongst these has been the **successful collaboration with Scientix** and the **establishment of close ties with projects involved specifically in assessment of IBSE.**

As well as engagement on the part of SAILS partners in a very high number of events including academic conferences, two highly successful SAILS events were organised. These were the **SAILS/SMEC Conference for teachers organised in Dublin in June 2014** which attracted almost 300 teachers from all over Europe and the **final SAILS Conference organised in the European Parliament** aimed at stakeholders and decision-makers in Brussels in November 2015 which attracted 70 participants.

Several conclusions can be drawn from the SAILS dissemination and promotion work. The first relates to the difficulties inherent in creating a comprehensive database of relevant contacts amongst stakeholders and the **value of carrying out such work on a far more systemic basis** through, for example, Scientix. The second relates to the **value of video as a tool in supporting dissemination** which is borne out in SAILS where resources like the classroom recordings are proving to be very useful in exploiting project outputs. The dissemination team also found a **significant value in organising branded high-profile events,** namely the teachers' conference and the Brussels event for decision-makers. Finally, **significant effort has been put into ensuring the legacy of the project** in the form of the final website which includes all the units and associated resources, this is effort not fully foreseen at the start of the project, however the team proposes that this is a vital piece in the overall dissemination and promotion service put in place for SAILS and one which should feature more significantly in this type of work for projects like SAILS in the future.

Table of Contents

1. Introduction to SAILS dissemination activities

DISSEMINATION APPROACH AND PLANNING

The dissemination and promotion work led by ATiT for the SAILS project was based on the objectives described in Work Package 6 Dissemination and Project Promotion of the Description of Work (DoW). This work was subsequentially elaborated in the Dissemination Plan which is included in the report submitted at the end of Month 12 marking milestone 21 – the completion of the dissemination audit and the delivery of the dissemination plan.

These objectives are:

- To reach a wide audience of stakeholders, decision makers and special interest groups for the propagation of the conduct, implementation and outcomes of the project. Three different types of stakeholder were identified: government agency representatives and policy makers, pedagogical researchers and practitioners, and technologists and content providers.
- To participate in presentations/workshops/conferences at national, European and international level to share project process/outcomes and examples of best practice in IBSE.
- To publish articles/reports in journals, newsletters, newspapers, at national, European and international level to share project process/outcomes and examples of best practice in IBSE.

As described in the DoW, all dissemination and promotion activities of the SAILS project were to be managed by ATiT with the input of all partners and were organised according to a set of 7 tasks.

These tasks included the development and maintenance of an engaging website, production and distribution of promotion materials and the management of the partnership's centralised dissemination activities such as conference presentations as well as the monitoring and support of dissemination activities carried out by consortium members.

This dissemination work also included the organisation of networking and clustering activities along with engagement in presentations and publications, promotion of project work to policy-makers and relevant and national and regional representatives and collaboration with appropriate agencies and networks.

Part of the management of the dissemination work for the project included the creation of a set of practical "How to …" guides for the partners. These included "How to use the SAILS Portal", "How to adapt and use SAILS promotional materials in your own country", "How to organise the national launch of SAILS in your country" and "How to record video clips for promotion through the SAILS channel" which have been shared during the project lifetime and were part of the overall dissemination service provided by ATiT to the rest of the partnership. As well as these general guides, members of the ATiT team have also regularly supported individual partners in the creation of specific promotion materials for national events.

Finally, an explicit policy with regard to dissemination was described in the SAILS Dissemination policy which was accepted by all partners. This policy covers the scientific publication policy as well as the use of project dissemination materials and individual responsibility in respect to dissemination and promotion.

Management of the dissemination and promotion activities of the project was led by ATiT who were in very regular contact with the project coordination team in DCU. Members of the ATiT team took part in all project meetings where time was set aside to present the activities and achievements of the dissemination and promotion action as well as to collectively plan and prioritise the steps to be taken in the following phase of the project. Furthermore a specific dissemination committee was established

which met regularly particularly in years 2 and 3 to support the coordination activity. Sally Reynolds from ATiT represented WP6 on the Project Steering Committee (PSC).

The dissemination plan described in some detail how the partnership could and would disseminate the activities and outcomes of the project to each of the targeted groups. The planning put forward a number of different phases of which the final phase, that of validation, is currently fully underway and expected to continue well after the end of the project. This is made possible due to the attention paid by the consortium as a whole to the project legacy and the particularly high quality public outputs of the project described later in this deliverable.

It is worth re-iterating here the main messages that have been at the heart of the SAILS dissemination activities and which have not altered since the launch of the project. The main one of these is **to communicate information about how to put in place an appropriate assessment methodology to support inquiry based science education** in the classroom. This implies the availability of appropriate assessment methodologies in an accessible form to the wider science education community. A secondary message related to the existence of the project. By this we meant that during the project, the team has put a significant amount of effort into **ensuring that as many relevant people as possible know about SAILS** and come to recognise it as a source of high-quality information on the topic of IBSE assessment.

STATUS OF DELIVERABLES AND MILESTONES

There were 7 deliverables in total linked with Work Package 6. Each has been submitted and a very brief summary is provided here in order to provide a full and transparent report on the work undertaken in this work package.

D6.1 SAILS Project website due M02
The project website involved not only the design and set-up of the public website but also the delivery of a portal for use by the partners for internal communication and the communities of practice which are the subject of Work Package 5. It was first launched in M4 and has been the subject of several re-iterations since then. This work is described in chapter 2 with the current site available to the public on http://www.sails-project.eu.

D6.2 SAILS promotional materials due M03
The first set of promotional materials were made available at the kick-off meeting and have been elaborated and updated consistently since then**.** Descriptions and samples of the materials produced are included in this deliverable in chapter 3 which also describes the various video-based resources that have been created to support the dissemination and promotion effort.

D6.3 Report on SAILS networking activities due M20
This deliverable submitted in M26 provides a detailed description of the networking activities undertaken up to the half way point of the project with a plan as to how networking would be carried out in the second half of the project.

D6.4 Production of a high-level brochure aimed at policy-makers (1) due M24
This deliverable was made available in time for the SAILS conference in June 2014 (M29) and distributed widely in the following period at relevant events, through partner promotional activities and via the project website. It is described in chapter 3 and included in annex 1.

D6.5 Production of a high-level brochure aimed at policy-makers (2) due M36
As agreed with the project team, this deliverable submitted in month 34 is a multimedia production which summarised the main activities and achievements of the teachers involved in SAILS for policy-makers. It has two main elements, the 6 page report on the teachers' conference held in Dublin in June

2014 that was sent to a large number of policy-makers and stakeholders and the video interviews recorded with many of the teachers from different parts of Europe who took part. This report was based on the work of the teachers who presented their assessment experiences and knowledge gained at the SAILS conference held in Dublin in June 2014. The text part of this deliverable is contained in annex 2.

D6.6 Report on SAILS dissemination activities due M48
This deliverable, written and submitted in December 2015, Month 48 of the project.

D6.7 Summary executive report on project achievements and outcomes aimed at policymakers due M48
This deliverable was made available in time for the high-level event held in Brussels on 18 November 2015 (M47) and is described in chapter 3 with a copy included as annex 3.

STRUCTURE AND PURPOSE OF THIS DELIVERABLE

This deliverable has been structured according to the task list included in the original description of work and each chapter reports on task activities and achievements. Several additional dissemination activities have been undertaken during the lifetime of the project including the classroom video recordings and the high-level project conference held in the European Parliament in November 2015. These activities have been added and reported on under the most relevant task.

The purpose of this deliverable is to provide a summary of the main dissemination activities and achievements of the project and where relevant to point to future activities and lessons learned. It is intended for a public audience and like the other public project deliverables will be available for download from the project website when approved.

2. Task 6.1: SAILS Web Presence

The main thrust of this work was to develop and maintain a suitable web presence for the SAILS project that met a number of objectives and since the start of the project, the SAILS team have maintained a lively online presence through the SAILS website available on http://www.sails-project.eu

There have been three main manifestations of the SAILS web presence which are described separately here, each with its own rational and set of priorities. While a consistent style and approach has been maintained in all 3 websites, the changes that have been made were considered necessary in order to meet the changing needs of the project according as it went through the different phases of its development from initial community-building and knowledge-sharing through to final validation.

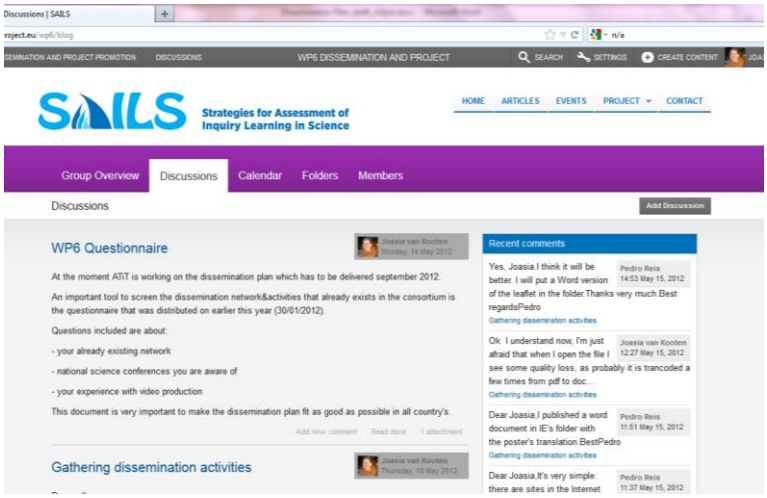
WEBSITE VERSION 1 MAY 2012 – FEBRUARY 2014

The purpose of the SAILS project website as described in the project proposal was to create a portal site that was attractive, user-friendly and designed to fully meet the dissemination requirements of the project.

The portal was to have a news-fed public space and a closed partner project-area for internal project communications. The website was also foreseen as providing access to the Community of Practice (CoP) (WP5).

The first version of the SAILS portal site had two main areas, a public area and a project area. The URL www.sails-project.eu, brought you to the homepage of the public space where you could see the latest project news and read a short description of the project. A series of tabs guided the visitor to further information. The first of these was **Articles**, which provided access to a collection of journalistic articles about the project as well as articles about other IBSE initiatives. Under the **Events** tab, a calendar could be found with the public SAILS events posted including workshops and presentations. A **Resources** tab led to interesting material like project videos, reports or external links to external documents, websites or initiatives on the topic of IBSE and assessment. The next tab was called **Project** and includes pages with a more detailed description of SAILS, a list of the partners and the work packages in which they were active. The last tab was called **Communities** and brought the visitor to the different online national communities of practice as well as the international COP.

Via a button “Log in” at the top right on the homepage it continues to be possible to login into the **partner space**. The partner space is divided into groups, each group refers to a work package. In the project area you can switch easily between these different groups. Inside a group there are again different tabs: These are Group Overview, Discussions, Calendar, Folders and Members. The Group Overview gives a list with the latest activities in that group. Discussions can be set up in the Discussions area.



The Calendar function works the same as the event calendar on the public space, but this one is meant for team meetings or other work package specific activities. The Folders tab has a folder structure where documents can be uploaded and downloaded. The members tab shows an overview of the specific members in the group.

A “How to use the SAILS Portal” guide was created to explain how the portal works and can be found in the Annexes of M21 the dissemination plan, submitted in the first year of the project.

WEBSITE VERSION 2 FEBRUARY 2014 – PRESENT

A decision was taken in late 2013 to review the look and feel of the project website alongside a review of the Communities of Practice and to reflect the fact that these communities were becoming more active and required a more attractive visual presence.

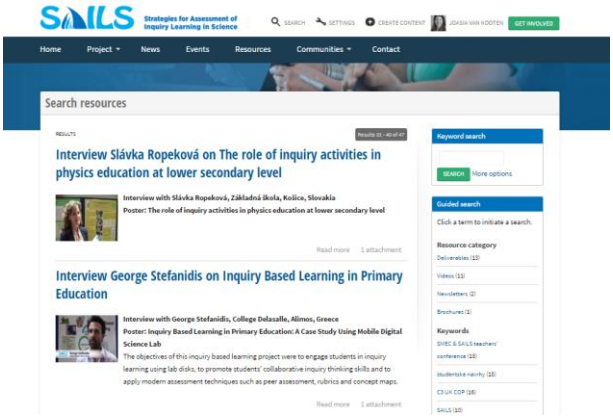
Feedback was received from partners which had used the online communities of practice during the first pilot workshop round, the main feedback was that the online COP and website overall (which was the gateway to the COPs) was not always very easy to use and lacked an attractive interface especially for new users.

We felt it was important to take these comments very seriously as the SAILS portal was a core dissemination tool but was also meant as a community building platform specifically for participants in the SAILS Teacher Education Programme.

Therefore we felt there was a need to look critically at the original design and find ways to make the current website more exciting by providing:

1. A more modern design through **improved colour palette** & **more readable typography**
2. Relevant **stock imagery** to add more excitement to the website (which could be replaced with SAILS own photos in future)
3. **Restructured navigation** to allow users to browse quicker
4. **Call to actions** for **getting involved** and finding out more **about the project**

ATiT staff worked closely with Intel in the re-design of the site which was launched in February 2014.



Most important changes were:

- **New colour palette** with green to be used for call to actions
- **Call to actions** for users to get more information about how to become more involved
- **Slideshow** on the home page to make it dynamic and give the user a sense of what the website is about and the target market audience almost immediately
- **More informative text** about the project
- **Improved navigation** to allow users to browse easily through the site

This new version of the SAILS website simply replaced the old site at www.sails-project.eu.

WEBSITE VERSION 3 THE LEGACY WEBSITE

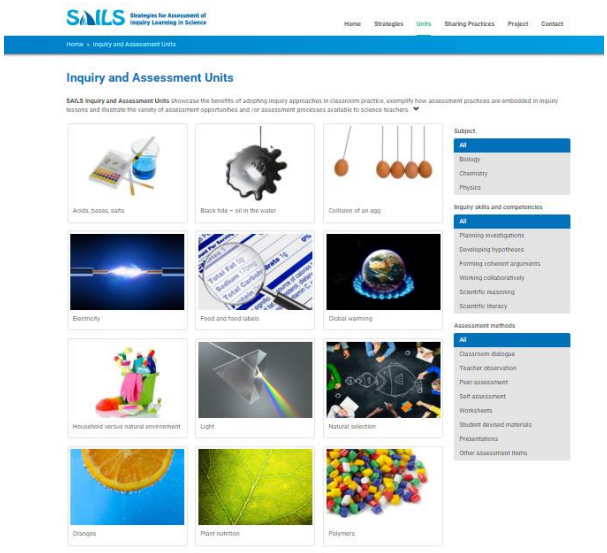
The final SAILS legacy website was launched in November 2015 at the Brussels conference held in the European Parliament. It is currently available here: [http://results.sails-project.eu/.](http://results.sails-project.eu/)

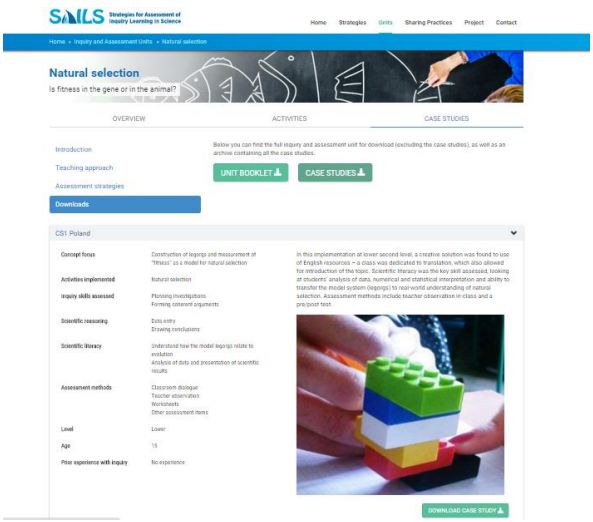
The purpose of this site is to put in place an attractive web presence for the partnership that makes available the outputs from the project beyond the lifetime of the project. The requirements of such a site are quite different from the demands of a site supporting an active project but equally important in that without a site featuring the main SAILS outputs these valuable outputs of the project would risk becoming lost. This is why there was a complete re-design and re-build of the site in the final months to be able to launch this new site which will be actively supported for 24 months from January 2016.

This new site is all about the results and outputs of the project rather than the activities and so the front page presents the main outputs under three main headings:

- SAILS Strategies
- Inquiry and Assessment Units
- Sharing Practices

In the **SAILS Strategies** part the SAILS project framework is outlined and explains how the framework feeds into the SAILS inquiry & assessment units which can be found in the next section. Direct links to the core deliverables will be added (D2.4 on the SAILS Framework and D3.4 on the SAILS Teacher education programmes) once these deliverables can be made public.



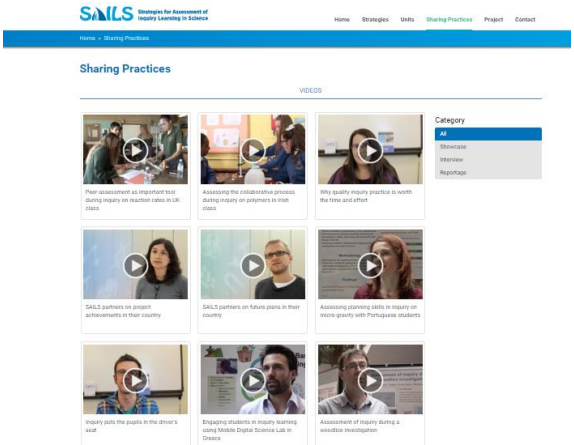


In the **Inquiry & Assessment Units** section visitors can find the 19 SAILS units, a filter is available on the right-hand site to make it easier for teachers or educators to find a unit for a certain subject (biology, chemistry, physics) or to focus on a specific inquiry skill or assessment method.

Clicking on one of the unit thumbnails will bring you to the specific inquiry & assessment unit page. The visitor can find a summary of the unit below the overview tab, the activities tab outlines the different activities proposed for the unit and explains which are the assessment opportunities as well as possible further developments, this tab also provides downloads of re-usable classroom materials.

Under the last tab “Case studies” several different case studies performed in different SAILS countries can be found. The “unit booklet” in PDF format as a whole, separate classroom materials (adaptable word documents) and case studies (PDFs) are all available for download on these pages and can be shared, distributed or printed by interested stakeholders.

The third main part of the website is the **Sharing Practices** section. Currently this section includes different videos: classroom showcase, interviews with partners, interviews with teachers, workshop videos. This part of the website will be extended to include more useful material like draft units, extra assessment tools, extra case studies.



The project consortium felt it was important to not only publish the 19 complete SAILS units but to also publish a selection of other materials used during workshops and which can be useful for teachers and educators to download, adapt and re-use in their classrooms.

Last but not least a project page is available with a description of the SAILS project. This includes a description of the partners involved, a page with outcomes: where you can find all deliverables produced up until now, the two inquiry & assessment books (Volume A & B) and the two SAILS brochures produced during the lifetime of the project. A last section includes the contact details of the SAILS coordinator (DCU) and the general SAILS email address.

In terms of maintenance, the requirements of this new site are quite different to the active project website version 2 which required there to be a constant flow of news to keep the site active. This legacy site is far more of a repository of resources and materials than can be used and re-used (materials are distributed under the Creative Commons Attribution – Non-Commercial – Share Alike licence as described at http://creativecommons.org/licenses/by-nc-sa/4.0) by not only the partners, but also the wider science education community. Updates are of course possible and expected, but these are far more likely to be related to adding new materials or adapting existing ones.

The partnership felt it was important to also integrate the possibility to share content from this new website easily to social media, as many partners use social media to communicate with their pre- and in-service teachers. Therefore on each page you can find social media sharing buttons (e.g. Facebook, Twitter, Linkedin, Pinterest, Tumblr, Reddit and direct Share by e-mail) to ease this process.

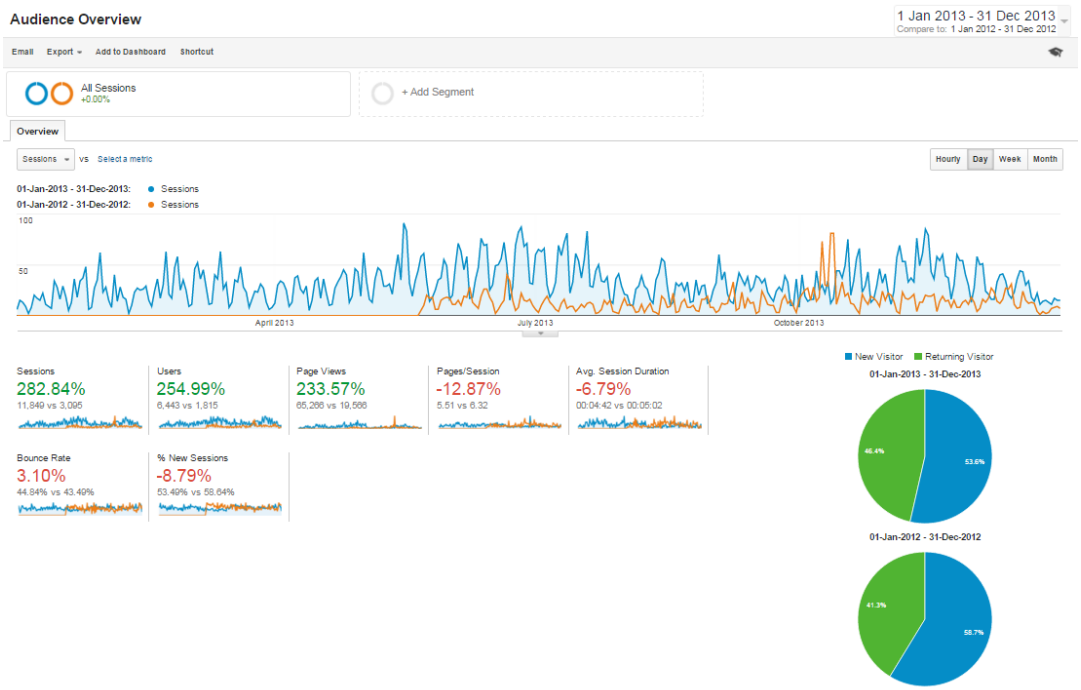
This legacy site will replace the existing site in early 2016 on the address www.sails-project.eu. and will become the main point of contact for anyone wishing to know more about SAILS or who wish to access SAILS outputs from that point onward.

WEBSITE VISITOR NUMBERS AND TRENDS

The SAILS website (www.sails-project.eu) was launched in May 2012. Up to now (From 21 May 2012 - 15 December 2015) the website has received 29,657 users (unique visitors). Over the lifetime of the project we saw a steady growth in visitor numbers:

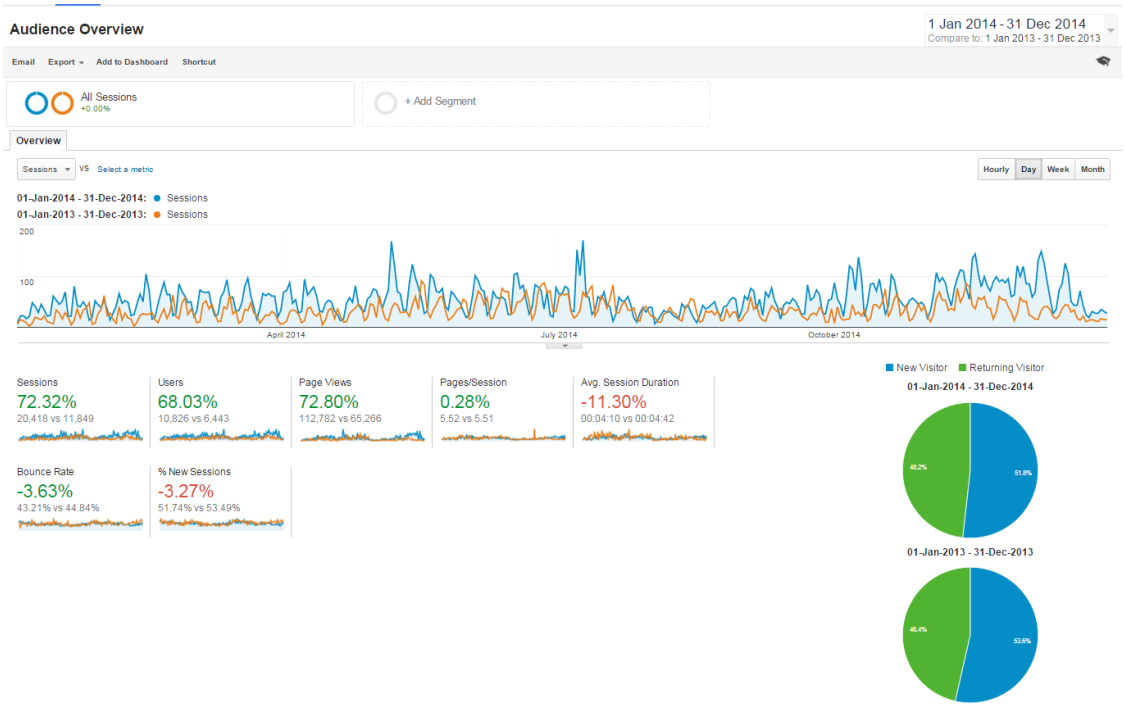
	Sessions	Users	Page Views	Pages/Session	Avg. Session Duration	Bounce Rate	% New Sessions
2012[2]	3095	1816	19566	6.32	00:05:02	43,49%	58,64%
2013	11849	6443	65266	5.51	00:04:42	44,84%	53,49%
2014	20418	10826	112782	5.52	00:04:10	43,21%	51,74%
2015	21383	11392	118598	5.55	00:04:13	44,23%	51,16%

When we compare the first year of the project (2012) with the second year (2013) we can see that the amount of users grew by 254,99% (6443 users in 2013 vs 1815 users in 2012), which is more than double the number of users. Also the Sessions (+282,84%) and Page Views (233,57%) increased by almost the same amount. Nevertheless Pages per Session (-12,87%), the Average Session duration (-6,79%) and percentage of New Sessions (-8,79%) have slightly decreased, also the bounce rate went up a little bit (+3,10%) however these amounts are very low, and seem to be rather a normal fluctuation then a significant change.

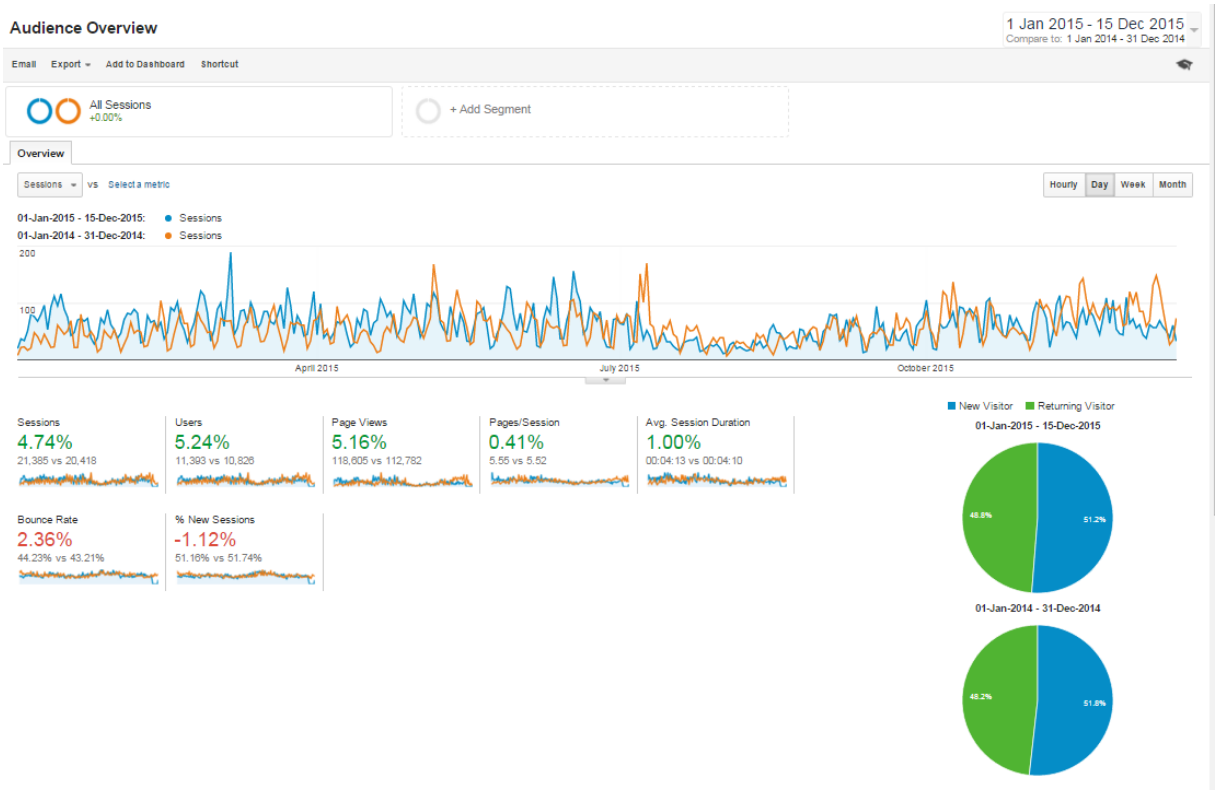


[2] From 21 May (launch project website) – 31 December 2015

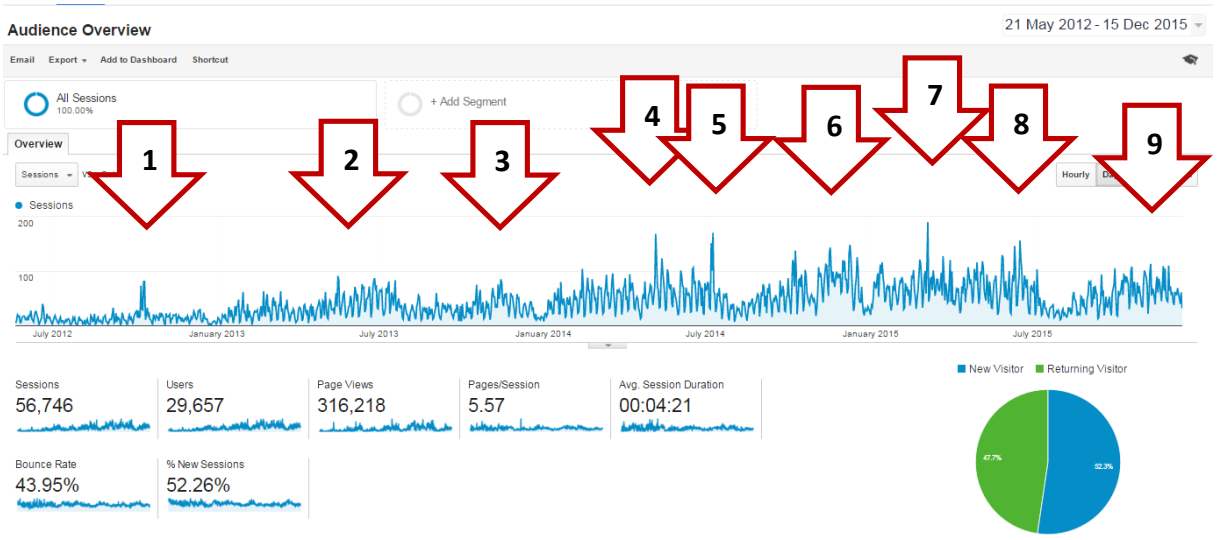
Comparing the website performance in 2013 with 2014 we can see that the amount of users has again grown this time by 63,03% (10826 users in 2014 vs 6443 users in 2013). The growth is less than in the previous period, but this can be seen as normal, as at the beginning of the project a very steep growth can be expected. This increase in users is therefore quite respectable. Also more sessions (+72,32%) have been opened and there were more page views (+72,80%) in 2014 than in 2013. The Average Session Duration (-11,30%) went down a bit as well as the % of new sessions (-3,27%), but again the difference is very small, and seems to be rather due to a normal fluctuation.



When we compare the third year of the project (2014) with the last project year (2015) we can see that there was still an increase in the user numbers, although the growth is less than in 2014 with a growth of 5.24%. The number of sessions grew by 4.74%, there were 5,16% more page views in 2015 than in 2014, and the Pages per Session as well as the Average Session Duration increased slightly. There were a few less new sessions in 2015 than in 2014 (-1,12%). This miis probably due to the fact that the year is not yet finished when this data was compiled; several countries have already finished their teacher education programmes in the first half of 2015, so the website might be less frequently visited by teachers to check the CoP; people start using the new “legacy” website (results.sails-project.eu) where they can find most SAILS outputs, since November instead of the regular project website on which these statistics are based.



It is interesting to note some of the peaks in the numbers of website visitors at key moments in the project lifetime.

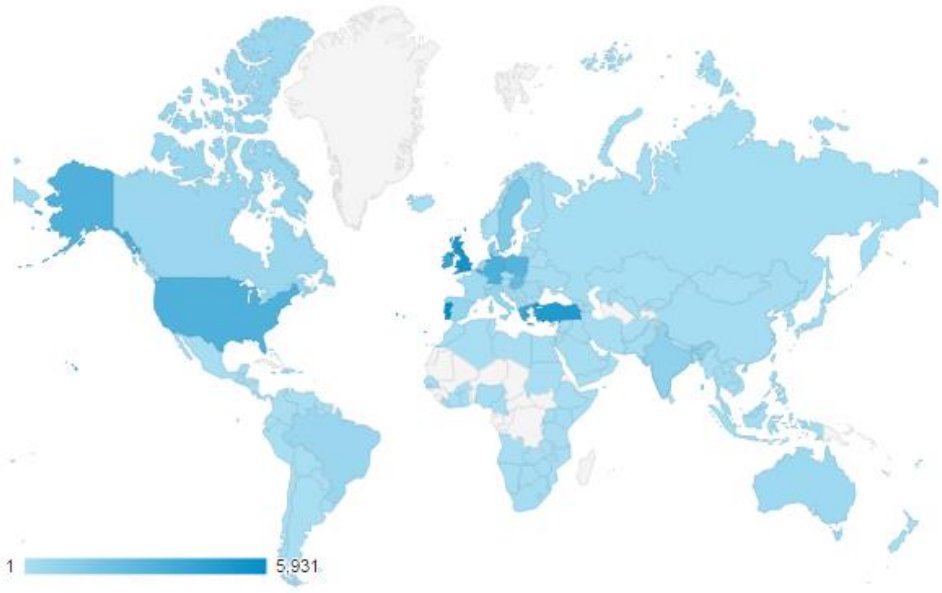


For example:

1) SMEC/ESTABLISH conference in Dublin on 7 June 2012
2) Between 10-29/5/2013, several SAILS dissemination activities took place: National Conference "Integration of ICT in Education" in Greece, dissemination at Workshops in Germany, Sweden, and Portugal.

3) 16-17/11/2013, several SAILS dissemination activities took place: Ságvári High School meeting, Science Lab in Hungary, Hungarian PRIMAS conference, MNU conference in Bremen – Germany.
4) Conference on Educational Assessment on 1 May 2014 & SAILS meeting in Szeged, Hungary on 5-7 May 2014
5) The SMEC SAILS conference in Dublin on 7/6/2014
6) Between 14 – 18/11/2014, several SAILS dissemination activities took place: EMINENT -Experts Meeting in Education Networking as part of a Scientix presentation of EU funded projects, ICT in Education in Lisbon, 20th VeLeWe Conference in Belgium, International Conference on Renewing Textbooks in Budapest – Hungary and distribution of flyers workshops in Poland and Germany
7) Between 1–10/3/2015, several SAILS dissemination activities took place: Danish national conference, JuLe-conference Hannover, DPG-Conference 2015
8) Between 10-19/6/2015 several SAILS dissemination activities took place: 1st International Baltic Symposium on Science and Technology Education in Šiauliai - Lithuania, SAILS Summary conference in Poland.
9) 18/11/2015: SAILS final conference for policy makers in the European Parliament

When we look at the demographic spread of our visitors during the total lifetime of the project we can see that most sessions come from Portugal (5931) followed by the United Kingdom with 5396 and Turkey with 4927 sessions. Other countries that can be found in the top ten are Ireland, Greece, Belgium, Germany the United States (but with a quite significant bounce rate), Poland and Hungary. The other partner countries can also be found in the top 13 of countries with most visitors.



tries

Country	Acquisition			Behaviour		
	Sessions ↓	% New Sessions	New Users	Bounce Rate	Pages/Session	Avg. Session Duration
	56,747 % of Total: 100.00% (56,747)	52.33% Avg for View: 52.26% (0.12%)	29,694 % of Total: 100.12% (29,657)	43.95% Avg for View: 43.95% (0.00%)	5.57 Avg for View: 5.57 (0.00%)	00:04:21 Avg for View: 00:04:21 (0.00%)
1. Portugal	5,931 (10.45%)	31.61%	1,875 (6.31%)	27.01%	8.95	00:07:19
2. United Kingdom	5,396 (9.51%)	45.90%	2,477 (8.34%)	38.27%	6.20	00:05:30
3. Turkey	4,927 (8.68%)	56.06%	2,762 (9.30%)	45.87%	5.32	00:03:34
4. Ireland	4,037 (7.11%)	44.29%	1,788 (6.02%)	35.82%	4.62	00:03:28
5. Greece	3,996 (7.04%)	37.34%	1,492 (5.02%)	29.90%	7.85	00:06:11
6. Belgium	3,798 (6.69%)	35.39%	1,344 (4.53%)	33.89%	6.59	00:06:41
7. Germany	3,304 (5.82%)	43.73%	1,445 (4.87%)	37.83%	6.33	00:04:29
8. United States	3,222 (5.68%)	90.04%	2,901 (9.77%)	73.28%	1.82	00:00:53
9. Poland	3,052 (5.38%)	40.24%	1,228 (4.14%)	35.03%	7.04	00:05:14
10. Hungary	2,464 (4.34%)	40.38%	995 (3.35%)	31.17%	7.21	00:05:26
11. Slovakia	2,129 (3.75%)	24.19%	515 (1.73%)	36.31%	8.15	00:05:22
12. Sweden	1,552 (2.73%)	40.34%	626 (2.11%)	36.21%	5.98	00:05:18
13. Denmark	1,272 (2.24%)	47.01%	598 (2.01%)	35.22%	5.07	00:03:16
14. India	936 (1.65%)	94.55%	885 (2.98%)	77.78%	1.42	00:00:51
15. (not set)	896 (1.58%)	51.34%	460 (1.55%)	52.34%	5.77	00:05:08
16. Italy	727 (1.28%)	73.73%	536 (1.81%)	54.47%	3.89	00:02:51
17. Spain	674 (1.19%)	79.08%	533 (1.79%)	56.82%	2.91	00:01:52
18. Brazil	575 (1.01%)	95.83%	551 (1.86%)	84.70%	1.34	00:00:29
19. Canada	555 (0.98%)	92.43%	513 (1.73%)	70.63%	1.99	00:00:51
20. Australia	454 (0.80%)	93.17%	423 (1.42%)	68.06%	1.95	00:01:12

3. Task 6.2: Promotion materials

Throughout the lifetime of the project, the team have made available a range of attractive and recognisable promotion materials based on a common house style and in accordance with the objectives laid down in the description of work.

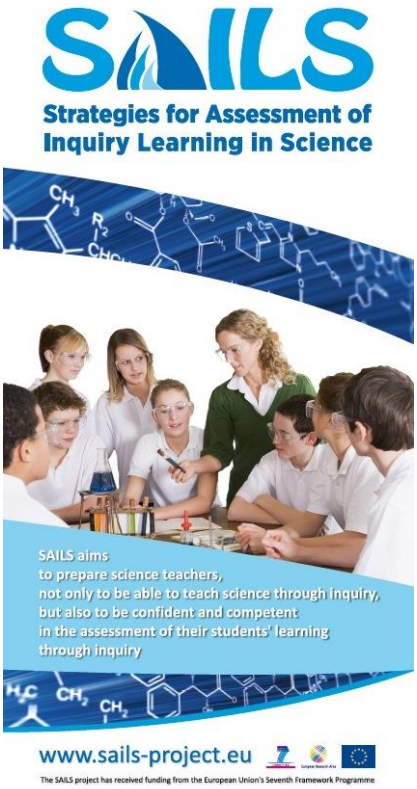
PUBLICITY MATERIALS

Right from the start of the project, the team have based their production of promotional materials on an attractive and consistent house style built around the SAILS logo. This logo was presented and agreed upon at the kick-off meeting and features in the guide produced at the start of the project for partners entitled "How to adapt and use the SAILS promotional materials in your own country?". The official SAILS logo used during the lifetime of the project is the one we see in figure 1, with 3 different blue tones. The logo has also been used as simply white on black or black on white for specific materials like the bicycle bells produced as giveaway gadgets in the closing conference and other monochrome materials.

This logo has the advantage of not only being an attractive and easily identifiable image but also of including a very clear explanation as to what the project is about which the partners all felt to be important. A project like SAILS needs to be able to communicate its existence in a few words if it is to prosper and so the use of 'Assessment', 'Inquiry' and 'Science' needed to be at the heart of all dissemination and promotion actions.

The first leaflet produced at the start of the project was already available for translation and re-use by partners from M03 and contained a simple explanation of the SAILS project and its objectives along with a list of the partners involved.

Later on in Year 1 the team produced a project business card and a poster along with a simple PPT presentation for the partners to use. These promotional materials were also translated into all partner languages. A pull-up in English was designed for exhibitions and conferences, and used by different partners at various stages of the project. All these materials are shown in annex 4 and were available for download by partners and others from the project website.



In the second half of the project, the main publicity material used by the partnership as a whole was the brochure that was produced in May 2014 which was also translated by all the partners into their own language and which is described below. In the last months of the project, a final brochure was made available for publicity purposes as well as the souvenir bicycle bell with a compass which was distributed to everyone who took part in the Brussels final conference.

As well as the centralised publicity materials created and distributed by ATiT, many of the partners produced their own materials which included leaflets and flyers to promote their own SAILS events and workshops, pull-ups for conferences and publicity materials like pens and folders for specific activities. All included the SAILS logo and followed the guidelines set out by the dissemination team in the first 'How to adapt and use the SAILS promotional materials in your own country?' guide.

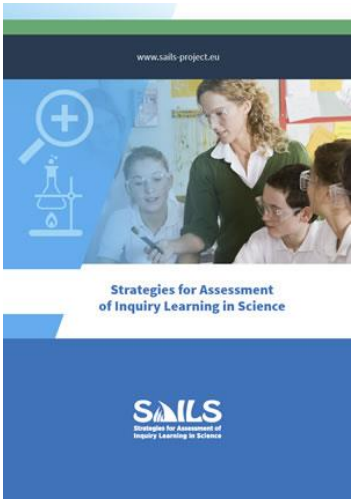
Some of the partners asked for and were supported by ATiT in the creation of materials for local dissemination like the UK team.

BROCHURES AND REPORTS

Three main brochures/reports were produced during the lifetime of the project, each adapted to the specific needs and requirements of the project at the relevant phase of its development. They each followed a similar brand and style guide to ensure consistency and to facilitate project recognition.

Brochure for policy-makers

This first brochure corresponds to deliverable 6.4 and is contained in its entirety in Annex 1 (D6.4). An original print run of 2000 copies was made and distributed in English to partners and the wider community. Translations of the brochure were made available to the partners who then printed and distributed the same brochure in their own language as well as in English at national events and to relevant policy-makers and influencers.



The main purpose of this brochure was to introduce the issue of assessing inquiry learning in science so the contents were divided fairly evenly between describing the context and challenge in which SAILS was working with showing examples of assessment methods. The idea was to try to make the topic less abstract and to show real practice in terms of what the teachers can do to adopt assessment into their inquiry classes.

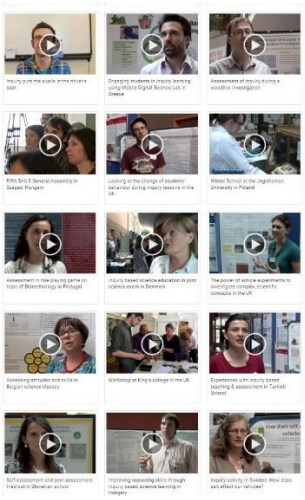
This brochure was also used to provide basic information about the project and the organisations involved. Preparing and agreeing the text for the brochure was a useful exercise in itself and involved the active input of all partners. As it was the first content driven public statement made for and on behalf of the project to key decision-makers and policy-influencers and provided a really useful opportunity to reach consensus amongst the partners as to the detailed objectives and expected outcomes of the project.

This brochure is available for download from the project website in English and is also available in the 8 other project languages: DA | DE | EL | HU | NL | SK | SV | TR.

Summary of main achievements for policy-makers

The second report in this series is a multimedia output and corresponds to deliverable 6.5 in the description of work. The text version of the deliverable is contained in its entirety in Annex 2. This report was produced in the months after the highly successful SAILS teachers' conference held in June 2014 and focused 100% on the presentations and outcomes of this important event. It was distributed electronically to a list of 1791 decision-makers and policy-influencers created for the project with contributions of recipient names from all partners. This report contains summaries of the main plenary presentations along with examples from the teachers of the work they were doing in their classes to assess inquiry activities.

This report was accompanied by a series of teacher interviews on video that were made available so as to provide authentic teacher views on the challenges and advantages of adopting inquiry in their classes and how well they were able to introduce assessment into their work. The team felt it was important to have available this type of report at this stage of the project when the partners were really starting to roll-out the workshops and teacher educational programmes in their respective countries. Teachers interviewed came from UK, Portugal, Greece, Hungary, Ireland, Denmark, Turkey, Slovakia, Sweden, Belgium, Poland and Germany. In most cases the teachers interviewed described their classroom activities which were elaborated in the posters which they brought to the conference and which featured very publicly in the conference. These interviews are available on the project website here. They are an important element in the overall legacy of the project and very useful in that they really show the voices and opinions of practicing teachers.

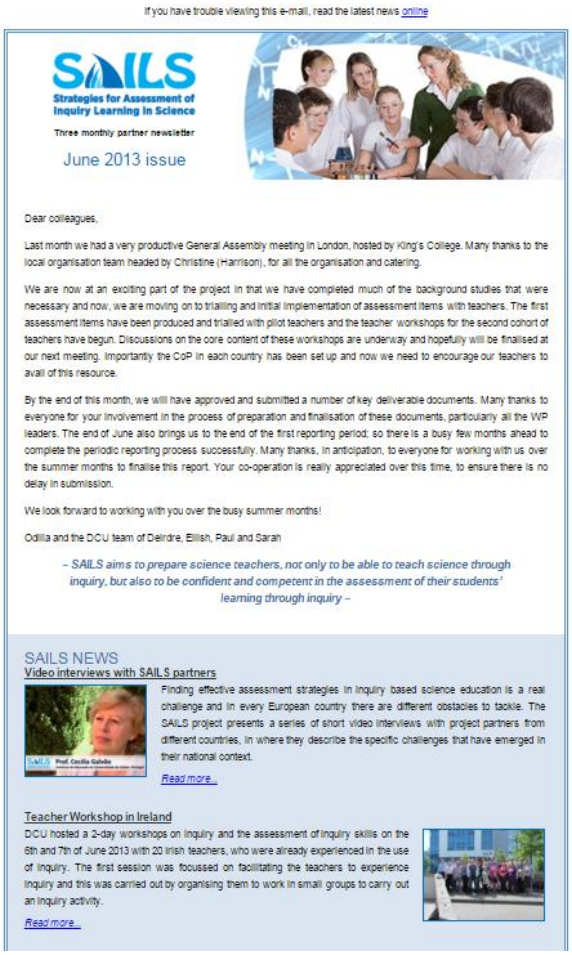


Final executive report for policy-makers

This third report reverted to a brochure format and was made available for distribution at the final SAILS conference held in Brussels in 18 November 2015 and described later in this report. This brochure corresponds to Deliverable 6.7 and is contained in its entirety in Annex 3. In this brochure the objective was to summarise the main outcomes of the project and to highlight the impact of the work that had been undertaken over the lifetime of the project in terms of creating a common framework and approach to assessing inquiry learning in science. It is full of visuals and witness comments as well as summarised inputs from experts. It also contains the key findings that have emerged from the SAILS project which can be applied to create a practical set of recommendations for policy-makers.

One of the main objectives of this brochure is to direct those interested to the project legacy website where the main outcomes are available. These outcomes include the 19 units that have been created as an output of the project which constitute a very rich resource for teacher education and practice. An original print run of 1000 brochures was made and have been distributed in various networks and on different occasions by the artners. They are also available for translation and re-printing by the partners for their own target audiences.

NEWSLETTERS



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SAILS
Strategies for Assessment of Inquiry Learning in Science

Three monthly partner newsletter

June 2013 issue

Dear colleagues,

Last month we had a very productive General Assembly meeting in London, hosted by King's College. Many thanks to the local organisation team headed by Christine (Harrison), for all the organisation and catering.

We are now at an exciting part of the project in that we have completed much of the background studies that were necessary and now, we are moving on to trialling and initial implementation of assessment items with teachers. The first assessment items have been produced and trialled with pilot teachers and the teacher workshops for the second cohort of teachers have begun. Discussions on the core content of these workshops are underway and hopefully will be finalised at our next meeting. Importantly the CoP in each country has been set up and now we need to encourage our teachers to avail of this resource.

By the end of this month, we will have approved and submitted a number of key deliverable documents. Many thanks to everyone for your involvement in the process of preparation and finalisation of these documents, particularly all the WP leaders. The end of June also brings us to the end of the first reporting period; so there is a busy few months ahead to complete the periodic reporting process successfully. Many thanks, in anticipation, to everyone for working with us over the summer months to finalise this report. Your co-operation is really appreciated over this time, to ensure there is no delay in submission.

We look forward to working with you over the busy summer months!

Odilla and the DCU team of Deirdre, Eilish, Paul and Sarah

– SAILS aims to prepare science teachers, not only to be able to teach science through inquiry, but also to be confident and competent in the assessment of their students' learning through inquiry –

SAILS NEWS

Video interviews with SAILS partners

Finding effective assessment strategies in inquiry based science education is a real challenge and in every European country there are different obstacles to tackle. The SAILS project presents a series of short video interviews with project partners from different countries, in where they describe the specific challenges that have emerged in their national context.

Read more...

Teacher Workshop in Ireland

DCU hosted a 2-day workshops on inquiry and the assessment of inquiry skills on the 6th and 7th of June 2013 with 20 Irish teachers, who were already experienced in the use of inquiry. The first session was focussed on facilitating the teachers to experience inquiry and this was carried out by organising them to work in small groups to carry out an inquiry activity.

Read more...

View this email in your browser

Conference highlights Newsletter

SAILS
Strategies for Assessment of Inquiry Learning in Science

SAILS Project Website | SAILS Comunity of Practice (COP)

SAILS conference brings together science teachers from all over Europe

The SAILS conference, hosted by the Centre for the Advancement of Science and Mathematics Teaching and Learning, CASTeL, of Dublin City University & St. Patrick's College, Drumcondra, brought together second level teachers and practitioners with teacher educators and researchers to discuss and share their experiences with implementing an inquiry approach to teaching, learning and assessment. The conference took place on 24-25th June 2014 in Dublin City University, Dublin, Ireland in parallel with the 8th biennial Science and Mathematics Education Conference (SMEC 2014) and was attended by 174 participants. In this newsletter you will find some highlights (short abstracts of the keynote speakers' presentations, links to the speakers' slides & video interviews with teachers) from the Conference.

The conference was opened by the Dean of Research, Prof. John Costello, followed by a welcome address by the Minister Sean Sherlock, Minister of State at the Department of Jobs, Enterprise & Innovation and Education & Skills with special responsibility for Research & Innovation. A key element of the conference was to provide a platform for teachers to share their experience with implementing inquiry and SAILS assessment strategies within their teaching practice. Teachers were invited to give a short presentation on their work with inquiry and assessment within classroom practice sessions. Topics ranged from living conditions of woodlice, improving images from a camera obscura to designing experiments for the International Space Station. In this newsletter you can find links to some video interviews and posters from teachers who presented at the conference.

The newsletters sent out in the first half of the project were meant as a way to motivate partners to communicate their research results and work, they consisted of a short introduction from the coordinator with an update of work to date, and included several news articles from the website.

This newsletter was circulated to everyone on the project mailing list. Partners were encouraged to share this newsletter where appropriate with colleagues and partners engaged in SAILS activities. The partner newsletter has been sent in:

- December 2012
- March 2013
- June 2013
- November 2013
- April 2014

Partners thought the Newsletter was very useful, also to communicate the work and outcomes in SAILS to their colleagues working on the project in their country but not always attending SAILS General Assembly Meetings. In the second half of the project ATiT together with DCU decided that it would be worthwhile to adapt the Newsletter in order to also reach out to external stakeholders. This led to a decision to use the mailing management service Mailchimp in order to make the workflow of sending out these newsletters easier and to have a better system in place for people to subscribe and unsubscribe from the communications service. The created mailing list also served to send out Press releases.

Newsletters sent out to the wider public are:

Issue	Content	Receivers
November 2014	Conference Highlights	994
June 2015	SAILS team working on final workshops, units & development new website	1791
November 2015	SAILS Partners launch project outputs in European Parliament (Press Release after final SAILS conference in European Parliament)	1802
January 2016 (planned to be sent out early January	Wrap-up and to highlight resources on new website	Ca. 1900

VIDEO BASED ACTIVITIES

In addition to the materials and resources originally foreseen in the Description of Work, the dissemination team decided from an early stage in the project and as already referred to in the dissemination plan to utilise as much video as possible as a way to help disseminate the activities of the project. Varies video elements have been realised connected to different stages of the project's lifetime and are described here. In addition to this ATiT organised a well-attended one day workshop in Dublin right before the teachers conference in June 2014 for partners to help them realise their own video resources which has helped to increase the partners' own use of video in their work.

Partner interviews

Interviews with the partners were recorded at the start of the project and are available on the project website, they provide a useful record of the challenges faced by the partners and how they viewed the value of the work they were undertaking in SAILS from an early stage. As a complement to these videos, two sets of final videos were recorded with partners towards the end of the project focused on two separate questions; what they had achieved in the project and what they hoped to do with the outcomes of SAILS in their countries in the future. These short compilations, each about 3 minutes long, provide the viewer with a good overview as to the main achievements of the project and show the extent to which all partners were engaged in its realisation. These compilation interviews were used during the SAILS Conference in Brussels on 18 November 2015 and made available subsequently on the project web site. You can access them here:

SAILS Achievements
available here

Future use of SAILS outputs
available here

Teachers interviews

These interviews were recorded at the teachers Conference in Dublin in June 2014 and are described in the previous section.

Classroom recordings

One of the challenges faced by partners in disseminating new classroom practice lies in really showing teachers how they can be implemented in a real classroom recording. Video is an important tool in this respect as it allows the teacher educator to really show and illustrate what they want to communicate. It was therefore decided to make classroom recordings towards the end of the project to match some of the units and to connect these recordings directly to the units so those interested could actually see an assessment practice in operation.

The following table shows the different recordings that have been made as well as the partner and teacher involved and the unit to which the recording relates. Each video lasts between 10 and 15 minutes and are currently being made available in English although some of the teaching practice shown is in the local language. Each video clip will be available for sub-titling should this be requested. The format that was chosen is teacher-led and based on an interview with each teacher who described how and why a specific assessment approach was taken. It shows assessment actually taking place and highlights the practical considerations that need to be taken by teachers in implementing this type of approach.

All recordings are now completed, edited and available for viewing on the legacy website. Taken together they provide a valuable resource for teacher education and are already proving to be very popular amongst the target audience proving the value of high-quality recordings of this type which bring to life what can be difficult concepts to understand when presented in text only.

Unit to which the recording relates	**Partner responsible**	**Teacher and school**	**Videos available** here
Rates of reaction	King's College London, UK	Ken Dignion, The Forest Academy in Ilford, Essex, UK	
Polymers	DCU, Ireland	Robert Clarke, Confey Community College, Leixlip, Ireland	
Woodlice	Malmö University, Sweden	Sara Maria Lilja Rörsjöskolan-Zenith, Malmö, Sweden	

Black Tide	DCU, Ireland	Brigid Corrigan, Mount Sackville Secondary School, Dublin, Ireland	
Up there … how is it?	Institute of Education, Lisbon University, Portugal	Vanessa de Andrade, Escola Anselmo de Andrade, Almada, Portugal	
Electricity	Univerzita Pavla Jozefa Safárika v Kosiciach (UPJS), Slovakia	Dorota Černíková, Basic School, Kežmarská st., Košice, Slovakia	
Electricity	Jagiellonian University, Poland	Mateusz Wojtaszek, Prywatne Gimnazjum Akademickie nr 6 w Krakow, Poland	
Cookie Mining	King's College London, UK	Stephen Philips Therfield School, Leatherhead, Surrey, UK	

Event recordings

In addition to these types of video recordings, the partners all used video fairly extensively to record key events including the International Teachers Conference in Dublin in June 2014 and the Final SAILS conference in Brussels in November 2015. Samples of these materials are available in the Sharing Practices section of the new legacy website and will continue to be added in the coming months.

4. Task 6.3 Organisation of audit and dissemination plan

In order to better prepare for the dissemination work of the project, the team responsible began by reviewing the dissemination activities described in the project DoW and preparing an in-depth plan for project dissemination. This preparation, referred to as the 'dissemination audit' involved gathering as much information from the partners as possible about existing channels and opportunities for dissemination and in refining the different channels and tools to be used for the dissemination work. The Dissemination Plan was submitted as Milestone 21 in Month 11 of the project lifetime.

The dissemination plan described the dissemination actions for the SAILS project that were outlined in the project proposal and provided practical and realistic guidelines and descriptions for exactly what was to be done. It also reported on the considerable amount of dissemination work that had already been carried out by the partners in getting the project established. The results of the dissemination audit were also included which provided detailed reports on the channels used by each partner and the extent to which they could operate their own regional and national dissemination strategies with the support of the central team.

This plan also described the dissemination channels to be used by SAILS which taken together represented a coherent strategy developed on the basis of partner expectations, dissemination requirements and available resources. They included an interactive website, distribution of leaflets and other materials to targeted organisations, individuals and agencies and participation by the partners in relevant conferences, workshops and symposia. It also described how the partnership was planning to engage in suitable networking activities, whereby a master database with network information from all countries was to be an important tool. This work was timetabled according to available opportunities in each partner country and in Europe as a whole and included collaboration with other projects and networks engaged in similar work and with Scientix in particular.

The development of the dissemination strategy involved reaching agreement as to the core impetus at the heart of all SAILS dissemination activities. This has been agreed as a desire to communicate information about how to put in place an appropriate assessment methodology to support inquiry based science education in the classroom. This implied the availability of appropriate assessment methodologies. A secondary message related to the existence of the project. By this we meant that it is important to ensure that as many relevant people as possible know about SAILS and come to recognise it as a source of high-quality information on the topic of IBSE assessment.

In order to base the dissemination strategy on realistic targets and activities, the dissemination team carried out an investigation with the help of the partners to identify opportunities in each country and also to understand the available networks and channels that each partner already had at their disposal. This investigation revealed a rich resource of potential dissemination opportunities, ranging from high-level academic fora organised by individual partners to science fairs and other public events in which various partners play a leading role.

Partners dissemination plans were described in some detail, particularly for the early stages of the project and a series of indicators linked to different dissemination actions were given which provide not only goals for the overall dissemination action but also a mechanism to measure the degree to which the dissemination action can be considered successful in reaching short-term targets (targets that are aimed for during the lifetime of the project).

The indicator table which was put in place in the plan is included here with a short summary as to the success or otherwise of the partnership in relation to each indicator.

Indicator table

Dissemination action	Target groups				Indicators	Achieved	Comments
	Decision-makers	Teacher educators	Special Interest groups				
Prepare a simple information leaflet about the SAILS project, make it available in all project languages and distribute to interested individuals and association in all partner countries		√	√	1	Availability of the leaflet in all partner languages.	yes	Not only the introductory leaflet but also the first main SAILS brochure (D6.4) has been made available in all partner languages
				2	Distribution of at least 50 leaflets per year by all partners in relevant gatherings, monitored and reported on by the dissemination team	yes	This has been achieved though the active engagement of all SAILS partners in relevant dissemination events carried out in their countries.

<table>
<tr>
<td>Set up public website with relevant news and information about IBSE approaches to assessment</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>3</td>
<td>Using the number of visitor recorded on a monthly basis in month 6 of the project as a baseline, increase the number of visitors by 15% every 6 months. This data will be monitored and updated information about the development of interest in the site will be posted in the dissemination working area on the SAILS portal every 6 months.</td>
<td>Yes/No</td>
<td>Comparing the growth in vistors every 6 months we can see that the website users amount has grown every six months. In the first 2 years this was even much higher then the aimed 15%. In P1-P5 we have reached the aim of attracting 15% more users each following 6 months. In P6, the last 6 months, the users have fallen to the level they were in P4. Thissmay be due to less activity in the COPs in P6, as most workshops has ended in P5 or beginning of P6 (May-June 2015) therefore less teachers may have visited the website, also in November a new legacy website with lots of resources and teaching materials, was launched which will finally replace the traditional project website.
Nevertheless in the last 6 months the % of new sessions has grown by 5,51%. The overall number of users/unique visitors during the lifetime of the project is 29.657.

<table>
<tr><td></td><td>period</td><td>users</td><td>growth</td></tr>
<tr><td>baseline</td><td>21 May 2012 - 20 Nov 2012</td><td>1.535</td><td></td></tr>
<tr><td>P1</td><td>21 Nov 2012 - 20 May 2013</td><td>2.319</td><td>51.07%</td></tr>
<tr><td>P2</td><td>21 May 2013 - 20 Nov 2013</td><td>3.769</td><td>62,53%</td></tr>
<tr><td>P3</td><td>21 Nov 2013 - 20 May 2014</td><td>4.872</td><td>29,27%</td></tr>
<tr><td>P4</td><td>21 May 2014 - 20 Nov 2014</td><td>5.695</td><td>16.89%</td></tr>
<tr><td>P5</td><td>21 Nov 2014 - 20 May 2015</td><td>6.702</td><td>17.68%</td></tr>
<tr><td>P6</td><td>21 May 2015 - 20 Nov 2015</td><td>5.628</td><td>-16.03%</td></tr>
</table>
</td>
</tr>
</table>

Set up a Stakeholders Reference Group (SRG) in each country or region	√	√	√	4	Establishment of a SRG in each country by Month 12 with at least 5 members in each SRG. Members will include teachers and representatives of stakeholder organisations including teacher educators, science education researchers, curriculum developers, quality assurance and educational governance communities. At least 3 of these types of individual will be included in each SRG.	Yes	A key-policymakers list has been created. Partners have provided between4 and 20 contacts per country which resulted in a total list of 79 high-level contacts. Each partner has indicated if the person can be contacted directly by ATiT through the SAILS stakeholders' mailing list (including currently 1774 contacts) OR to contact high-level stakeholders directly themselves. All partners have good contact with significant stakeholder representatives in their country and these contacts have been used extensively during the project.

Establish a database of potentially interested organisations and individuals	√	√	√	5	Establishment of an open database of potentially interested organisations and individuals which is easily accessible by all partners	No	As explained earlier in this report, it has not been possible to create a suitably far-reaching data base as many of the partners were loath to contribute names and contact people in their regions or countries due to their fears about data protection. The dissemination team have however established their own database of contacts which now numbers 1774 and which includes many of the key European multipliers and relevant stakeholders.
				6	Contribution of contact information by all partners to include at least 20 contacts per partner by end of project	yes	All partners contributed contact information about relevant stakeholders and policy-makers in their country to the newsletter list referred to above.
Participate and promote SAILS in relevant regional or national conferences, workshops and events in	√	√	√	7	Establish a plan for each partner, updated on an annual basis, of the events to be targets	Yes	During each 6-monthly meeting a sheet has been circulated to log partner's plans for attending international & national conferences which has been posted after meetings on the internal project portal for partners to update and review. Collectively the partnership has agreed the main European events to be targeted and the partners have meanwhile gone ahead with their own activities targeting regional and national events and reporting them to the partnership in the form of news items and updates to the website and to the official log of dissemination events managed by the project coordination team.

all partner countries				8	Each partner to participate in at least 1 annual event in their country or region to promote SAILS from 2013 onwards.	Yes	Based on the evidence provided to the dissemination team, all partners have been actively engaged in at least one national or regional event on an annual basis to promote their work in SAILS.
Participate and promote SAILS in relevant international or European conferences, workshops and events	√	√	√	9	SAILS partnership to be represented in at least 2 such events in 2013, 2014 and 2015	Yes	This indicator has been achieved and includes both important academic events and events aimed more at stakeholders like the Scientix conferences organised in 2014 and 2015 where SAILS was represented not only on the agenda but also with a stand.
Publication of academic papers in relevant journals on topics related to the work being carried out within SAILS		√	√	10	Results emerging from work carried out in SAILS to be published in at least 4 academic journals by the end of the project	Yes	More than 10 academic publications have been published on the topic of SAILS (Strategies for assessment of Inquiry Learning in Science). On top of that partners have also published extensively on subjects related to SAILS where SAILS has been mentioned, a full list is available in Annex 8.

Promotion of project outputs to key policy-makers	√			11	Establishment of a list of key-policy-makers with the inclusion of at least 3 names from all partners for their region or country	yes	As mentioned earlier, a database of contacts has been established with at least 3 names of suitable individuals from all partner countries.
				12	Distribution of briefing document targeting these policy-makers in month 24	yes	In the first brochure consisting of 8 pages under the title "Strategies for Assessment of Inquiry Learning in Science", the SAILS project was introduced as well as the issue of assessing inquiry learning in science. A total of 2000 copies were printed and 200 English copies per partner were distributed to the partners. All partners have translated the first brochure in their own language and distributed English as well as national versions to relevant policy-makers.
				13	Distribution of updated briefing document targeting these policy-makers in month 48	yes	A new 8 page brochure titled "Meeting the challenge assessing Inquiry learning in Science" was made available for distribution at the final SAILS conference held in Brussels in 18 November 2015, every partner received 100 copies for distribution in their own country, partners have the possibility to translate this brochure in their own language and print more copies locally.
Communicate project activities effectively with project partners	√	√	√	14	Distribution of at least 10 newsletters during the lifetime of the project	Partially – 8 instead of 10	A total of 5 Newsletters targeted at partners were sent out in the first half of the projects, later on it was decided that newsletters would be send out at key moments in the project to the wider public, therefore in the second half of the project a total of 3 newsletters have been sent out (right after the Teacher Conference in Dublin, a teaser in June 2015 to announce the project consortium work on the inquiry & assessment units and at the end of the project to discuss the outcomes/outputs of the project.

llaborate effectively with other projects consortia, agencies and networks	√	√	√	15	Establish regular contact and communication channels with all the IBSE projects supported under the SiS action	yes	Several projects have been contacted and proposed to do an exchange in promotion effort. First of all this meant that a special “related-projects box” was put on the FrontPage of the project website, and projects who were willing to collaborate have their logo featured there. In return SAILS also asked to feature the SAILS logo on other projects’ websites, as well as sharing news and events with one another.

				16	Carry out at least 2 shared activities with relevant projects consortia, agencies and networks per year in 2013, 2014 and 2015.	yes	Shared activities have been carried out with Scientix, SIS-Catalyst, SECURE, Establish, InGenious, ASSIST-me, FaSMEd, Fibonacci, Pathway, Establish, IBEC and INSTEM Examples: 2012 • ESOF 2012: joint presentation (4 projects: SAILS, Fibonacci, Pathway,Establish,IBEC (11/07/2012) 2013 • SECURE conference (24/10/2013) • meeting EUN for InGenious project – networking (11/09/2013) • 1st Projects macro event organised by Proconet, Primas and Scientix (29/11/2013) 2014 • EMINENT- Experts Meeting in Education Networking, part of Scientix presentation of EU projects, Zurich (14/11/2014) • Proconet meeting 2014 (13/05/2014) • SiS Catalyst Policy Practice Interface Conference (03/03/2014) • Scientix 2 Joint stand Fasmed & ASSIST-me & presentation (25/10/2014) • Jens Dolin from ASSIST-ME external advisor for SAILS project at meeting in Szeged (05/05/2014) • Distribution of leaflets by Scientix at Science Dialogue Conference(01/04/2012) • Cycle 2 Scientix teacherskick-off meeting (6/9/2014) 2015 • 5th Scientix Projects' Networking Event (24/04/2015) • Scientix seminar at UPJŠ in Košice (04/11/2015) • SCIENTIX National Conference, Warsaw, Poland (08/10/2015) • Joint Symposium ASSIST-ME FaSMEd at ESERA2015 (31/08/2015) • Experts Meeting in Education Networking as part of a Scientix presentation of EU projects, Barcelona (19/11/2015)

Use social media to provide relevant information to target groups		√	√	17	Identification of at least 5 relevant existing social media channels for dissemination actions	Yes	At the beginning of the project an audit was held amongst the partners to check which relevent social media channels they knew and could be used for dissemination. Most partners have indicated between 1 and 4 different channels that they alsready use (mainly for communication with teachers). Some international social media channels in the field of science education & innovation have also been indicated.
				18	Provide relevant updates and information about SAILS activities to these channels.	Yes	During the project and especially during the TEP these channels have been used by partners to recruit, inform and disseminate material/outcomes from SAILS. Furthermore the social media channels supported by Scientix have also been used to share information about SAILS.
Organise a launch of SAILS in all member countries or regions	√	√	√	19	Launch of SAILS successfully delivered in all partner countries/regions	yes	This indicator was already reached in 2012 at the start of the project. It has been re-visited in the final phase of the project when it was complemented by a launch of the SAILS outputs in many partner countries and the final SAILS conference held in the European Parliament in November 2015.

5. Task 6.4/6.7 Clustering, networking and collaboration

One of the core activities of the dissemination work package was to organise a series of clustering and networking activities with relevant organisations and networks as described in Task 6.4 of the DoW. Further related work is described in Task 6.7 which relates to collaboration with appropriate agencies and networks with a specific mention of Scientix. For the purposes of this report, both tasks are considered together as much of the activities undertaken relate to both tasks.

This work has been at the heart of much of the effort carried out in WP6. It was also the subject of a separate deliverable submitted in early 2014 in which achievements in respect to networking, clustering and collaboration after the first 2 years of the project are described. This report is re-visited in this chapter with the addition of the main steps that have been taken in the second half of the project and the results achieved.

At the start of the project, the organisation of networking, clustering and collaborating activities focused on several distinct actions. These included specific collaboration with Scientix as the primary European network dedicated to promoting innovation in European science teaching. It also included collaboration and clustering with other European projects active in related domains to build on potential synergies, avoid duplication and ensure maximum impact of SAILS outputs. Finally it included collaboration at national and regional level which was to be carried out by individual partners in order to ensure maximum impact of SAILS at national and/or regional level.

WORKING WITH SCIENTIX

This collaboration began in early 2012, and was stepped up with the re-launch of Scientix in the form of Scientix 2 and has continued in various forms since then. Collaboration with Scientix includes reciprocal promotion actions with Scientix regularly highlighting SAILS activities and SAILS promoting Scientix on their respective websites and through the Scientix social media channels. SAILS has also been a winner of Scientix awards for best resources which has also provided a very good opportunity for collaboration.

Scientix networking events

Members of the dissemination team have taken part in several clustering and networking meetings organised by Scientix to bring together other STEM projects. These took place in November 2013, May 2014, September 2014, November 2014 and May 2015. This engagement has also included the involvement of SAILS teachers in workshops organised by Scientix running alongside or immediately after the Scientix clustering events.

Scientix Conferences

Scientix has organised two major conferences in the past 2 years and SAILS has been involved in both.

The first took place in October 2014 and attracted more than 600 participants from 43 countries in a programme that featured 70 talks, 14 workshops, 7 round-tables and 25 exhibition stands. Highlights in this event were the three keynotes: Prof. José Mariano Gago, former Minister of Science, Technology, Information Society and Higher Education in Portugal, Ewald Breunesse, Manager Energy Transitions at Shell Netherlands, and Amber Gell, rocket scientist and spacecraft system engineer at Lockheed Martin and NASA. The presentations and discussions at the conference were summarised by Marc Durando, Executive

Director of European Schoolnet, who stressed the role of teachers in bringing about change in STEM education.

SAILS was presented at the conference by Dr. Eilish McLoughlin in a parallel session as well as in a short pitch by Sally Reynolds at the start of the conference. SAILS also had a joint stand together with the projects ASSIST-ME and FaSMEd, all three projects have in common that they are aiming to find good assessment strategies for inquiry science teaching. Teachers and other participants showed a lot of interest in the work SAILS is doing, they all received a brochure and were invited to join the international online community of practice. This event came at a very good time for SAILS as all the national activities were well underway and useful materials and resources were starting to emerge.

The second Scientix event took place in Barcelona in November 2015 and attracted nearly 260 STEM professionals. Attendees discussed the main milestones reached during the second phase of the Scientix project, heard about the plans of science education policy makers from across Europe and did a great deal of networking. They also had the opportunity to participate in and discuss the latest trends in STEM education in five workshops, and to meet project leaders exhibiting at twenty different exhibition stands.

SAILS was one of the owners of a stand and was also presented by Dr Odilla Finlayson at the start of the conference. The well-attended SAILS stand provided an opportunity to highlight the main outcomes of SAILS including the units and other resources now available on the SAILS website This event also came at a very good moment for SAILS as it provided a really useful opportunity to promote the SAILS legacy to stakeholders and policy-makers and there was a lot of interest the project outcomes with direct requests to have available the units for translation in local languages from several participants.

Further collaboration with Scientix

The Scientix network of national contact points (NCPs) has been used to bring SAILS partners into direct contact with the relevant national contact point and teachers' panel which now extends to all European countries. Many of the partners used this network to extend their national and regional network and to get out information about SAILS locally.

Furthermore the dissemination team is now actively pursuing the option to have the SAILS units made available on the Scientix resource database and to mount a campaign to have these resources translated into several partner languages by asking teachers in the relevant countries to request translation in keeping with Scientix guidelines.

WORKING WITH OTHER PROJECTS

The SAILS partners have also actively sought collaboration with other projects. This collaboration occurred at different levels from logo exchange, which is part of the current website design and appears under the rotating 'Related project' banner, and joint promotion activities to exchange of information about target groups, promotion of other related project activities in the SAILS news service and the use of materials and resources from other projects. A particular close collaboration has been achieved with two other projects specifically addressing assessment in Inquiry, namely ASSIST-ME and FasMed, this has extended not only to the collaboration in respect to a joint stand at Scientix in October 2014 but also in the engagement of senior academics in an advisory role to the project.

The relationship with other projects depends in the context and interest of each and includes active collaboration with the Inspiring Science Education Project through joint collaboration and the organisation of joint promotional activities in Flanders, Belgium to the promotion of outputs form projects like ESTABLISH which provides resources of specific interest to the SAILS community. The dissemination team also took care to promote activities undertaken by other related projects through the SAILS website and dissemination actions.

NATIONAL AND REGIONAL NETWORKING, CLUSTERING AND COLLABORATION

Finally, all partners have been active in terms of networking, clustering and collaboration in their own countries. This has taken various forms and included the organisation of conferences aimed at stakeholders and decision-makers and participation in round-table discussions of a strategic nature related to science education. It also included sharing and promoting information about SAILS through relevant national channels and networks. These events are referenced in the dissemination log showing all partner dissemination activities and included in annex 9.

In the final events organised by several partners to launch the outcomes of the project, many of them used the opportunity to involve representatives from other projects as well as the Scientix national agencies and teacher ambassadors. In Greece for example, the final event held in November 2015 featured inputs from representatives from various related EU funded projects, such as Fibonacci, PathWay, ODS and Inspiring Science Education. This event attracted 300 participants who included in-service teachers as well as educational consultants, researchers, policy-makers and representatives from industry.

6. Task 6.5 Presentations and publications

Ensuring that the partners and the SAILS project as a whole was represented in the most relevant dissemination channels lies at the heart of the work carried out in Task 6.5. In Annex 9 all dissemination activities and presentations at relevent conferences can be found.

ACADEMIC PUBLICATIONS

SAILS partners have published serveral academic publications in different journals and at conference proceedings, here is an overview of those related directly to the work carried out in SAILS:

Petersen, MR, Albrechtsen, TRS & Michelsen, C, 'Strategies for assessment of inquiry learning in science in a Danish context' Nordic Research Symposium on Science Education 2014, Helsinki, Finland, 2014

Harrison, C. Assessment of Inquiry Skills in the SAILS Project. Science Education International Vol. 25, Issue 1, 2014, 112-122

Finlayson, O., McLoughlin, E., McCabe, D. Strategies for the Assessment of Inquiry Learning in Science (SAILS) A European Project in Science Teacher Education. *New Perspectives in Science Education, Conference Proceedings 2016*

McLoughlin, E., Finlayson, Supporting teachers use and assessment of inquiry based science education in classroom practice, Proceedings of GIREP-MPTL International Conference on Teaching/Learning Physics: Integrating Research into Practice. (2014)

Sokolowska D., Finlayson O., McCabe D., McLoughlin E., van Kampen P., Harrison C., Csapo B., Jeskova Z., Bernard P., Evaluation and assessment in education, Developing strategies for assessment of Inquiry Learning in Science – the SAILS project [Creación y desarrollo de estrategias de evaluación en aplicación de enseñanza reflexiva en ciencias naturales – proyecto SAILS] Proceedings 2d International Congress of Science Education, Vol 15. 2014

Orwat, K., Bernard P., Dudek K. Inquiry Based Science Education – Bringing theory to practice, – Science and Technology Education for the 21st Century. Research and Research Oriented Studies. *proceedings of the 9th IOSTE Symposium for Central and Eastern Europe, pp. 225-238, Gaudeamus 2014*

Dudek K., Bernard P., Odrowąż E.,'First steps in Assessment of students' inquiry: A case study of non–experienced chemistry teacher', State-of-the-art and future perspectives. *Proceedings of the 1st International Baltic Symposium on Science and Technology Education. pp. 42-44. Siauliai 2015*

Formatívne hodnotenie výučby s bádateľskými aktivitami v chémii / Máraia Ganajová, Milena Kristofová, Peter Protivňák. [Formative assessment for teaching inquiry based activities in chemistry]. - Č. projektu: SAILS 289085. In: Edukácia : vedecko-odborný časopis. - ISSN 1339-8725. - Roč. 1, č. 1 (2015), s. 98-106.

Development and verification of formative assessment tools in inquity-based chemistry education / Mária Ganajová, Milena Kirstová ; recenzenti Jarmila Kmeťová, Martin Bílek, Pawel Ciesla. [Vývoj a overovanie nástrojov hodnotenia bádateľskej výučby]. - Č. projektu: SAILS 289085. In: Profits and Limitations of Inquiry Based Science Education. - Kraków : Pedagogical university of Kraków, 2014. - ISBN 9788372718822. - S. 12-15.

Case studies on assessment of students learning through inquiry-based science education methods / Mária Ganajová ... [et al.] ; recenzenti Jarmila Kmeťová, Martin Bílek, Pawel Ciesla. [Prípadová štúdia hodnotenia výučby s bádateľskou metódou]. In: Profits and Limitations of Inquiry Based Science Education. - Kraków : Uniwersytet Pedagogiczny Kraków, 2014. - ISBN 9788372718822. - S. 7-11.

Slepáková, I., Kimáková, K. (2015) Hodnotenie zručností v bádateľsky orientovanej výučbe biológie, SciED, Vol. 6 N. 1 p. 133–143 ISSN 1804-7106

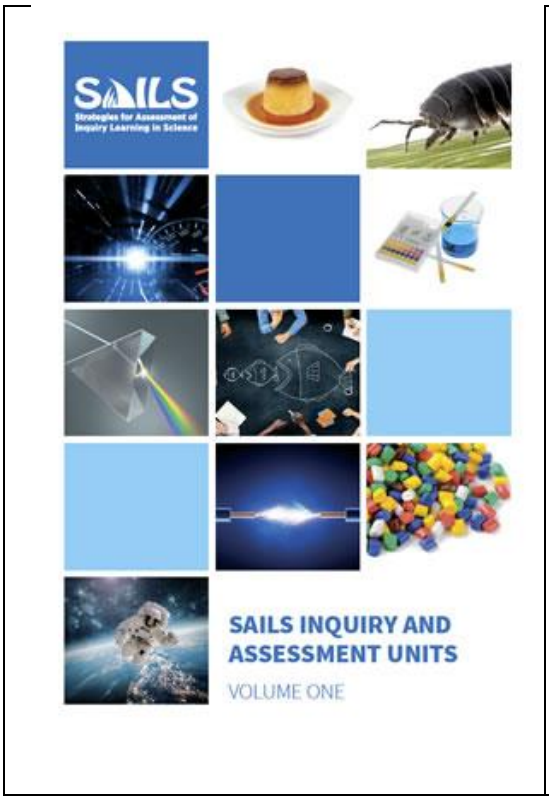
Harrison C, Howard S & Matthews B, Crafting A Teacher Education Program To Support Inquiry-Learning In Science: The SAILS Project (awaiting publication), 2015

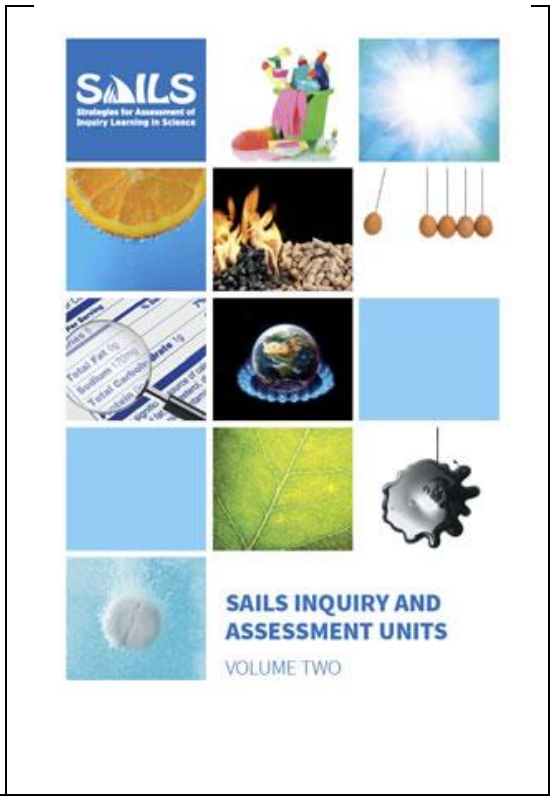
Further publications are expected and this list will be monitored and updated on the legacy website. Furthermore several publications related to SAILS are expected to be incuded in the forthcoming ESERA proceedings and an updated list of these publications will be added to the website when they become available in 2016.

Partners have also continued to be active by publishing papers related to the work of SAILS. A full list of all international and national publications is available in Annex 8.

Books

One of the main outcomes of the project have been the two volumes with their own ISBN number that were published at the end of the project and which are now being widely distributed amongst the partnership. These volumes contain the 19 units that were created collectively by the partners presented in an attractive and highly visual format. Electronic version of these units, case study reports and relevant classroom materials are all available from the legacy website described elsewhere in this report. The two volumes are also available for download as simple eBooks from the legacy website.





NATIONAL EVENTS

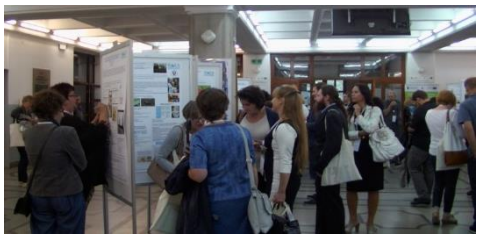
SAILS partners have agreed to organise both national kick-off events as well as national final events in their country. The aim of the kick-off events was to introduce the SAILS project and make stakeholders aware of the importance of the SAILS mission to find methods for assessing skills in the inquiry classroom. Specific details of the national kick-off events can be found in Annex 9 with all SAILS dissemination activities.

The final SAILS national events aimed to disseminate the project outputs on a national level, as education policy is still a responsibility on the national and sometimes regional level, the project felt it was important not only to have a high-profile international final conference but also to "repeat" this effort on a country-by-country level in order to reach more stakeholders and also translate the outputs to the specific country context. In addition, most countries used this event as a platform for enhancing their national communities of practice and celebrating the contributions of the science teachers to the SAILS units and to the SAILS **teacher education programmes.** Some SAILS countries have already held their final national events, other countries still plan to do a national final event at the beginning of 2016 (e.g. in Belgium the event is planned for 17 February 2016) as this is a better timing. Below you can find examples of national events already held

Summary event in Poland

In June 2015 a Summary SAILS Conference was organised by the Jagiellonian University in Kraków. The conference was attended by local stakeholders, 60 teachers participating in the project and 80 other teachers from various regions of Poland. During the conference outcomes of the SAILS project were presented with a special focus on prepared inquiry & assessment units and case studies. Later in the event teachers trained in the SAILS TEPs had the opportunity to present their ideas, adaptations and incorporation of didactic materials and assessment strategies as well as studies on the influence of IBSE on their students. The poster and oral presentations were followed by workshop focused on investigations in virtual laboratories/environments (eg.: http://chemcollective.org/vlab/vlab.php; www.algodoo.com).

SAILS teachers played a tutor role and shared their knowledge and experience with other teachers. The conference turned out to be a great success. It created an opportunity not only to spread information about the project and its outcomes, but also to enable teachers review and discuss their teaching and assessment strategies.



Summary event in Turkey

In September 2015, a SAILS Teacher Conference for STEM teachers was organised in conjunction with "STEM & Makers Fest/Expo" in Ankara. Around 2000 people took part ranging in age from 3 years old upwards who engaged with IBSE activities. They included over 700 teachers who participated in 26 workshops.

Many EU-funded projects and national projects were presented in a workshop format. This event encouraged many stakeholders and researchers to re-orient their practical communication efforts to support dialogue about STEM with the public. http://www.stemandmakers.com

Summary event in UK

A hugely successful SAILS conference took place at Kings College London on 9 October. Three experts in their field of education gave inspiring presentations. Dr Brian Cartwright, reinforced the need for science departments to have science inquiry at its heart if they want to be 'outstanding'. Dr Chris Harrison spoke with conviction about the rationale behind the pan-European project SAILS and the positive impact on both teachers and their classes of students in the UK as a result of having engaged with the SAILS project. Prof Paul Black discussed the types of assessment and the need to focus on "moments of learning not moments of judgment".

Science teachers Katie Barber and Stephen Philips each gave rousing presentations about the impact of SAILS on them as individuals, the students they taught and how they are now working with colleagues in their current school. Seven teachers presented their posters and shared their individual learning journey and explained the impact of the project on their approach to science teaching, assessing inquiry skills and how their students have developed in confidence and competence as a result.

Summary event in Greece

Over 300 participants attended the final national SAILS conference organised by the University of Piraeus Research Centre, Greek SAILS partner, on 28 and 29 November 2015 in Athens. The conference theme was "Learning Science through experiment, inquiry, technology and modern assessment techniques". The event was held under the auspices of the Greek Ministry of Education at the very nice venue of Eugenides Foundation in Athens. Among the 300 participants there were many interested in-service teachers as well as educational consultants, researchers, policy-makers and representatives from industry.

The program included many interesting topics around science education and assessment. Keynote talks and presentations on modern strategies in science learning and assessment were given by well-known Greek university professors, educational consultants and researchers from the Institute of Educational Policy of the Ministry of Education in Greece.

In particular, the event hosted various presentations on the SAILS approach and the created inquiry & assessment units. It was, also, a meet-up of representatives from various related EU funded projects, such as Fibonacci, Scientix, PathWay, ODS, Inspiring Learning. The program also included invited talks by Microsoft and Apple representatives involved in educational policy. All participants had the opportunity to share experiences and new approaches including modern assessment techniques in science education.

Summary event in Denmark and Sweden

A final SAILS conference for participating teachers from Denmark and Sweden was held in Odense on 30 November. Over 40 participants attended the conference. Participants were a mix of teachers from the SAILS teacher education programmes (TEPs), teachers from pilot groups and researchers from the SAILS project. The event was a collaborative act by SAILS partners from the University of Southern Denmark and Swedish partners from the Malmö University and Kristianstad University College.

After an official welcome in Danish and Swedish, Professor Claus Michelsen and assistant professor Morten Rask Petersen, from the University of Southern Denmark, explained the philosophy of inquiry based science education (IBSE) and how IBSE and assessment was approached in the SAILS project in particular with a special emphasis on the pilot groups and TEP's conducted in Denmark and Sweden.

These presentations were followed by a poster session where nine different posters were presented by participating teachers. After lunch the outcomes of the poster session were discussed followed by a talk from Dr. Paul van Kampen on SAILS on the European perspective.

The 19 SAILS inquiry & assessment units were also presented of which already one third have been translated into Danish and distributed to the participants on usb sticks. After a day of presentations and discussions the participants went home with lots of new insights and useful SAILS inquiry & assessment resources which they can try-out in their future practice.

Summary event in Portugal

The Portuguese SAILS team held a final meeting with the teachers from TEPs on 12 December, 2015. This event focussed on the impact SAILS has had on the teachers taking part and also provided an opportunity to discuss the next steps in using the resources and outputs of the project to support science education in Portugal.

A webinar about SAILS was also organised by the Portugueses SAILS team in December 2015 which featured Cecília Galvão talking about the project experience as well as the new SAILS legacy site and the materials available on it. This webinar is available for viewing on the Portuguese Ministry of Education site here).

Summary event in Ireland

Dublin City University shared the results of the SAILS project with key national stakeholders in a final project conference on 14 December 2015. About 60 representatives from across STEM education at all levels, primary, secondary, tertiary attended the event which was hosted by CASTeL, the Centre for the Advancement of STEM Teaching and Learning at Dublin City University. The event was attended by SAILS pilot teachers and their principals, STEM educators as well as representatives of the National Council for Curriculum and Assessment, State Examinations Commission, Inspectorate and Teacher Education support.

DCU's Dr Odilla Finlayson, SAILS Project Coordinator opened the conference and introduced the SAILS approach - "Inquiry in the science classroom provides opportunities for students to diagnose problems, critique experiments, plan investigations, research conjectures, search for information, debate with peers and form coherent arguments. SAILS presents trialled strategies for assessing inquiry skills and competencies and provides illustrative examples of classroom-based assessment practices applied across the sciences. We have developed and provided professional development programmes for second level science teachers, both in-service and pre-service, that support teachers' understanding of how inquiry approaches can be facilitated and assessed in the classroom. With time and support, teachers can develop their confidence and competence in this type of learning in the classroom."

In line with the project ethos of sharing practices, the new legacy website was introduced to the participants and the books of SAILS Inquiry and Assessment Units were distributed to all. A particular highlight of this event was the sharing of classroom videos from two of the Irish SAILS pilot teachers, Brigid Corrigan and Robert Clarke, whom later participated in panel discussion. The invited speakers for this event were Prof. Brian MacCraith Chair of National STEM Education Review Group, Dr. Anne Looney - CEO of National Council for Curriculum and Assessment and Mr. Joe Greene, Technology Development Manager, Intel Ireland.

"The outcomes of this project are important for the new junior cycle science course. That course aims to develop students' understanding of the natural world, but it has a particular focus on the student as inquirer, gathering and evaluating evidence, and developing the skills of working scientifically. The website developed by the SAILS team will be a great support to teachers working with the new course from next September". Dr Anne Looney, CEO, National Council for Curriculum and Assessment.

Dr. Eilish McLoughlin, a member of the SAILS coordinating team and Director of CASTeL at Dublin City University, closed this event and highlighted the relevance of the SAILS project to the CASTeL's research agenda in STEM education and ongoing collaborations with all key stakeholders.

7. Task 6.6 Promotion of project work to policy-makers and relevant stakeholders

The original plan as set out in Task 6.6 was based on the circulation of a number of brochures and reports and the creation of a centralised database or contact list of relevant policy-makers and stakeholders for each country.

While the circulation of the brochures and reports (identified as D6.4, D6.5 and D6.6) has taken place broadly in accordance with the time schedule set out in the DoW and linked to the different phases of the project, the assembly of a suitably effective database has not proven to be so easy. This is mostly due to a reluctance on the part of many partners to share sensitive contact data of key stakeholders from their country largely to do with concerns about data security. Furthermore the job of maintaining and updating such a list requires quite some effort.

In the future the dissemination team propose that such data management and updating is best done in a collective manner with other projects through the auspices of, for example, Scientix who are in a very good position to support and maintain such effort. Efforts to put in effect a form of stakeholder network analysis as described in D6.3 on the SAILS networking activities are certainly worth pursuing in the future in order to ensure that projects like SAILS have easy access to a comprehensive and up-to-date list of key stakeholders engaged in science education at the relevant national and regional level. Without such mechanisms it is clear that many opportunities for effecting real change in science education in European schools are lost.

Nonetheless the dissemination team has managed to create a significant list of key-policy makers for most countries (79 contacts in total) as well as a list of key contacts at a European level and a general stakeholders mailing list with 1774 contacts which has been used to circulate relevant information at key moments in the lifetime of the project.

One of the strategies adopted by the dissemination team connected with having an impact with policy-makers and relevant stakeholders was to organise the involvement of SAILS in several high profile events. Two of these were the Scientix events organised in Brussels in October 2014 and in Barcelona in 2015 which are reported on in the next chapter. The other two particularly worth reporting on are the SAILS teacher conference organised in June 2014 in Dublin and the high-profile closing event organised in the European Parliament, Brussels in November 2015.

TEACHERS CONFERENCE IN JUNE 2014 IN DUBLIN

DCU is collaboration with the other partners organised a joint SMEC & SAILS conference on 24-25 June in 2014 to bring together science teachers from all over Europe The purpose of this 2-day event entitled “Thinking Assessment in Science & Mathematics” was to provide an international platform for teachers and educators to discuss practices and share their experiences in the teaching and learning of mathematics and science. The conference was opened with a presentation from Prof. Wynne Harlen from the United Kingdom on “Assessment in support of inquiry-based education”. The 2-day conference hosted by CASTeL – the Centre for the Advancement of Science and Mathematics Teaching and Learning had a packed program with plenary sessions including several SAILS partners (Paul Black, Benő Csapó, Christine Harrison, Cecília Galvão) and lots of workshops, discussions and poster presentations. The conference attracted over 170 participants and provided an important opportunity to share the outputs of the project with the wider community of stakeholders and policy-makers.

SAILS Final Conference in November 2015 in Brussels

This event was held in the European Parliament on 18 November 2015 and attracted about 70 high-level representatives and stakeholders. Entitled 'Meeting the challenge of assessing inquiry based science education in European schools' the idea behind this event was to highlight the main results and impacts of SAILS across the 12 participating countries. It was also decided to launch the final outputs of the projects during this event and to use the occasion to really underline the importance of innovation in science education.

In the promotional materials, press release and associated materials created for the event, the work of the SAILS project was put in the broader context of implementing active pedagogies in the science curricula together with aligned assessment strategies This step was promoted as being vital if Europe is to maintain its position in the economic world by promoting innovation in science education. In terms of achievements, the team were careful to highlight the extent to which SAILS has been taken up by teachers in Europe in its 48 month lifetime by laying emphasis in the press release and elsewhere on the 2500 teachers which have taken part.

The event was hosted by Seán Kelly MEP, Leader of the Irish Fine Gael Delegation in the European Parliament, who warmly praised the work of the SAILS team during the event and highlighted the importance of implementing far most effective curricula and teaching assessment strategies across Europe.

Each partner was invited to bring senior policy-makers and decision-influencers from their country and the list of participants contains many such participants. A full list of all those invited is included in annex 6. A poster advertising the event is available in annex 7, this poster was hung up in different parts of the European Parliament for about 2 weeks ahead of the event.

The event was organised in one of the committee rooms of the parliament and included the following speakers:

- (host) Seán Kelly MEP, Leader, Fine Gael Delegation in the European Parliament, MEP of the Year (2014) - Digital Agenda
- Ana Arana Antelo, Head of Unit in DG Research & Innovation of the European Commission
- Dr. Odilla Finlayson, SAILS Project Coordinator, Dublin City University, Ireland
- Vanessa Figueiredo Pereira de Andrade, SAILS Teacher, Portugal
- Robert Clarke, SAILS Teacher, Ireland
- Dr. Martina Roth, Director of Intel's Global Education Strategy, Research and Policy

The event was recorded and edited highlights will be made available on the project website shortly. A press release highlighting the event was released after the event and is available in annex 5. A compilation of photos from the event is available on the dedicated event space publically available on the SAILS website here. While this event was not originally foreseen in the DoW, the dissemination team are confident that it was an important milestone for the project allowing it to highlight the outcomes of the project to a very wide audience and to raise the profile of the project to a significant degree. It was also an important opportunity for many of the partners who used the opportunity to

bring key stakeholders to the event in the European Parliament to share their thoughts about innovative science education with key decision-makers in their own countries.

8. Conclusions

Looking back over the 4 year dissemination and promotion action of the SAILS project there are several conclusions worth highlighting in this final deliverable. In general terms, the original objectives as identified in the DoW have been met and in some cases the expectations described in the dissemination plan have been exceeded. Several new aspects have been introduced like the video work and there has been a far more significant effort put into ensuring the availability of the project outcomes after the funded project lifetime than originally foreseen. Practically all of the KPIs included in the original dissemination plan have been met and the partnership as a whole are confident that the legacy of the project in the form of the materials, resources and other useful artefacts created during the lifetime of the project will continue to be used and exploited for at least 2 more years.

MANAGING A DATA BASE OF STAKEHOLDERS AND POLICY-MAKERS

In the original DoW, the partnership proposed to set up, develop and maintain an extensive database of contacts amongst relevant stakeholders, policy-makers and other science education decision-makers in Europe. The original idea was also to make this database public. In the end this proved to be difficult and while the consortium did manage to set up an extensive private mail-list which was used to communicate important milestones and project outcomes to this target group, it did not match the original objective.

The reasons for this have already been given in this report, which were largely due to the understandable reluctance on the part of the partners to share private contact data of such persons. However it does raise questions as to how a project consortium team like the one in SAILS can effectively reach out to policy-makers and stakeholders in an effective manner each time they have outcomes and recommendations to share. In order to have any real impact on the science education community as a whole, such engagement is clearly necessary but achieving it on a project by project basis is really challenging, requiring project teams to start each time gathering contact details and then trying to interest such stakeholders in single project outcomes on an ad hoc and largely once-off basis.

The dissemination team propose that there is an important role for a project/agency like Scientix to play here whereby they could set up and maintain such a database making it available to project teams like SAILS as and when it is needed. Stakeholder Network Analysis (SNA) like that carried out by the ASSIST-ME Project and reported on in the SAILS Deliverable D.3 could be carried out collectively each year by such an agency making sure that the information provided is fully up-to-date. Given the fact that policy and associated change in policy is still a national responsibility, the provision of such information along with the possible organisation of information sharing opportunities for such stakeholders related to the latest developments emerging from projects like SAILS would go a long way in facilitating real impact on science education.

THE VALUE OF VIDEO

The second conclusion that we reach relates to the value of video as a tool in supporting dissemination and promotion which is borne out in SAILS where resources like the classroom recordings are proving to be very useful. From the start of the project, the team has tried to create video artefacts like the interviews with partners which were helpful in creating a presence for the partners and which could be used in turn by them to promote SAILS in their own institutions and countries. Video is a natural complement to the necessary text based materials emerging from a project like SAILS and its power to really demonstrate practices like assessment in IBSE should not be under-estimated.

The dissemination team propose that there is a place for different production approaches depending not only on the availability of resources but also the purpose of video-based outputs which needs to be taken into account. User-generated video materials have their place by enabling partners capture

key moments in workshops for example, or interviews with teachers but these do not come about spontaneously and care should be taken to provide partners with support in creating such materials,

In SAILS some effort was put into this through the organisation of a workshop for partners in creating video-based materials and the provision of guides and personal advice. It would be good to take this effort one step further by putting in place a system in which partners capture raw footage in the field and then pass it on to a centralised skilled team for editing and publication. A start was made on this in SAILS but time and resources did not allow for this to be fully implemented even though it is clear that the partners were far more enthusiastic about the use of video, accepting the value it brings by the end of the project then they were at the start.

The creation of high-production value video resources made by a skilled production team also clearly has a place in a project like SAILS which is shown in the value of the classroom recordings which were made by a professional team towards the end of the project. When showing best practice and using such material in a pedagogical context, it is important that the material used is correct and to a high quality in all aspects. However it is important to note that such productions do require quite some resources which need to be budgeted for from the start of any such project.

IMPORTANCE OF HIGH LEVEL EVENTS

The dissemination team also propose that there is a significant value in organising high-profile events for a project like SAILS even if such events require quite some planning and organisation. In SAILS, two such events were organised, the teachers' conference in Dublin in June 2014 and the Brussels event for decision-makers held in November 2015. Timing for such events is critical and needs to be based on sound reasoning in respect to the phasing of a project.

For SAILS, the decision to organise a large conference for European teachers in Dublin was made to really boost the networks of teachers involved in the teacher education programmes taking place in each country at a key moment in their lifetime. It came when teachers were starting to develop units and to experiment with assessment approaches in the classroom and so this face-to-face event provided a really important opportunity to help the teachers taking part which were of themselves key multipliers of the SAILS approach to exchange and extend their communities of practice. This event was really motivating and helped to consolidate the project at a vitally important moment in its development.

The Brussels event in November also came at a key moment in the lifetime of the project and provided a really worthwhile opportunity to highlight the outputs of the project for the wider stakeholder community. Coming to such an event organised in the European Parliament provided the partners with an important opportunity to contact and engage key stakeholders in their country and as can be seen from the attendance list for this event, many of them were successful in attracting high-ranking decision-makers from their countries to come to what was acknowledged by all to have been a highly prestigious event.

FACILITATING ACCESS TO THE OUTPUTS OF SAILS THROUGH LEGACY STRATEGY

Finally, significant effort has been put into ensuring the legacy of the project in the form of the final website which includes all the units and associated resources. This was effort not fully foreseen at the start of the project, however it was agreed when reviewing the project in terms of its impact that effort needed to be re-directed towards the end of the funded period into ensuring that the valuable outputs of the project were made available in an attractive and easy-to-access format for teacher education programmes going forward. The creation of such a legacy site requires the team to re-think the

project's web presence, acknowledging the fact that such a site is completely different in terms of what it offers and how it is maintained than a website that supports an active project.

The internet is littered with websites set up by project teams which are simply left to fossilise when the project is over, with out-of-date information and a general air of neglect. In SAILS we have done our best to create a web presence for the project at the end of its funded lifetime which will require minimum maintenance to support for the next 2 years but which will also provide easy access to the wealth of materials created by the SAILS team. These resources are available not only for the SAILS partners but also for the many teacher educators and teachers interested in adopting the SAILS approach in a practical way to assessment of IBSE activities in the classroom.

The team proposes that this is a vital element in the overall dissemination and promotion service put in place for any project and one which should feature far more significantly in this type of work for projects like SAILS in the future.

Annexes

ANNEX 1 BROCHURE FOR POLICY-MAKERS (D6.4)

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Strategies for Assessment of Inquiry Learning in Science

SAILS
Strategies for Assessment of Inquiry Learning in Science

Science education in a changing Europe

We live in a changing world where new knowledge is constantly being generated and new applications of this knowledge developed. Our scientists continue to push the boundaries in generating, developing and adapting their knowledge and often present challenges to society. If Europe is to maintain its presence in the economic world, we need the new generation of scientists and citizens who are knowledgeable about science and the scientific process. Thus, we will have a society made up of individuals who are informed, critical and can make decisions based on evidence.

The good practice of science involves use of inquiry skills and competencies, such as planning investigations; analysing, evaluating, critiquing data and evidence; developing models and making inferences based on evidence. Additionally, work practices now involve team work, effective communication, and other 21st century skills. These inquiry and 21st century skills and competencies are seen as important in today's rapidly changing society.

Science education needs to meet these new demands, and one obvious way is to ensure that students engage with science through inquiry practices and also develop 21st century skills. This approach is more engaging for students, presents greater challenges for both teachers and students, allows students develop a deeper knowledge of the subject matter and also can be more relevant to student lives. As a result more students are likely to take up science-based careers and strongly contribute to a scientifically literate society, as encapsulated in the focus of Horizon 2020 programme Science with and for Society.

What is Inquiry Based Science Education (IBSE)?

IBSE is the classroom practice that encourages development of inquiry skills through science that learners use to make sense of the world around them. In science classrooms, these include problem solving, planning and carrying out investigations, looking for patterns in data sets, making observations and inferences, asking questions and researching and testing out ideas. The inquiry learners are creative and imaginative in their design of investigations and analysis of evidence. The IBSE approach not only helps students develop a set of skills that they will find useful in a variety of contexts, but it can also help them develop their conceptual understanding of science.

Scientific inquiry should enable students to experience the difficulties and pleasures of pursuing scientific activity, as practiced by scientists – such as generating ideas, designing trials/experiments, taking measurements, and engaging in discussions and arguments as they make sense of what they find. This involves questioning and making sense of unexpected results and observations. It requires that students engage in open-ended investigations to develop their skills of collaboration, of dialogue and of producing and interrogating data. An inquiry approach motivates students to become fully engaged in learning and so enables them to engage with the joy and wonder of science.

Inquiry skills and assessment

Assessment to most people means tests and examinations, but this is only one part of the story. In classrooms, the main purpose of assessment is to support and encourage learning. Many of the current assessment practices focus on the individual and use a limited range of opportunities. However, assessment of inquiry offers richer possibilities. Evidence of inquiry skills can be collected in many different ways, for example on audio recordings, video, written student reports, presentations, peer assessment, teacher observation, stages in production of a solution to a problem, and the final product. The nature of assessment can also involve looking at processes as well as summative (often written) documents.

The SAILS project is training teachers through workshops and online communities of practice not only to use inquiry-based approaches in the classroom but also to make them more confident in their assessment of IBSE. Through the project, teachers are gaining experience in assessing inquiry skills.

This approach has several advantages in that assessment:

- *Is more personalised:* assessment can be carried out over a period of time in an authentic context and address individuals, pairs or groups. This contrasts with the more traditional testing situation which takes place at a single moment in time. Assessment of inquiry should present a more realistic reflection on the abilities of the student.
- *Fits better with diverse students' cultural and educational background:* in inquiry, students are given tasks that are open-ended and open to different approaches. This means they can vary in different countries, regions and schools according to the local educational and cultural background.
- *Reflects today's society:* teamwork is often involved making it possible for students to learn across diversity with students discussing and debating ideas together.
- *Stimulates creativity and responsibility:* using investigation-based science inquiry has the potential for enabling students to develop into more creative and independent scientists and to help them to further the 21st century skills that Europe needs them to have to maintain and develop its place in the world.

SAILS approach to assessment of IBSE

Within the SAILS project, inquiry in the science classroom is understood to be the intentional process of providing opportunities where students are directly involved in diagnosing problems, critiquing experiments and distinguishing alternatives, planning investigations, researching conjectures, searching for information, constructing models, debating with peers, and forming coherent arguments.

SAILS partners are developing a series of units in which exemplar inquiry activities are described alongside opportunities for assessment of the inquiry skills. These units provide examples for teachers of how inquiry skills can be assessed, alongside content knowledge, scientific literacy and scientific reasoning and illustrate the benefits of varied types of assessments.

Within each unit, a variety of assessment possibilities are highlighted; however it is stressed that these assessment opportunities are provided so that the teacher may see the varied scope for assessment e.g. assessment of: individual or group; single skill or multiple skills; content knowledge within inquiry; multiple skills over a course of study; as formative and /or summative assessment.

Structure of the SAILS units

SAILS partners have selected and developed inquiry resources that have been used to develop students' inquiry skills. Within each unit, a number of key inquiry skills have been identified. The units now have a suggested teaching sequence which describes the assessment practices and process used for collecting and evaluating evidence of student development of inquiry skills, reasoning skills and scientific literacy as well as understanding of content knowledge. A range of assessment opportunities have been highlighted within each unit and tools such as rubrics, questions (written or oral), discourse analysis, group work have been included.

These units have been piloted by experienced inquiry teachers in each of the SAILS partner countries. Teachers have provided feedback on the effectiveness of these resources in terms of evidence for students' learning, suitability for local curricula and range of skills assessable.

Evidence of student learning such as written work, presentations, dialogue, teacher observations have been analysed in order to refine the criteria for considering students' inquiry skill level.

SAILS units will be used in SAILS workshops for both in-service teachers and pre-service teachers in order to help classroom teachers broaden assessment opportunities. These units will also be made available through the SAILS Community of Practice.

On the next pages you will find 3 examples of classroom activities with some proposed assessment opportunities for each activity.

Woodlice

Woodlice are common across Europe and are appropriate for students to handle. This inquiry task deals with environment, ecology, and animal behaviour.

Classroom inquiry activity

Students are asked to investigate the living conditions of woodlice. Suggested variables are intensity of light, amount of moisture, and food preferences. Students are expected to: (a) formulate hypotheses about preferred living conditions, (b) plan an investigation (or a series of investigations) in order to test their hypotheses, (c) design and conduct the investigation(s), (d) collect, document, and analyse data, (e) draw conclusions supported by the evidence, (f) explain any unexpected results, (g) report, compare, and discuss their own results with the results from other students, and (h) suggest how to improve their own (or other's) investigation.

Assessment opportunities

For this inquiry task a three-level rubric for assessing investigative skills is used. A rubric is a guiding document that the teacher can use to judge the level of the student in a certain activity; an example can be found in Figure 1. This task is particularly suitable for assessing aspects of inquiry such as: formulation of hypotheses; planning and designing scientific experiments; drawing conclusions; explaining unexpected results; reporting, comparing, and discussing results, and providing suggestions about how to improve investigations. The task may also be used to assess student understanding of basic ecological concepts, such as species, habitat, physical and biotic environment. In particular, student understanding of these concepts may be assessed when formulating hypotheses (e.g. checking if the hypotheses are grounded in scientific knowledge) and when explaining and discussing their results.

Asking questions This aspect is about asking questions that can be investigated systematically. Questions to guide the students: ▪ Which questions would you like to pose about this? ▪ What would you like to know about this? ▪ How could you pose this question, so that you may find an answer to the question?	The student can... … pose a number of questions.	The student can… … make a distinction between questions possible to investigate and questions not possible to investigate.	The student can… … revise own or others' questions, so that they become possible to investigate.
Formulating hypotheses This aspect is about collecting information and ideas about a question, so that a hypothesis can be formulated. Questions to guide the students: ▪ What do you think will happen? ▪ Why do you think this will happen? ▪ Can you explain by using your scientific knowledge?	The student can… … formulate a prediction about what will happen.	The student can… … formulate a prediction about what will happen and explain why. The explanation builds on own (or others') experiences.	The student can… … formulate a hypothesis, that makes a prediction that is scientifically well-founded.

Figure 1. A three-level rubric

Speed

Speed is a concept students encounter every day of their lives. This inquiry task helps students develop the skills of planning an investigation, generating questions and identifying variables.

Classroom activity

Students are given three tasks:

- to plan an experiment to measure how far they walk in 5 seconds,
- to plan an experiment to measure how long it would take to walk 5 metres,
- to analyse their journey from home to school both verbally and graphically.

In doing so, they consider the variables of speed, distance and time. Students are expected to: (a) identify and use an appropriate experimental procedure including selection of suitable equipment, (b) design and carry out the experiments, (c) collect and document data, (d) consider sources of error, (e) consider modifications to the experiments, (f) create a graphical representation of their own narrative.

Assessment opportunities

While students are planning their experiments, the teacher may look out for the quantity and quality of questions (e.g. are they relevant to the investigation), or that addressed issues such as accuracy or control of variables.

Students may be encouraged to do a test run of their experiment and revise their plans accordingly.

An assessment after the experiment can be made in terms of the likely accuracy of the values found. When students graph their journey to school, they represent key features of the journey in a variety of ways. This allows the teacher to assess students' understanding of graphs, in particular how the shape of a graph relates to changes in the motion identified in the narrative (see for example Figure 2 showing two students' graphs of their journeys to school) .

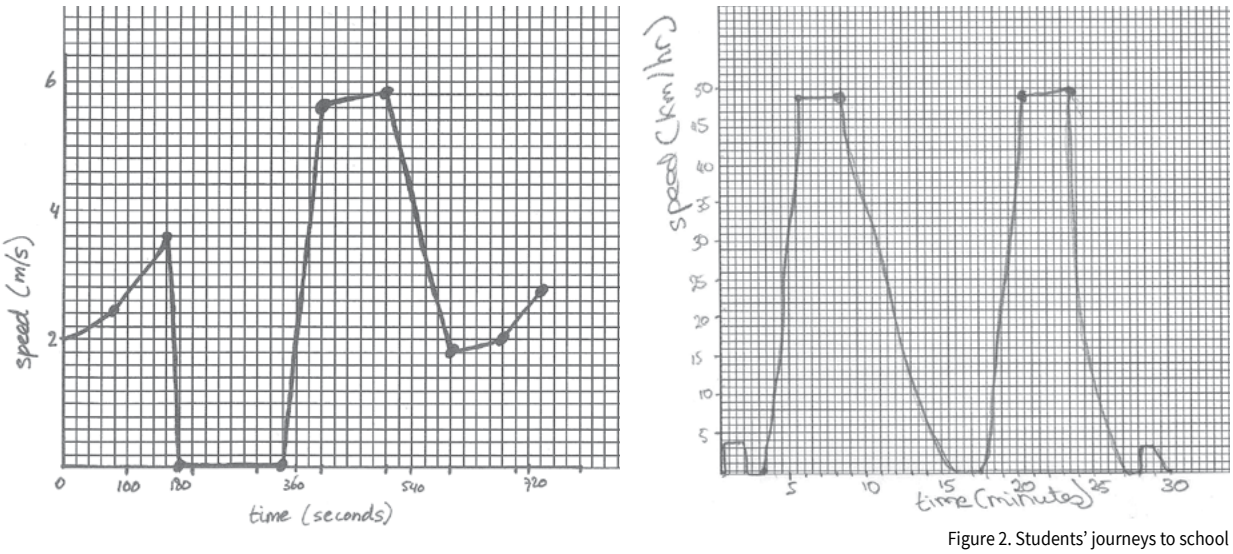
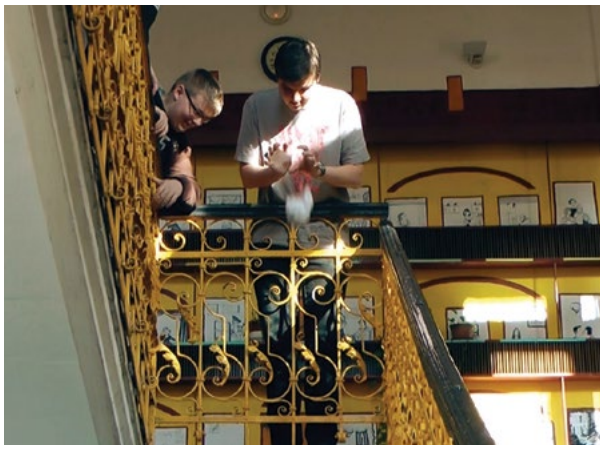


Figure 2. Students' journeys to school



Egg dropping

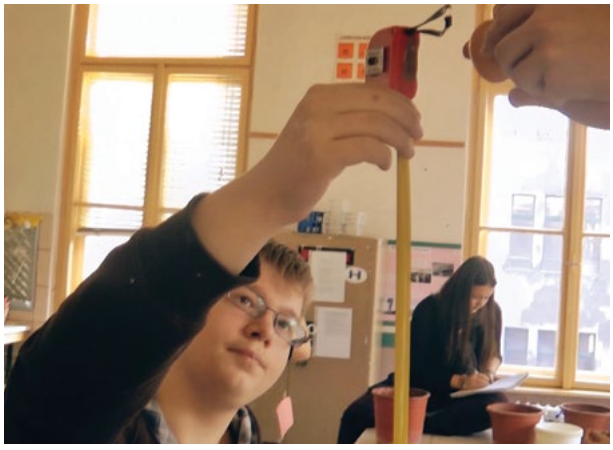
This is an open inquiry where students have to devise a way to catch eggs so that they do not break when dropped. The task is to solve an unstructured problem. The theme of the task is that of mechanics, and the connection between force and momentum.

Classroom inquiry activity

The students work in groups of four and are given a range of materials (e.g. tray, bucket, tape measure, ruler, stopwatch, eggs, digital balance, water, flour, sand, balloon) but are restricted in the amount of materials they receive. They have to devise a way of stopping the egg from breaking when dropped from a specified height - say 5 metres. Students are expected to work together to design and trial ways of solving the problem. From this data collected, they draw conclusions and evaluate their trials.

Assessment opportunities

In this case the assessment can take a variety of forms. One form is simply whether the task is completed and the egg does not break when dropped. Other forms can assess the final design, together with the supporting reasoning associated with why the group developed this particular design. The extent of the use of principles of mechanics to inform the final design can also be assessed. Peer judgments can also be made by the class as well as the teacher. The originality of the design and its potential for improvement can be assessed. The way the pupils developed their design, the input of each individual to the design, the negotiation within the group, the way they conducted the experiment, and the conclusions they drew can be assessed. It is not suggested that all of these aspects would be assessed at the same time, but that this task can present many opportunities for assessment that the teacher would select from, depending on the aspect required.



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Project description

The aim of the SAILS project is to support teachers in adopting an inquiry approach in teaching science at second level (students aged 12-18 years) across Europe. This is being achieved by utilising existing resources and models for teacher education in IBSE, both pre-service and in-service. In addition to SAILS partners adopting IBSE curricula and implementing teacher education in their countries, the SAILS project is developing appropriate strategies and frameworks for the assessment of IBSE skills and competences and preparing teachers not only to be able to teach through IBSE, but also to be confident and competent in the assessment of their students' learning. Through this unified approach of implementing all the necessary components for transforming classroom practice, i.e. teacher education, curriculum and assessment around an IBSE pedagogy, a sustainable model for IBSE is being achieved. SAILS partners provide teacher education workshops in IBSE across the twelve participating countries and are promoting a self-sustaining model encouraging teachers to share experiences and practice of inquiry approaches to teaching, learning and assessment by building a community of practice.

Project partners

Dublin City University, Ireland

Intel Performance Learning Solutions Limited, Ireland

Pavol Jozef Šafárik University in Košice, Slovakia

Jagiellonian University, Poland

Malmö University, Sweden

Kristianstad University, Sweden

University of Southern Denmark, Denmark

The Institute of Education of the Lisbon University, Portugal

King's College London, United Kingdom

University of Szeged, Hungary

ATiT, Belgium

University of Piraeus Research Centre, Greece

Hacettepe University, Turkey

Gottfried Wilhelm Leibniz Universität Hannover, Germany

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How to get involved?

Join our international Community of Practice at www.sails-project.eu/COP

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ANNEX 2 SUMMARY OF MAIN ACHIEVEMENTS FOR POLICY-MAKERS (D6.5)

View this email in your browser

SAILS Project Website SAILS Comunity of Practice (COP)

SAILS conference brings together science teachers from all over Europe

The SAILS conference, hosted by the Centre for the Advancement of Science and Mathematics Teaching and Learning, CASTeL, of Dublin City University & St. Patrick's College, Drumcondra, brought together second level teachers and practitioners with teacher educators and researchers to discuss and share their experiences with implementing an inquiry approach to teaching, learning and assessment. The conference took place on 24-25th June 2014 in Dublin City University, Dublin, Ireland in parallel with the 6th biennial Science and Mathematics Education Conference (SMEC 2014) and was attended by 174 participants. In this newsletter you will find some highlights (short abstracts of the keynote speakers' presentations, links to the speakers' slides & video interviews with teachers) from the Conference.

The conference was opened by the Dean of Research, Prof. John Costello, followed by a welcome address by the Minister Sean Sherlock, Minister of State at the Department of Jobs, Enterprise & Innovation and Education & Skills with special responsibility for Research & Innovation. A key element of the conference was to provide a platform for teachers to share their experience with implementing inquiry and SAILS assessment strategies within their teaching practice. Teachers were invited to give a short presentation on their work with inquiry and assessment within classroom practice sessions. Topics ranged from living conditions of

woodlice, improving images from a camera obscura to designing experiments for the International Space Station. In this newsletter you can find links to some video interviews and posters from teachers who presented at the conference.

As well as teachers sharing their experience, 23 researchers gave presentations on the teaching, learning and assessment of mathematics, science and technology. Extended workshop sessions were also selected so that teachers could focus on particular areas that would help them implement an inquiry approach in their teaching. Workshops covered Assessing Inquiry in a Formative Fashion, Introduction to Video in the Science Classroom, Teacher-Student Dialogue in the Inquiry Classroom, and using ICT tools in the Inquiry Classroom. A workshop was also led by SAILS teachers which demonstrated how group skills could be developed through inquiry and Scientix provided a workshop on the how the resources collected from this project could be used by teachers.

This conference offered teachers the unique opportunity to learn about assessment in the classroom with plenary presentations from renowned educators. The plenary speakers were Wynne Harlen (University of Bristol, UK), Paul Black with Christine Harrison (King's College London), Benő Csapó, (University of Szeged), Cecília Galvão (Instituto de Educação da Universidade de Lisboa), Malcolm Swan (University of Nottingham) and Michael O'Leary with Zita Lysaght (St. Patrick's College, Drumcondra). We highlighted some of these sessions in this newsletter, enjoy reading!

INSPIRE

Plenary sessions at joint SMEC & SAILS Conference

Assessment in support of inquiry-based education

by Wynne Harlen, University of Bristol, UK

The intention in this presentation was to consider how assessment, whether its overt purpose is formative or summative, should ultimately improve students' learning. The starting point was the meaning of assessment and how it can have a direct or indirect impact on learning and the circumstances that are associated with a positive or negative impact. An outline of the nature of inquiry-based education draws attention to the challenge of establishing valid and reliable summative assessment of the intended learning outcomes. It requires situations to be chosen or set up such that students are using the understanding, skills and other competences that inquiry-based learning and teaching aim to develop. Discussion of different ways of doing this suggests the need for more openness and involvement of students, enabling the process to have a formative role as well as reporting reliably on achievement. Want to learn more? Have a look at the presentation.

Assessment in the Pedagogy of Inquiry

by Paul Black with Christine Harrison, King's College London, UK


Reality beyond the classroom presents adults with complex and ill-structured tasks. Inquiry-based science learning can help prepare pupils to meet this challenge, because it can link the capacity to select, expand and apply knowledge in ways that respond to the demands of each task. This ambitious aim requires a parallel development of knowledge, understanding, strategies and skills. The talk explored how inquiry-based learning can help achieve this aim. It stressed that both the choice of classroom tasks, and the formative feedback which aims to guide learners as they tackle such tasks, are essential. Further aspects, notably the positive role that summative assessment can play, and the value of collaboration between teachers in refining their summative strategies, was also emphasised. Interested in this approach? Have a look at the presentation.

Defining and Assessment of Cognitive Outcomes of Inquiry-Based Science Education

by Benő Csapó, University of Szeged, Hungary

A large number of aims are associated with science education, among these the most frequently expressed ones are (1) the establishment of a solid scientific literacy for all young people, (2) the improvement of the thinking skills and (3) the preparation of a growing proportion of a given generation for science related professions. This presentation showed how theoretical and empirical sources can be identified for developing scientifically established assessment frameworks. It elaborated how the gap between general goals of teaching and the classroom processes can be bridged by the application of theories and results of cognitive psychology. The last part of the presentation focused on classroom work and other practical aspects of assessment. It outlined the general approach to framework development and shows several examples which may be used to practice and assess students' inquiry and reasoning skills. Have a look at the presentation, for more details.

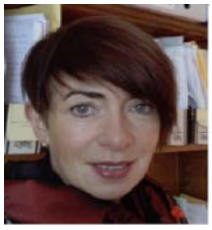
Why teachers should want to follow our curriculum design?

by Cecília Galvão, Instituto de Educação da Universidade de Lisboa, Portugal

It can be difficult to implement a change in curriculum when it requires a change in teachers' practice. How can the structural, organizational and personal resistance be overcome and how can we convince teachers to follow the new ideas? Taking as a starting point the competence based science curriculum in Portugal for lower secondary education (from its conception and implementation in 2002 until its evaluation ten years later), this presentation discussed teachers' professional development along with their problems in facing change in their practice. Taking these findings as learning, Cecília discussed a training programme on science experimental work for teachers in primary school, which was a very successful experience. A third example comes from SAILS and the Portuguese Community of Practice. If you want to get more insights, have a look at the presentation.

Introducing the assessment for learning audit instrument: A tool developed to guide school based professional development

by Michael O'Leary with Zita Lysaght, St. Patrick's College, Drumcondra, Ireland

This presentation began by connecting the extant literature on formative assessment with developments in the design of assessment tools to measure teaching and learning practices that promote the development of 21st century skills including, for example, adaptive expertise, self-regulation and inquiry-based learning. The presentation then traced the design, development and trialling of the assessment for learning audit instrument (AfLAi), with specific reference to its use in gauging teachers' baseline understanding of assessment for learning (AfL) practices and the extent to which AfL is embedded in their classrooms. Following a review of the instrument's psychometric properties, data were presented that give a snapshot of the AfL practices of over 500 teachers across 40+ in Irish schools, primary and secondary. An overview was also provided of how data from individual schools have been used to inform and guide school-based professional development on assessment over time. The presentation concluded with references to the use of AfLAi internationally, to how it is being adapted for use in educational settings beyond primary and secondary schools, and to the work underway in developing complementary tools for use by students and teachers at various levels of the education system. More details can be found in the presentation.

Designing Formative Assessment Lessons in Mathematics

by Malcolm Swan, University of Nottingham, UK

Formative assessment is the process by which students and teachers gather evidence of learning and then use it to adapt the way they learn and teach in the classroom. In this talk Malcolm described a design research project in which they are attempting to develop and integrate "formative assessment lessons" into classrooms across the US and the UK. In this, they have found it necessary to distinguish lessons for concept development, where the focus is on interpretation, from lessons that are intended to foster problem solving processes, where the focus is on comparing strategies for inquiry in non-routine situations. Principles for the design of these lessons were described and illustrated. The primary question throughout was: How can we design materials that allow teachers to promote inquiry and that are also adaptable to student learning needs? Have a look at the presentation for the whole overview.

Below you can find some links to other parts of the programme, you will find the slides of the presentations there:

1. Keynote plenary sessions (invited)
2. Research-focused oral presentations (parallel symposia)
3. Classroom Practice-focused oral presentations (parallel symposia)
4. Workshop sessions (parallel)
5. Poster presentations

HIGHLIGHT

Teachers on their experiences trying out new science inquiry

activities & assessment strategies

Implementing an inquiry based approach into our school

by Stephen Phillips, Wilson's School, UK

We approached the use of inquiry in our school from two different perspectives: 1) How should we go about teaching inquiry at Wilson's School? What topics shall we pilot teaching at Wilson's teaching? What are the challenges faced by the teacher and by students? 2) What happens when we raise students' self-awareness of their communication skills, using inquiry tasks? How will the staff and students feel towards inquiry-based lessons? Will they enjoy them? Will they trust them? Will they see the value in them and their relevance to the real world? Watch the video.

Biothechnology, Millions that can generate billions: Teacher perspectives on students' assessment

by Ana Vicêncio, College Marista de Carcavelos, Portugal

IBSE is a great challenge and requires substantial investment from both teachers and students. The activity underlying this discussion was set up under the 1st SAILS Portuguese workshop for teachers: "Why is there so much talk about INQUIRY across Europe? A proposal to work with the science curriculum in the classroom" on May 2013 and implemented last school year (2013-14) with lower secondary students. Watch the video.

Inquiry Based Learning in Primary Education: A Case Study Using Mobile Digital Science Lab

by George Stefanidis, College Delasalle, Greece

The objectives of this inquiry based learning project were to engage students in inquiry learning using lab disks, to promote students' collaborative inquiry thinking skills and to apply modern assessment techniques such as peer assessment, rubrics and concept maps. Watch the video.

You can find more teacher interviews in the Resources section of the SAILS website.

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ANNEX 3 FINAL EXECUTIVE REPORT FOR POLICY-MAKERS (D6.7)

MEETING THE CHALLENGE OF ASSESSING INQUIRY LEARNING IN SCIENCE

SAILS
Strategies for Assessment of Inquiry Learning in Science

ASSESSING INQUIRY LEARNING IN SCIENCE

Focus on assessment of inquiry skills and competencies

Inquiry skills are what learners use to make sense of the world around them. Inquiry approaches can help students develop deep conceptual understanding and encourage engagement with science. Inquiry approaches provide both the impetus and experience that helps students acquire problem solving and lifelong learning skills. These skills are important so that all citizens may make informed and reasoned decisions.

Within the SAILS project, inquiry in the science classroom is understood to be the intentional process of providing opportunities where students are actively involved in diagnosing problems, critiquing experiments and distinguishing alternatives, planning investigations, researching conjectures, searching for information, constructing models, debating with peers, and forming coherent arguments. In carrying out this project, SAILS has focussed on supporting the development of four inquiry skills (developing hypotheses, working collaboratively, forming coherent arguments, planning investigations) as well as the competencies of scientific reasoning and scientific literacy. The project team has developed and provided professional development programmes for second level science teachers, both in-service and pre-service, that support teachers' understanding of how inquiry approaches can be facilitated and assessed in the classroom.

SAILS Framework for Inquiry and Assessment

The SAILS Framework describes each of these inquiry skills and competencies and presents proven strategies for assessing them. Based on established research into cognition and assessment, it provides illustrative examples of classroom based assessment practices applied across the sciences. The SAILS team identified and selected inquiry activities that promoted these skills and competencies and developed assessment strategies appropriate for each skill and competency highlighted in these activities.

SAILS key findings

- Teaching and assessment considered as a dynamic and iterative process can effectively support inquiry learning.
- Learning science through inquiry can result in better understanding and more broadly applicable scientific knowledge, along with the development of transferable skills and competencies.
- With time and support, teachers can develop their confidence and competence in adopting inquiry and assessment of inquiry learning in classroom practice.
- Sustained collaboration is crucial in science education – between teachers and educators and across borders, both classrooms and countries.

Teacher Education Programmes:

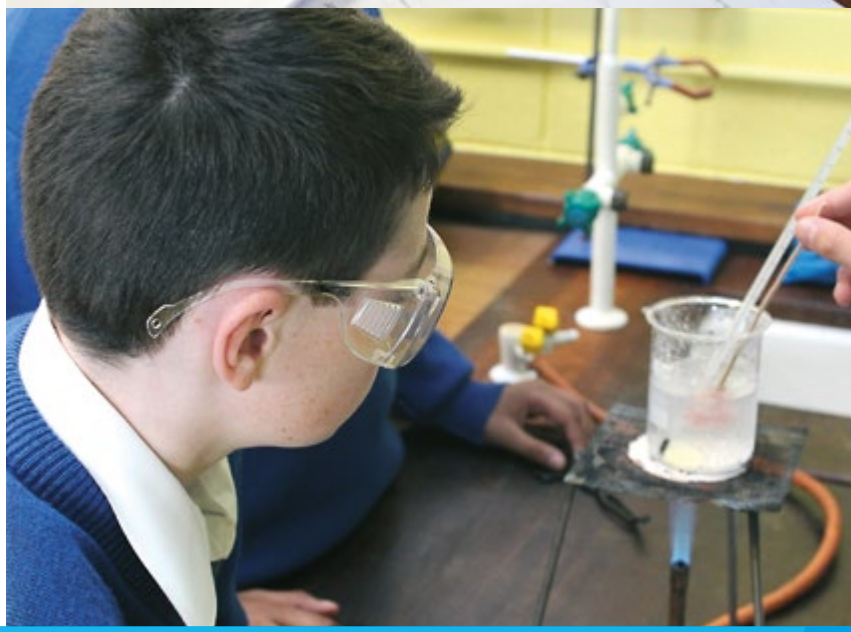
Teachers in the role of learners

The focus on assessment as an integral part of learning was a cornerstone of the SAILS Teacher Education Programmes. SAILS workshops have supported teachers in using assessment strategies to make judgments and give feedback to their students on how to improve their learning. An additional tenet of the teacher education programmes was that teachers should experience the inquiry and assessment practices themselves as learners. In this way the teachers can realise the skills involved in inquiry learning, how learners are more active in the learning process and how they can do science as well as learning about it. Teachers developed strategies for students to work collaboratively in their own classrooms, being particularly aware of cultural and gender issues.

Assessment practices in the inquiry classroom

Through a dynamic collaboration between SAILS partners and teachers, nineteen **SAILS Inquiry and Assessment Units** have been developed which showcase the benefits of adopting inquiry approaches in classroom practice, exemplify how assessment practices are embedded in inquiry lessons and illustrate the variety of assessment opportunities and processes available to science teachers. These units have been used as an integral component of the SAILS teacher education programmes, as they provide evidence that each inquiry skill and competence can be readily assessed. The units also show how teachers were able to adapt assessment strategies to suit their learning aims and also how they adapted the materials to suit their own students and curricula.

> Being involved in inquiry learning and attending workshops has changed my mind-set in terms of how I view and how I think about assessment. I now realise that there are so many more different types of assessment. Before I got involved in inquiry learning, for me assessment was, quite literally, just that test that you gave at the end of the topic. Now I understand assessment can be much richer.
>
> SAILS teacher









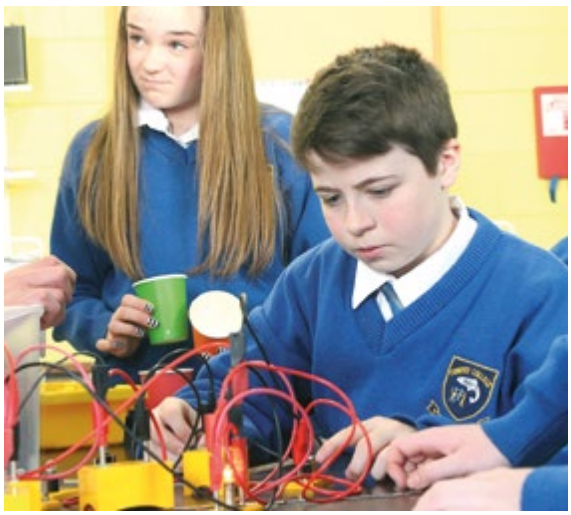


SAILS INQUIRY AND ASSESSMENT UNITS

The **SAILS Inquiry and Assessment Units** showcase a range of methods used to assess inquiry skills. The first section in each unit provides the key content and concepts. The second section gives ideas on how the activities can be implemented, how the skills and competencies involved can be assessed and how teachers have used the assessments. The third section provides a synthesis of the case studies of how the teaching approaches and assessment strategies were implemented in at least three countries.

Adopting teaching approaches to collect evidence of student learning

The units provide clear examples for teachers of how inquiry skills can be assessed alongside content knowledge, scientific literacy and scientific reasoning. They show how evidence of student learning can be collected and evaluated using a variety of methods such as classroom dialogue, teacher observation, presentations, peer-assessment, self-assessment, student artefacts, and use of assessment rubrics. The SAILS units relate to classroom practice and include examples of assessment items and assessment criteria. The SAILS units contain ready-to-use learning aids, greatly enriched by models of how teachers may support their students with frequent and personalised feedback when they are engaged in biology, chemistry and physics inquiries. The integration of inquiry skills and disciplinary knowledge can significantly extend teachers' pedagogical content knowledge.



Example of suggested teaching approach on the concept of electricity

- At the start of the lesson, the teacher initiates a rich discussion by asking questions that relate implicitly to the use of electricity in everyday life. For example: How did people in the past adapt to living in darkness and how do people do that today?
- After identification of the term 'electricity', students are asked to construct a mind map.
- Meanwhile, the teacher can ask some stimulating questions, for example: What is the possible origin of the word "electricity"? What do you think happens when an electric current flows?
- After completing their mind maps, students distinguish between scientific terms and everyday language.
- Students form groups and debate the terms on their mind maps.

From SAILS Inquiry & Assessment Unit: Electricity, activity A

Adopting strategies to assess student learning

Teachers have adapted and adopted many different assessment strategies to assess the same skill, as described in the case studies. The case studies provide a narrative of how the teachers approached inquiry in their classroom, how feasible the lesson was with the class group and how they assessed their students' learning. They also highlight any issues encountered, relating to cultural perspectives and other equity issues, such as gender. It is clear that teachers have adapted SAILS units to also focus on additional skills that the teacher wished to develop. The assessment criteria used were also modified to suit student age and their experience level with inquiry and, in some case studies, these criteria were also shared with the students so that they developed their experience with self-assessment and peer-assessment.

The collection of nineteen SAILS Inquiry and Assessment Units has been published, and electronic versions including case study reports, frameworks and related classroom materials are available for download at:

WWW.SAILS-PROJECT.EU










Example of assessment strategy using peer-assessment

- Students first made an attempt at writing conclusions for their investigation.
- They were given an arrow rubric to peer-assess these conclusions.
- The teacher also used this rubric for student feedback and to check the quality and accuracy of the peer-assessment.
- The students were given the opportunity to redraft, focussing on what they had missed out and improving their original ideas.
- The students were given four anonymised final versions of their peers' work and asked to rank them. They were then asked to reconsider their judgement using the rubric.
- The students worked in collaboration with the teacher to redefine the criteria used.

EMERGING SCIENTISTS
- Describe what they have found out in experiments.
- Make basic explanations of their findings and observations.

DEVELOPING SCIENTISTS
- Describe what they have found out in investigations, linking cause and effect, referring to variables.
- Draw straighforward conclusions from data presented.

CONFIDENT SCIENTISTS
- Intepret data, recognising obvious inconsistencies and errors.
- Identify patterns in data.
- Draw valid conclusions that may link more than one piece of supportiung evidence, to make scientific explanations of findings.
- Select and manipluate data and information and use them to contribute to conclusions.

EXPERT SCIENTISTS
- Write conclusions that are consistent with the evidence they have collected and explain them using accurate scientific knowledge and understanding.
- Process data, including multi-step calculations to identify relationships between variables.
- Accurately assess the strength of evidence, deciding whether it is sufficient to support a conclusion.

From SAILS Inquiry & Assessment Unit: Collision of an Egg, case study 3

IMPACT OF SAILS PROJECT

Innovative science teacher education programmes in inquiry and assessment

The most important predictor of students' achievements is the quality of the teaching they receive. In recent years, developments in teacher education have been organised under several conceptual frameworks. These include improving the scientific foundations of teaching, developing teachers' knowledge and skills alongside providing them with materials and tools, and preparing teachers for identifying and applying research results and carrying out teaching experiments to improve their own work. The SAILS Teacher Education Programmes carried out in each partner country have been carefully aligned with these frameworks. They prepare teachers to identify and assess inquiry, literacy and reasoning skills. By adopting the SAILS framework teachers come to realise how learning science in an inquiry context may result in better understanding and broadly applicable, transferable knowledge and skills.

Teachers more confident and competent in the assessment of their students' learning

Through the collaborative efforts of partners, the SAILS project has demonstrated how inquiry approaches can be used for teaching a range of scientific topics, and has helped science teachers become confident and competent in the assessment of their students' learning through inquiry. More than 2500 science teachers in 12 countries have participated in SAILS teacher education programmes. These teachers have strengthened their inquiry pedagogy and assessment practices by developing their understanding of the role of assessment.

"The integrated approach of the SAILS activities to curriculum, learning and assessment is pioneering – because assessment is usually enacted as an afterthought to curriculum innovation. The compilation of examples from different teachers and countries to illustrate the SAILS units in action has highlighted that there are many ways to achieve and demonstrate the same aspect of the inquiry process and hence many different ways to assess student learning. The project programme, designed to develop multiple case studies from each SAILS unit is both distinctive and innovative. It communicates a clear message that teachers are expected to adapt the SAILS resources to suit their circumstances and their students. What is also clear from the programme outcomes is that the participating countries and teachers within them, not only enhanced and enriched their understandings and practices, but that SAILS has generated real momentum and commitment toward inquiry learning amongst teachers and researchers."

Professor Bronwen Cowie,
External Advisor to SAILS project

Students more involved in the learning process

Through SAILS, many teachers have successfully adapted their teaching approaches and have given students a more active role. For example, they organised experimental work so that students raised questions, decided on appropriate methods and analysed the data they collected. Teachers have also coached their students on working more collaboratively and communicating their ideas to others. This has resulted in students using one another as a resource and discussing their scientific thinking as they went about their inquiry activities. For many students, taking on the responsibility of inquiry helped them engage in the learning process and to find ways to work well with their peers. In some classrooms, the teachers developed peer-assessment exercises that allowed students to map their progress in developing inquiry skills and to target what they might do to improve in the next inquiry lesson. Two key characteristics of the SAILS approach have been observed: students are more involved in the active learning process; and students developed lifelong skills critical to thinking creatively, as they learn how to solve and discuss problems using logic and reasoning.

SAILS approaches have enabled teachers to both observe what students could do and to hear the reasons why students took certain decisions. It also revealed the range of inferences students made from their data and how students interpreted their results in terms of their scientific understanding. The teachers had more opportunities to assess their students' developing skills and understanding during the inquiry process and reported that it helped them get a clearer view of how students were doing and also what students needed to help them progress.

> Allow students to fail. We all learn from our mistakes. If students are not allowed to experiment and discover for themselves what works and what doesn't they are not getting an education, they are being drilled for exam success. Have fun. I have often been surprised by the new and innovative ways in which students approach a task and have learnt a lot from them over the years. Inquiry allows knowledge and wisdom to be grown and skills to be developed by the individual.

SAILS teacher

> By illustrating that current project teacher's practices range along a continuum, the SAILS work emphasises that teachers need time and support to develop and implement science inquiries, in which teaching and assessment become mutually supportive for student learning and the mastery of inquiry skills. Adjusting teaching and assessment into the more dynamic and iterative process that SAILS envisaged, can more effectively support inquiry learning.

Professor Debra McGregor,
External Advisor to SAILS project

Project description

The Strategies for Assessment of Inquiry Learning in Science (SAILS) project was funded under the EU Framework Seventh Programme (2012-2015) to support teachers in adopting inquiry based science education (IBSE) and assessment of inquiry skills and competencies in science at second level across Europe. More than 2500 teachers in the 12 participating European countries, who have participated in SAILS teacher education programmes, have strengthened their inquiry pedagogy and assessment practices through developing their understanding of the role of assessment.

The project team has collaborated with local science teachers to publish a collection of 19 SAILS Inquiry and Assessment Units which showcase the benefits of adopting inquiry approaches in classroom practice, exemplify how assessment practices are embedded in inquiry lessons and illustrate the variety of assessment opportunities and processes available to science teachers. In particular, the units provide clear examples of how inquiry skills (developing hypotheses, working collaboratively, forming coherent arguments and planning investigations) can be assessed, alongside content knowledge, scientific literacy and scientific reasoning and illustrate the benefits of various types of assessments.

Project partners

Dublin City University, Ireland

Intel Performance Learning Solutions Limited, Ireland

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Jagiellonian University, Poland

Malmö University, Sweden

Kristianstad University, Sweden

University of Southern Denmark, Denmark

The Institute of Education of the Lisbon University, Portugal

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This project has received funding from the European Union's Seventh Framework Programme for research technological development and demonstration under grant agreement no 289085

ANNEX 4 SAILS PROMOTIONAL MATERIAL

Leaflet

Strategies for Assessment of Inquiry Learning in Science

www.sails-project.eu

The SAILS project has received funding from the European Union's Seventh Framework Programme

SAILS concept and project objectives

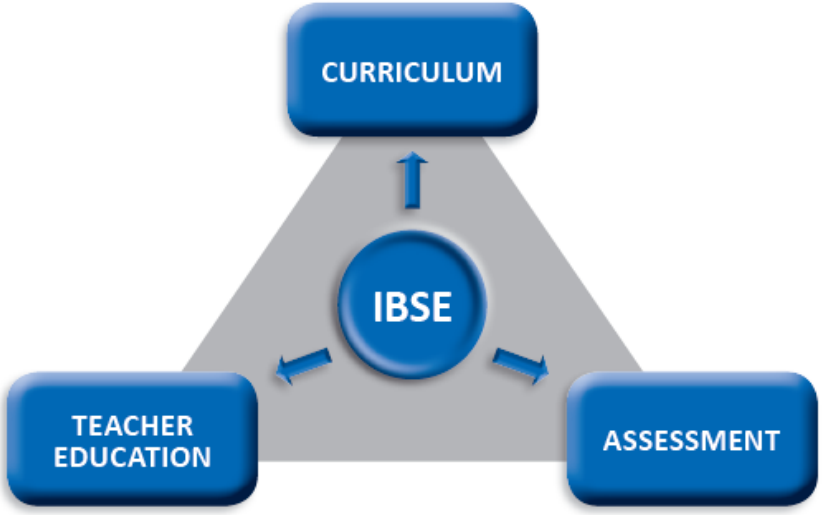
Inquiry Based Science Education

Crucial to the development of key competencies in young people is their engagement in the education process. Methodologies such as inquiry based science education (IBSE) have been highlighted as having the potential to increase student engagement in science at primary and second level and provide such development opportunities. Recommendations from international reports identify the need for "engaging curricula to tackle the issue of out-of-date and irrelevant contexts and to enable teachers to develop their knowledge and pedagogical skills."

Concept and project objectives

The aim of this project is to support teachers in adopting an inquiry approach in teaching science at second level (students aged 12-18 years) across Europe. Both pre-service and in-service teachers will be involved. SAILS will provide teacher education workshops in IBSE across the twelve participating countries and promote a self-sustaining model encouraging teachers to share experiences and practice of inquiry approaches to teaching, learning and assessment by building a community of practice.

"SAILS aims to prepare science teachers, not only to be able to teach science through inquiry, but also to be confident and competent in the assessment of their students' learning through inquiry."



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A European approach

The SAILS consortium consists of thirteen partner organisations, including universities, SMEs and a multi-national organisation, from across twelve European countries. The strength of this consortium lies in its vast experience and expertise in the areas of science education, teacher training and resource development for teaching, learning and assessment.

By using a pan-European approach, SAILS will ensure that the diverse practices built up in each country can be analysed and shared, resulting in the development of models of best practice. These can be used not only in all the consortium countries but will also be available for other countries to adopt. This European approach raises the standard for everyone by encouraging national implementation and by extending and promoting innovation in science teaching and learning in the classroom.

"The long-term aim is to generate a greater interest in science subjects at school, improve the take-up of science at third level and thereby increase the number of skilled graduates for employment in science and technology in Europe."

SAILS
Strategies for Assessment of Inquiry Learning in Science

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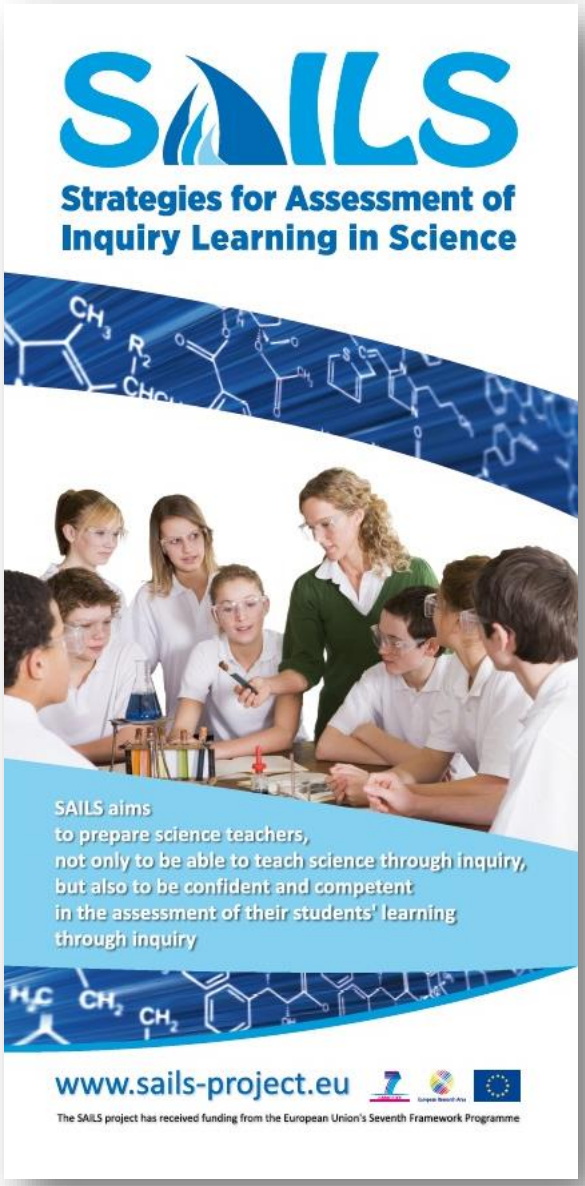
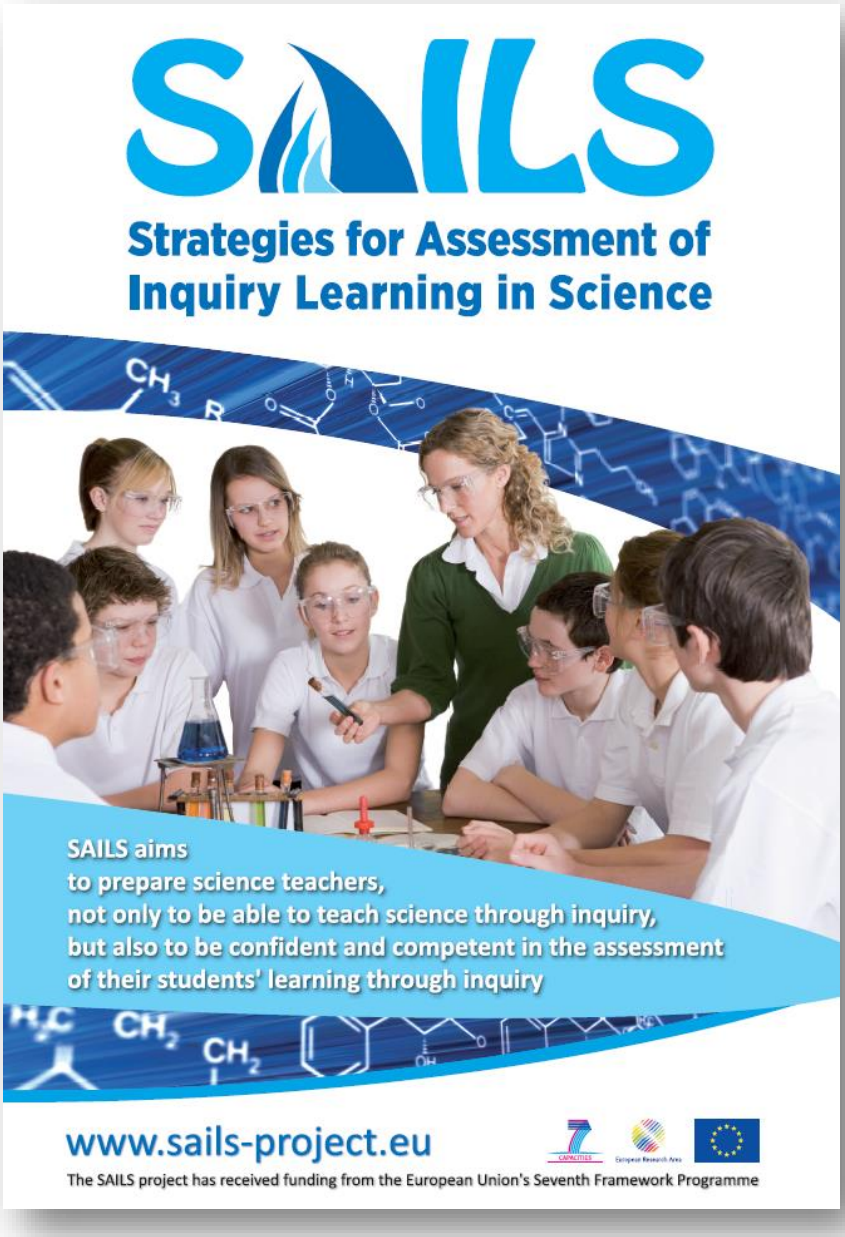
Business card

Roll-up poster



Poster


SAILS
Strategies for Assessment of Inquiry Learning in Science
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www.sails-project.eu
The SAILS project has received funding from the European Union's Seventh Framework Programme

ANNEX 5 CLOSING CONFERENCE PRESS RELEASE

SAILS
Strategies for Assessment of Inquiry Learning in Science

26 November 2015

Press Release

SAILS Partners launch project outputs in European Parliament

Almost 70 stakeholders, decision-makers and partner representatives took part in a high-level event in the European Parliament on 18 November to launch the main outputs of SAILS. This four year FP7 funded project aimed at supporting teachers in adopting inquiry based science education in their second-level classrooms and increasing their confidence in the assessment of inquiry skills and competences.

The event, hosted by Irish MEP Seán Kelly, highlighted the work of SAILS to meet the challenge of assessing inquiry learning in science and provided an opportunity to launch the project heritage website featuring a vast array of teaching and assessment resources, including frameworks for inquiry and assessment, teacher education programme and inquiry and assessment units. These resources and materials are freely available to science teachers interested in building their competence in assessing inquiry skills in the classroom.

Over 2.500 teachers have been involved in SAILS workshops and activities meaning that over 30.000 students in 12 countries (Belgium, Denmark, Germany, Greece, Hungary, Ireland, Poland, Portugal, Slovakia, Sweden, Turkey and the UK) have already benefited.

"The next generation will require scientific skills and competencies in addition to being scientifically knowledgeable and informed. To meet this challenge, we need to implement the most effective curricula and teaching assessment strategies across Europe. The SAILS project is a brilliant example of how we can make improvements", according to Mr Kelly, a former teacher.

Speakers at the event included **Ana Arana Antelo**, Head of Unit in DG Research & Innovation of the European Commission, **Dr. Odilla Finlayson**, SAILS Project Coordinator, Dublin City University, Ireland, **Dr. Martina Roth**, Director of Intel's Global Education Strategy, **Vanessa Figueiredo Pereira de Andrade**, SAILS Teacher, Institute of Education, University of Lisbon, Portugal and **Robert Clarke**, SAILS Teacher, Dublin City University/Confey Community College, Leixlip, Ireland.

SAILS Partners represented at the event

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Intel Performance Learning Solutions Ltd, Ireland	Pavol Jozef Šafárik University in Košice, Slovakia
University of Szeged, Hungary	University of Piraeus Research Centre, Greece
Jagiellonian University, Poland	Hacettepe University, Turkey
The Institute of Education of the Lisbon University, Portugal	Gottfried Wilhelm Leibniz Universität Hannover, Germany
Kristianstad University, Sweden	University of Southern Denmark, Denmark
Malmö University, Sweden	ATiT, Belgium

epp

This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 289085

ANNEX 6 CLOSING CONFERENCE INVITATION LIST

Meeting the Challenge of Assessing Inquiry Based Science Education in Europe

Participants list

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Sally	Howard	Kings College London	United Kingdom
Brian	Matthews	Kings College London	United Kingdom
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Sally	Reynolds	ATiT	Belgium
Joanna	van Kooten	ATiT	Belgium
Mathieu	Vanbuel	ATiT	Belgium

ANNEX 7 POSTER CREATED FOR THE SAILS FINAL CONFERENCE

ANNEX 8 ACADEMIC PUBLICATIONS

SAILS partners have published serveral academic publications in different journals and at conference proceedings, here is an overview of those related directly to the work carried out in SAILS:

Petersen, MR, Albrechtsen, TRS & Michelsen, C, 'Strategies for assessment of inquiry learning in science in a Danish context' Nordic Research Symposium on Science Education 2014, Helsinki, Finland, 2014

Harrison, C. Assessment of Inquiry Skills in the SAILS Project. Science Education International Vol. 25, Issue 1, 2014, 112-122

Finlayson, O., McLoughlin, E., McCabe, D. Strategies for the Assessment of Inquiry Learning in Science (SAILS) A European Project in Science Teacher Education. *New Perspectives in Science Education, Conference Proceedings 2016*

McLoughlin, E., Finlayson, Supporting teachers use and assessment of inquiry based science education in classroom practice, Proceedings of GIREP-MPTL International Conference on Teaching/Learning Physics: Integrating Research into Practice. (2014)

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In-service teacher training in IBSE in Slovakia and its impact on teachers and students in the framework of the Establish project / Zuzana Ješková ... [et al.]. [Ďalšie vzdelávanie učiteľov zamerané na učenie založené na aktívnom prírodovednom bádaní a jeho vplyv na učiteľov a žiakov v rámci projektu Establish]. - recenzované. In: HSCI2013 : Procedings of the 10th International Conference on Hands-on Science : Educating for Science and through Science : 1. - 5. júl 2013, Košice. - Vila Verde : The Hands-on Science Network, 2013. - ISBN 9789899803220. - S. 272-276

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Badatelsky orientovaná metoda ve výuce chemie - teorie a prax / Hana Čtrnáctová, Petr Šmejkal, Mária Ganajová ; recenzenti Martin Bílek, Hana Čtrnáctová, Ľubomír Held et al. [Inquiry-based method in chemistry teaching - theory and practice]. - Č. projektu: KEGA 027-4/011, iné 244749. In: Súčasnosť a perspektívy didaktiky chémie III. : zborník z medzinárodnej konferencie : 29.-31.5.2013, Donovaly. - Banská Bystrica : Fakulta prírodných vied, Univerzita Mateja Bela Banská Bystrica, 2013. - ISBN 9788055705460. - S. 14-18.

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Overovanie porozumenia prírodovedných poznatkov pri výučbe s IBSE nástrojmi formatívneho hodnotenia / Mária Ganajová, Ivana Sotáková. [Verification understanding of science knowledge in teaching with IBSE formative assessment tools]. - recenzované. - Č. projektu: iné 2011-2890085. In: Bádateľské aktivity vo vzdelávaní : zborník príspevkov z medzinárodnej vedeckej konferencie : 25. jún 2015, Bratislava. - Bratislava : Štátny pedagogický ústav, 2015. - ISBN 9788081181429. - S. 90-98

ANNEX 9: LIST OF DISSEMINATION ACTIVITIES CARRIED OUT BY PARTNERS

Type of activities	Partner	Title	Date	Place	Type of audience	Size of audience	Countries addressed
Web sites/Applications	ATIT	Webarticle on SAILS launch on company website	10/01/2012	http://bit.ly/1UEm0vm	Civil society		Europe
Presentations	DCU	SAILS launch & partner meeting (GA + PSC)	10/01/2012	The Helix, DCU	Scientific community - Policy makers - Medias	80	Ireland, Europe
Articles published in the popular press	DCU	webarticle in BioTechnology Ireland.ie	10/01/2012	http://bit.ly/1OyiLRj	Scientific community - Industry - Civil society - Policy makers - Medias		Ireland
Web sites/Applications	INTEL	Webarticle on SAILS launch on company website	10/01/2012	http://intel.ly/1T3JOYD	Industry - Civil society		Ireland
Web sites/Applications	SDU	webarticle on SAILS	10/01/2012	http://bit.ly/1QuXRZn	Scientific community - Civil society		Denmark
Web sites/Applications	SDU	Webarticle on University website	10/01/2012	http://bit.ly/1QuXRZn	Scientific community - Civil society		Denmark
Articles published in the popular press	DCU	Article on SAILS launch in Irish Examiner	11/01/2012	http://bit.ly/1YkY7OX	Civil society	180000	Ireland
Articles published in the popular press	DCU	Article on SAILS launch in Irish Times	11/01/2012	http://bit.ly/1Ynbnxq	Civil society	90000	Ireland
Articles published in the popular press	DCU	webarticle at Careersportal.ie	11/01/2012	http://goo.gl/8ylmWj	Civil society		Ireland
Articles published in the popular press	DCU	webarticle in Silicon Republic.ie	11/01/2012	http://bit.ly/1mpCcVW	Industry - Civil society - Policy makers - Medias	8000	Ireland
Web sites/Applications	DCU	webarticle on University Website (DCU)	11/01/2012	http://bit.ly/1Mj5gDe	Scientific community - Civil society		Ireland
Press releases	HUT	Publication University website/e-mail to members of the Turkish Science Education and Research Assoc	01/02/2012	http://bit.ly/1Oyjz8E	Scientific community - Policy makers	2000	Turkey

Web sites/Applications	US	Launch of hungarian sub-SAILS website	01/02/2012	http://bit.ly/1RTWQte	Scientific community - Industry - Civil society - Policy makers - Medias		Hungary
Web sites/Applications	JU	webarticle on SAILS	07/02/2012	http://www.sails.zmnch.pl	Scientific community - Civil society		Poland
Flyers	IEUL	Dissemination of the project amongst pre-service, master and doctoral students	10/02/2012	IEUL	Scientific community - Civil society	120	Portugal
Web sites/Applications	IEUL	webarticle on SAILS	10/02/2012	http://bit.ly/1P90vAI	Scientific community - Civil society		Portugal
Press releases	LUH	German press release about SAILS	29/02/2012	http://bit.ly/1YnbMjb	Scientific community - Industry - Civil society - Policy makers - Medias		Germany
Oral presentation to a wider public	JU	Municipality of Esbjerg	05/03/2012	Denmark	Civil society - Policy makers		Denmark
Oral presentation to a scientific event	SDU	Oral presentation about project to science coordinators in Southern Denmark	27/03/2012	Esbjerg, Denmark	Scientific community - Policy makers	30	Denmark
Articles published in the popular press	JU	Advertisement and information about the project on cover in Journal for science teachers NIEDZIAA	29/03/2012	Poland	Civil society	500	Poland
Flyers	DCU	Distribution of leaflets by Scientix at Science Dialogue Conference	01/04/2012	University of Southern Denmark , Odense, Denmark	Scientific community - Civil society - Policy makers		Europe
Flyers	DCU	leaflet distribution at IOSTE NW region conference	19/04/2012	IOSTE NW region conference, Limerick	Scientific community	40	Ireland, UK, Germany, Netherlands, Norway

Presentations	DCU	SAILS presentation	19/04/2012	IOSTE NW region conference, Limerick	Scientific community	40	Ireland, UK, Germany, Netherlands, Norway
Oral presentation to a scientific event	JU	Conference for science teachers at WCh UJ	20/04/2012	Jagiellonian University, Krakow, Poland	Scientific community - Civil society	85	Poland
Flyers	JU	Conference for science teachers at WCh UJ	20/04/2012	Jagiellonian University, Krakow, Poland	Scientific community - Civil society	85	Poland
Flyers	DCU	Irish Science Teachers Association Conference 2012	21/04/2012	Trinity College, Dublin	Civil society	40	Ireland
Flyers	JU	Information sent to department of chemistry education and local superintendents of education	24/04/2012	Poland	Civil society - Policy makers	25	Poland
Organisation of Conference	US	10th Conference on Educational Assessment (CEA)	28/04/2012	Szeged, Hungary	Scientific community - Civil society - Policy makers		Europe
Organisation of Workshops	HUT	in-service teacher workshops kick-off	05/2012	Ankara, Turkey	Civil society	20	Turkey
Web sites/Applications	LUH	Links and Informations on the Institute-Website	01/05/2012	http://bit.ly/1NrhRYV	Scientific community - Industry - Civil society - Policy makers - Medias		Germany
Posters	DCU	DCU Annual Teaching and Learning Day	15/05/2012	DCU	Scientific community	50	Ireland
Flyers	ATIT	Distribution of Leaflets at European Schoolnet Office	16/05/2012	European Schoolnet Office, Brussels	Scientific community - Civil society - Policy makers	30	Europe
Flyers	ATIT	Distribution of leaflets at Study Days Flemish cooperation of Catholic Secondary Education	30/05/2012	Sint-Katelijne -Waver, Belgium	Civil society	350	Belgium

Posters	JU	School of chemistry didacticsConference for science teachers organised by Polish Chemical Society	01/06/2012	Poland	Scientific community - Civil society - Policy makers	180	Poland
Flyers	JU	School of chemistry didacticsConference for science teachers organized by Polish Chemical Society	01/06/2012	Poland	Scientific community - Civil society - Policy makers	180	Poland
Presentations	DCU	SAILS presentation to secondary school teachers	06/06/2012	DCU	Civil society	35	Ireland
Posters	DCU	SMEC/ESTABLISH conference	07/06/2012	DCU	Scientific community - Civil society - Policy makers	200	Europe
Flyers	DCU	SMEC/ESTABLISH conference	07/06/2012	DCU	Scientific community - Civil society - Policy makers	150	Europe
Oral presentation to a scientific event	UPRC	Paper presentation by Michalis Boloudakis at SMEC 2012: Teaching at the heart of learning	07/06/2012	Dublin, Ireland	Scientific community - Civil society - Policy makers	60	Europe
Flyers	HUT	Distribution of Turkish leaflets on 10th National Science and Mathematics Education Congress	27/06/2012	Nigde, Turkey	Scientific community - Civil society	1200	Turkey
Oral presentation to a scientific event	UPRC	Paper Presentation by Michalis Boloudakis at International Conference of the Learning Science	02/07/2012	Sydney, Australia	Scientific community - Civil society - Policy makers	60	World-Wide
Oral presentation to a scientific event	DCU	ESOF 2012: joint presentation (4 projects: SAILS, Fibonacci, Pathway,Establish,IBEC)	11/07/2012	Dublin City University, Ireland	Scientific community - Industry - Civil society - Policy makers - Medias	40	Europe
Oral presentation to a scientific event	UPRC	Paper presentation by S. Retalis & M. Boloudakis at Moodle Research Conference 2012	14/09/2012	Crete, Greece	Scientific community - Civil society - Policy makers	120	Europe

Organisation of Conference	LUH	Local organizer of the GDCP conference, the topic was inquiry learning / Forschendes Lernen	17/09/2012	Hannover, Germany	Scientific community - Civil society - Policy makers	400	Germany
Posters	LUH	SAILS posters at annual GDCP conference	17/09/2012	Hannover, Germany	Scientific community - Civil society	400	Germany
Flyers	UPJS	EUCYS Conference, Bratislava	24/09/2012	Bratislava	Scientific community - Civil society	230	Europe
Organisation of Conference	UPRC	Half day Conference on IBSE & Assessment + Pres. (S. Retalis+O. Petropoulou) at E-learning expo 2012	06/10/2012	Athens, Greece	Scientific community - Industry - Civil society - Policy makers - Medias	400	Europe
Flyers	IEUL	SAILS partner Meeting (GA + PSC)	11/10/2012	Lisbon, Portugal	Scientific community - Civil society		Portugal
Web sites/Applications	ATIT	Webarticle on meeting in Lisbon (company website)	12/10/2012	http://www.atit.be/article/sails-partners-present-their-workshop-plans-at-the-general-assembly-meeti	Civil society		Europe
Flyers	DCU	Distribution of leaflets at ChemEd 2012	20/10/2012	Dublin City University, Ireland	Scientific community - Civil society - Policy makers	60	Ireland
Oral presentation to a scientific event	DCU	Presentation by Christine Harrison at ChemEd 2012	20/10/2012	Dublin City University, Ireland	Scientific community - Civil society - Policy makers	60	Ireland
Oral presentation to a scientific event	KCL	Keynote by Christine Harrison at Chem-Ed Ireland Teachers Conference DCU	20/10/2012	Dublin City University, Ireland	Scientific community - Civil society		Ireland

Oral presentation to a scientific event	SDU	MONA conference: meeting between Danish universities involved in IBSE	26/10/2012	Middelfart, Denmark	Scientific community	20	Denmark
Organisation of Workshops	KCL	start workshops in-service & pre-service in UK Kings College	01/11/2012	London, UK	Civil society	70	UK
Oral presentation to a wider public	KCL	Keynote by Christine Harrison at Akademikonfe University of Uppsala	01/11/2012	University of Uppsala , Sweden	Scientific community - Civil society		Sweden
Flyers	ATIT	Distribution of leaflets at Media & Learning Conference 2012	14/11/2012	Flemish Ministry of Education Headquarters, Brussels	Scientific community - Industry - Civil society - Policy makers - Medias	50	Europe
Oral presentation to a wider public	UPRC	Paper pres. by Petros Georgiakakis at Online Educa	28/11/2012	Berlin, Germany	Scientific community - Industry - Civil society - Policy makers - Medias	200	Europe
Oral presentation to a scientific event	JU	Conference for science teachers at WCh UJ	30/11/2012	Jagiellonian University, Krakow, Poland	Civil society	100	Poland
Articles published in the popular press	JU	Advertisement about SAILS Winterschool in Journal for science teachers NIEDZIAAKI	21/12/2012	Poland	Scientific community - Civil society	500	Poland
Flyers	KCL	Leaflet distribution at ASE National Conference in Reading	02/01/2013	Reading , UK	Scientific community - Industry - Civil society - Policy makers - Medias		UK
Flyers	JU	Letter communication to teachers through ZEO (Organisation for Economics & Education)	07/01/2013	Poland	Civil society	300	Poland
Organisation of Workshops	KCL	project partner workshop/meeting	21/01/2013	UK, London	Civil society	70	UK, London
Organisation of Workshops	LUH	Presentation of SAILS at kick-off meeting with pre- and in-service teachers	23/01/2013	Gottfried Wilhelm Leibniz Universität Hannover, Germany	Civil society	13	Germany

Flyers	US	Distribution of leaflets at SAILS launch in Budapest	24/01/2013	Budapest, Hungary	Scientific community - Civil society - Policy makers	84	Hungary
Organisation of Conference	US	SAILS launch in Budapest inlcuding a prof. workshop	24/01/2013	Szeged, Hungary	Scientific community - Civil society - Policy makers	84	Hungary
Oral presentation to a wider public	SDU	Oral presentation at University of Aalborg	28/01/2013	Aalborg, Denmark	Scientific community - Civil society	25	Denmark
Exhibitions	UPRC	Presenting SAILS on a stand (lealfets) at BETT2013	30/01/2013	London, UK	Scientific community - Industry - Civil society - Policy makers - Medias	1000	Europe
Articles published in the popular press	DCU	article in Public Service Review	01/02/2013	http://bit.ly/1Oazy2o	Policy makers		Europe
Flyers	IEUL	XIX AFIRSE Conference International Francophone Association of Scientific Research on Education	02/02/2013	Institute of Education, University of Lisbon, Portugal	Scientific community - Civil society - Policy makers	400	Portugal, France
Posters	IEUL	XIX AFIRSE Conference International Francophone Association of Scientific Research on Education	02/02/2013	Institute of Education, University of Lisbon, Portugal	Scientific community - Civil society - Policy makers	400	Portugal, France
Flyers	ATIT	Distribution of leaflets at EACEA Comenius, ICT, Languages and Roma projects' meeting	04/02/2013	Brussels	Scientific community - Civil society - Policy makers	50	Europe
Organisation of Workshops	LUH	Presentation of SAILS at kick-off meeting with in-service teachers	05/02/2013	Gottfried Wilhelm Leibniz Universität Hannover, Germany	Civil society	13	Germany
Organisation of Workshops	JU	SAILS national launch & Winter School for in-service teachers in combination with ESTABLISH project training event	20/02/2013	Krakow, Poland	Civil society	40	Poland
Oral presentation to national conference	UPRC	15th Panhellinic Conference of Greek Physics	28/02/2013	Nafplio, Greece	Scientific community - Civil society	200	Greece

Organisation of Workshops	HKR	start workshops Kristianstad University College	03/2013	Kristianstad, Sweden	Civil society	30	Sweden
Organisation of Workshops	KCL	workshops in-service teachers	03/2013	London, UK	Civil society	70	UK
Organisation of Workshops	MAH	start workshops Malmo University	03/2013	Malmo, Sweden	Civil society	30	Sweden
Oral presentation to a wider public	UPRC	Presentation by O. Petropoulou at Teachersconference on the use of ICT in education	02/03/2013	Athens, Greece	Industry - Civil society	30	Greece
Flyers	UPRC	Teachersconference on the use of ICT in education	02/03/2013	Athens, Greece	Industry - Civil society	30	Greece
Organisation of Workshops	HKR	Workshop for biology, chemistry and physics teachers	05/03/2013	Kristianstad University, Sweden	Scientific community - Civil society	30	Sweden
Organisation of Workshops	MAH	Workshop for biology, chemistry and physics teachers	05/03/2013	Malmö University, Malmö, Sweden	Scientific community - Civil society	20	Sweden
Organisation of Workshops	SDU	SAILS workshop at seminar on IBSE in collaboration with the regional Centre for Science Education (NTS) and the municipality of Assens	06/03/2013	Sorø, Denmark	Civil society	20	Denmark
Organisation of Workshops	LUH	Presentation of SAILS at workshop with in-service teachers	07/03/2013	Gottfried Wilhelm Leibniz Universität Hannover, Germany	Civil society	13	Germany
Oral presentation to a scientific event	US	Presentations given at a Professional sitting of the Subcommittee of Didactics in the Hungarian Academy	08/03/2013	Szeged, Hungary	Scientific community - Civil society		
Oral presentation to a scientific event	KCL	Keynote at ASE Conference Harlow	13/03/2013	Harlow, UK	Scientific community - Civil society		UK
Oral presentation to a wider public	KCL	Paper presentation at New Perspectives in Science Education Conference	14/03/2013	Florence, Italy	Scientific community - Industry - Civil society - Policy makers - Medias		Europe

Posters	DCU	SAILS posters at INSTEM conference	19/03/2013	Amsterdam, The Netherlands	Scientific community		Europe
Oral presentation to a scientific event	SDU	Big Bang conference	21/03/2013	Bredsten, Denmark	Scientific community - Industry - Civil society - Policy makers - Medias	850	Denmark
Flyers	DCU	leaflet distribution at ISTA conference	01/04/2013	Ireland	Scientific community - Civil society - Policy makers		Ireland
Organisation of Workshops	DCU	Mini-workshop at ISTA conference	01/04/2013	Gorey, Wexford	Scientific community	200	Ireland
Posters	DCU	ECTN meeting	04/04/2013	Utrecht, Netherlands	Scientific community	142	Europe
Posters	DCU	Poster at ECTN network meeting	05/04/2013	Utrecht, The Netherlands	Scientific community - Policy makers	142	Europe
Organisation of Conference	US	11th Conference on Educational Assessment (CEA)	11/04/2013	Szeged, Hungary	Scientific community - Civil society - Policy makers		Europe
Organisation of Workshops	US	5th Szeged Workshop on Educational Evaluation (SWEE)	15/04/2013	Szeged, Hungary	Scientific community - Civil society - Policy makers	400	
Organisation of Workshops	HKR	Workshop for biology, chemistry and physics teachers	18/04/2013	Kristianstad University, Sweden	Scientific community - Civil society	30	Sweden
Organisation of Workshops	MAH	Workshop for biology, chemistry and physics teachers	18/04/2013	Malmö University, Malmö, Sweden	Scientific community - Civil society	20	Sweden
Organisation of Workshops	LUH	Presentation of SAILS at workshop with in-service teachers	25/04/2013	Gottfried Wilhelm Leibniz Universität Hannover, Germany	Civil society	13	Germany

Articles published in the popular press	HUT	Article in national newspaper: Sabah Ankara	26/04/2013	printed & online: http://www.sabah.com.tr/Ankara/2013/04/26/arida-sorgulamaya-dayali-egitim-donemi	Civil society	5000	Turkey
Oral presentation to a scientific event	KCL	SAILS project presented at the Association for Science Education London Conference, UK	05/2013	London, UK	Scientific community - Civil society	35	UK
Flyers	DCU	Flyers for workshops sent to secondary schools	01/05/2013	Ireland	Civil society	732	Ireland
Oral presentation to a scientific event	UPRC	Paper presentation by O. Petropoulou at National Conference "Integration of ICT in Education"	10/05/2013	Athens, Greece	Scientific community - Industry - Civil society - Policy makers - Medias	80	Greece
Flyers	KCL	SAILS Partner Meeting (GA + PSC)	16/05/2013	London, UK	Scientific community - Civil society	50	UK
Web sites/Applications	ATIT	Webarticle on meeting in London (company website)	19/05/2013	http://www.atit.be/article/sails-project-partners-meet-at-king%E2%80%99s-college-london	Civil society		Europe
Organisation of Workshops	LUH	Presentation of SAILS at workshop with pre-service teachers	22/05/2013	Gottfried Wilhelm Leibniz Universität Hannover, Germany	Civil society	13	Germany
Organisation of Workshops	HKR	Workshop for biology, chemistry and physics teachers	27/05/2013	Kristianstad University, Sweden	Scientific community - Civil society	30	Sweden
Organisation of Workshops	MAH	Workshop for biology, chemistry and physics teachers	27/05/2013	Malmö University, Malmö, Sweden	Scientific community - Civil society	20	Sweden
Organisation of Workshops	IEUL	Workshop for science teachers: 4 hours each workshop, with five hours of autonomous work.	29/05/2013	Institute of Education, University of Lisbon, Portugal	Scientific community - Civil society	27	Portugal

Flyers	IEUL	Workshop: Why is there so much talk about INQUIRY across Europe?	29/05/2013	Institute of Education, University of Lisbon, Portugal	Civil society	30	Portugal
Organisation of Workshops	IEUL	Workshop for science teachers: 4 hours each workshop, with five hours of autonomous work.	05/06/2013	Institute of Education, University of Lisbon, Portugal	Scientific community - Civil society	26	Portugal
Organisation of Workshops	DCU	Assessing key skills in the classroom for in-service teachers	06/06/2013	Dublin City University	Civil society	20	Ireland
Organisation of Workshops	US	Workshop for science teachers	11/06/2013	Szeged, Hungary	Civil society	26	Hungary
Flyers	ATIT	Distribution of leaflets at EDEN (The European Distance and E-Learning Network) Conference	12/06/2013	Oslo, Norway	Scientific community - Industry - Civil society - Policy makers - Medias	50	Europe
Organisation of Workshops	IEUL	Workshop for science teachers: 4 hours each workshop, with five hours of autonomous work.	14/06/2013	Institute of Education, University of Lisbon, Portugal	Scientific community - Civil society	27	Portugal
Organisation of Workshops	IEUL	Workshop for science teachers: 4 hours each workshop, with five hours of autonomous work.	19/06/2013	Institute of Education, University of Lisbon, Portugal	Scientific community - Civil society	23	Portugal
Oral presentation to a wider public	UPRC	Paper presentation by O. Petropoulou at Nat. conference on advanced technologies in school education	21/06/2013	Syros, Greece	Scientific community - Industry - Civil society - Policy makers - Medias	100	Greece
Organisation of Workshops	IEUL	Workshop for science teachers: 4 hours each workshop, with five hours of autonomous work.	26/06/2013	Institute of Education, University of Lisbon, Portugal	Scientific community - Civil society	19	Portugal
Oral presentation to a scientific event	KCL	Paper Presentation at ASE National Summer Conference at Hatfield , University of Hertfordshire	27/06/2013	Hatfield, Hertfordshire, UK	Scientific community - Civil society - Policy makers		UK

Oral presentation to a scientific event	UPJS	Hands on Science 2013	01/07/2013	Kosice, slovakia	Scientific community - Civil society - Policy makers	150	Europe
Flyers	UPJS	Hands on Science 2013	01/07/2013	Kosice, slovakia	Scientific community - Civil society - Policy makers	150	Europe
Oral presentation to a scientific event	UPJS	Conference of Slovakian physicists	02/09/2013	Bratislava, Slovakia	Scientific community - Civil society	60	Slovakia
Oral presentation to a scientific event	HUT	UKEK 2013. National Chemistry Education Conference	05/09/2013	Trabzon, Turkey	Scientific community - Civil society - Policy makers	100	Turkey
Flyers	HUT	UKEK 2013. National Chemistry Education Conference	05/09/2013	Trabzon, Turkey	Scientific community - Civil society - Policy makers	100	Turkey
Flyers	ATIT	meeting at EUN for InGeniuous project - networking	11/09/2013	Brussel, Belgium	Scientific community	30	European
Oral presentation to a scientific event	HUT	UFEK 2013. National Physics Education Conference	12/09/2013	Ankara, Turkey	Scientific community - Civil society - Policy makers	100	Turkey
Flyers	HUT	UFEK 2013. National Physics Education Conference	12/09/2013	Ankara, Turkey	Scientific community - Civil society - Policy makers	100	Turkey
Organisation of Workshops	HUT	2-day summer school on inquiry-based science teaching (IBST)	12/09/2013	Ankara, Turkey	Civil society	83	Turkey
Organisation of Workshops	UPJS	In-service teacher training course on IBSE and assessment	13/09/2013	Kosice, Slovakia	Civil society	29	Slovakia
Oral presentation to a scientific event	JU	56th Annual Meeting of Polish Chemical Society	16/09/2013	Siedlce, Poland	Scientific community - Civil society - Policy makers	150	Poland

Posters	LUH	MNU conference	18/09/2013	Hannover	Scientific community - Civil society	400	Germany
Posters	JU	20th Anniversary Conference of Polish Science Teachers Association	20/09/2013	ToruD, Poland	Scientific community - Civil society	120	Poland
Flyers	JU	20th Anniversary Conference of Polish Science Teachers Association	20/09/2013	ToruD, Poland	Scientific community - Civil society	120	Poland
Oral presentation to international conference	UPRC	Internation conference "Education in the ICT era" 2013	23/09/2013	Peiraeus, Greece	Scientific community - Civil society	150	Greece
Oral presentation to a scientific event	HKR	NO-biennalen	25/09/2013	Sweden	Scientific community - Civil society - Policy makers	150	Sweden
Flyers	HKR	NO-biennalen	25/09/2013	Sweden	Scientific community - Civil society - Policy makers	150	Sweden
Organisation of Workshops	MAH	2 day workshop for in-service teachers	27/09/2013	Sweden	Civil society	20	Sweden
Organisation of Workshops	UPJS	In-service teacher training course on IBSE and assessment	27/09/2013	Kosice, Slovakia	Civil society	29	Slovakia
Oral presentation to a scientific event	JU	Meeting with Educational Research Institute	30/09/2013	Poland	Scientific community	8	Poland
Oral presentation to a scientific event	JU	SECURE project in Poland - Summary Conference	30/09/2013	Poland	Scientific community - Civil society - Policy makers	40	Poland
Flyers	UPRC	E-learning expo	01/10/2013	E-learning expo:	Scientific community - Civil society - Policy makers	150	Europe

Organisation of Workshops	UPRC	E-learning expo: Half day Conference on IBSE & Assessment, half day workshop on SAILS	01/10/2013	Athens, Greece	Scientific community - Civil society - Policy makers	50	Europe
Oral presentation to a scientific event	MAH	NO-biennalen	07/10/2013	Sweden	Scientific community - Civil society - Policy makers	150	Sweden
Flyers	MAH	NO-biennalen	07/10/2013	Sweden	Scientific community - Civil society - Policy makers	150	Sweden
Organisation of Workshops	UPJS	In-service teacher training course on IBSE and assessment	11/10/2013	Kosice, Slovakia	Civil society	29	Slovakia
Organisation of Workshops	US	SAILS workshop: Szeged	13/10/2013	Szeged	Civil society	9	Hungary
Flyers	ATIT	SAILS partner meeting (GA + PSC)	17/10/2013	Leuven, Belgium	Scientific community - Civil society	50	Europe
Oral presentation to a wider public	UPRC	National conference on learning technologies in primary education	19/10/2013	Piraeus, Greece	Scientific community - Industry - Civil society - Policy makers	100	Greece
Flyers	UPRC	National conference on learning technologies in primary education	19/10/2013	Piraeus, Greece	Scientific community - Industry - Civil society - Policy makers	100	Greece
Oral presentation to national conference	UPRC	10th Panhellinic Conference Education in the ICT	19/10/2013	Peiraeus, Greece	Scientific community - Civil society	150	Greece
Flyers	ATIT	Workshop: SCIENCE EDUCATION AND GUIDANCE IN SCHOOLS: THE WAY FORWARD	21/10/2013	Florence	Scientific community - Civil society	100	Europe, Mexico, Guatemala, Georgia
Web sites/Applications	ATIT	Webarticle on company website atit.be	22/10/2013	Belgium	Civil society		Europe
Oral presentation to a scientific event	ATIT	SECURE conference	24/10/2013	Belgium	Scientific community - Civil society	100	Europe

Organisation of Workshops	UPJS	In-service teacher training course on IBSE and assessment	25/10/2013	Kosice, Slovakia	Civil society	29	Slovakia
Flyers	JU	Working meeting with Educational Research Institute	25/10/2013	Poland	Scientific community - Civil society	50	Poland
Posters	HUT, JU, KCL	IOSTE Eurasia Regional meeting	30/10/2013	Antalya, Turkey	Scientific community	100	International
Organisation of Workshops	KCL	IOSTE Eurasia Regional meeting	30/10/2013	Antalya, Turkey	Scientific community	50	International
Organisation of Workshops	UPJS	In-service teacher training course on IBSE and assessment	08/11/2013	Kosice, Slovakia	Civil society	29	Slovakia
Organisation of Workshops	US	Ságvári High School meeting, Science Lab	15/11/2013	Szeged	Civil society	55	Hungary
Organisation of Workshops	UPJS	In-service teacher training course on IBSE and assessment	15/11/2013	Kosice, Slovakia	Civil society	29	Slovakia
Organisation of Workshops	US	Hungarian PRIMAS conference	16/11/2013	Szeged	Civil society	33	Hungary
Posters	LUH	MNU conference	17/11/2013	Bremen	Civil society	500	Germany
Oral presentation to a wider public	LUH	MNU conference	17/11/2013	Bremen	Civil society	500	Germany
Oral presentation to a scientific event	JU	Conference for science teachers at WCh UJ	22/11/2013	Jagiellonian University, Krakow, Poland	Civil society	50	Poland
Flyers	JU	Conference for science teachers at WCh UJ	22/11/2013	Krakow, Poland	Civil society	50	Poland
Flyers	JU	ESTABLISH project in Poland - Summary Meeting with Stakeholders	22/11/2013	Jagiellonian University, Krakow, Poland	Scientific community - Policy makers	20	Poland
Oral presentation to national conference	UPRC	1st Panhellinic Conference of School Councelor	23/11/2013	Korinthos, Greece	Scientific community - Civil society	150	Greece
Flyers	JU	Summary session of 7FP and ERA-NET at JU	26/11/2013	Jagiellonian University, Krakow, Poland	Scientific community	300	Poland
Oral presentation to a scientific event	ATIT	1st Projects macro event organised by Proconet, Primas and Scientix	29/11/2013	Brussels, Belgium	Scientific community	20	Europe

Flyers	ATIT	Media & Learning Conference	12/12/2013	Brussels	Scientific community - Civil society	100	Europe
Flyers	ATIT	Media & Learning Conference	12/12/2013	Brussels, Belgium	Scientific community - Industry - Civil society - Policy makers - Medias	100	Europe
Oral presentation to a scientific event	KCL	ASE 2014	10/01/2014	Bermingham, UK	Civil society	2000	UK
Oral presentation to a scientific event	US	PISA conference Szeged	25/01/2014	Szeged, Hungary	Scientific community - Civil society	150	International
Organisation of Workshops	LUH	Presentation of SAILS at workshop with in-service teachers	29/01/2014	Hannover, Germany	Civil society	8	Germany
Oral presentation to a wider public	DCU	Presentation at Hungarian SAILS workshop	30/01/2014	Budapest	Scientific community - Civil society - Policy makers	20	Hungary
Oral presentation to a scientific event	IEUL	AFIRSE Portuguese section XXIst Colloquium on the topic of "EDUCATION, ECONOMY AND TERRITORY: The place of education is developing"	30/01/2014	Lisbon	Scientific community - Civil society - Policy makers	30	Portugal, France, Brazil
Oral presentation to a scientific event	INTEL	PARRISE (EU-project consoortium)	30/01/2014	Utrecht, Netherlands	Scientific community	40	European
Oral presentation to a scientific event	MAH	PARRISE (EU-project consoortium)	30/01/2014	Utrecht, Netherlands	Scientific community	40	Europe
Flyers	IEUL	AFIRSE Portuguese section XXIst Colloquium on the topic of EDUCATION, ECONOMY AND TERRITORY: The place of education is developing"	30/01/2014	Lisbon, Portugal	Scientific community - Civil society – Policy-makers		Portugal
Oral presentation to a scientific event	US	SAILS national stakeholder meeting	30/01/2014	Budapest	Scientific community - Civil society - Policy makers	20	Hungary, UK, Ireland
Organisation of Workshops	LUH	Presentation of SAILS at workshop with in-service teachers	03/02/2014	Hannover, Germany	Civil society	11	Germany

Oral presentation to a scientific event	UPJS	Methodological day for physics teachers	04/02/2014	Koaice, Slovakia	Civil society	28	Slovakia
Oral presentation to a scientific event	UPJS	Scientific conference Education 2014	05/02/2014	Kosice, Slovakia	Scientific community - Civil society	40	Slovakia, Czech
Flyers	IEUL	SAILS Partner working meeting	13/02/2014	Lisbon, Portugal	Scientific community - Civil society	50	Portugal, Europe
Organisation of Workshops	JU	SAILS Winter School	16/02/2014	Krakow, Poland	Civil society	60	Poland
Oral presentation to a scientific event	UPJS	School teacher training one day seminar	18/02/2014	Michalovce, Slovakia	Civil society	35	Slovakia
Oral presentation to a scientific event	DCU	Assessment in STEM education Workshop for Flanders Stakeholders	19/02/2014	Ghent and Blankenberg, Belgium	Scientific community - Civil society	28	Belgium
Organisation of Workshops	LUH	Presentation of SAILS at workshop with in-service teachers	20/02/2014	Hannover, Germany	Civil society	12	Germany
Oral presentation to a scientific event	KCL	Association of tutors in Science Education Conference (ATSE)	01/03/2014	UK	Scientific community - Industry - Civil society - Policy makers		UK
Oral presentation to a wider public	IEUL	XV ENEC, Algarve University	02/03/2014	Portugal	Scientific community - Industry - Civil society - Policy makers	100	Portugal
Oral presentation to a wider public	ATIT	SiS Catalyst Policy Practice Interface Conference - Roudtable on SAILS and "How to engage policymakers"	03/03/2014	Ghent, Belgium	Scientific community - Industry - Civil society - Policy makers	150	International
Oral presentation to a scientific event	DCU	SiS catalyst conference	03/03/2014	Gent, Belgium	Scientific community - Civil society - Policy makers	100	International
Organisation of Workshops	HKR	workshop fro in-service teachers	12/03/2014	Kristianstad, Sweden	Civil society	26	Sweden

Posters	LUH	DPG Frankfurt am Main 2014	17/03/2014	Frankfurt, Germany	Scientific community - Civil society	250	Germany
Flyers	LUH	DPG Frankfurt am Main 2014	17/03/2014	Frankfurt, Germany	Scientific community - Civil society	250	Germany
Organisation of Workshops	LUH	Presentation of SAILS at workshop with in-service teachers	20/03/2014	Hannover, Germany	Civil society	7	Germany
Organisation of Workshops	LUH	Presentation of SAILS at workshop with pre-service teachers	20/03/2014	Hannover, Germany	Civil society	13	Germany
Posters	SDU	Big Bang conference	20/03/2014	Vingsted, Denmark	Scientific community - Civil society	750	Denmark
Organisation of Workshops	IEUL	What, How and Why to assess? - SAILS workshops	26/03/2014	Lisbon, Portugal	Civil society	30	Portugal
Oral presentation to a scientific event	IEUL	XV ENEC	31/03/2014	Algarve, Portugal	Scientific community - Civil society	250	Portugal, Brazil, Angola, Mozambique
Flyers	IEUL	XV ENEC	31/03/2014	Algarve, Portugal	Scientific community - Civil society	250	Portugal, Brazil, Angola, Mozambique
Oral presentation to a scientific event	KCL	Biology Education Research Group April 2014	01/04/2014	UK	Scientific community - Civil society - Policy makers		UK
Oral presentation to national conference	UPRC	3rd Panhellinic Conference in Imathia "Utilization of information and communication technologies in teaching practice"	04/04/2014	Naousa, Greece	Scientific community - Civil society	200	Greece
Organisation of Workshops	UPJS	Teacher training course for in-service physics teachers Inquiry activities and assessment	07/04/2014	Trnava, Slovakia	Civil society	40	Czech, Slovakia
Flyers	DCU	ISTA conference	13/04/2014	Galway, Ireland	Scientific community - Civil society	100	Ireland

Oral presentation to a scientific event	UPJS	SMEC conference 2014	26/04/2014	Dublin, Ireland	Scientific community - Civil society	248	Europe
Posters	UPJS	SMEC conference 2014	26/04/2014	Dublin, Ireland	Scientific community - Civil society	248	Europe
Workshop	UPJS	SMEC conference 2014	26/04/2014	Dublin, Ireland	Scientific community - Civil society	248	Europe
Oral presentation to a scientific event	UPJS	Creative physics teacher 2014	27/04/2014	Smolenice, Slovakia	Scientific community - Civil society	66	Slovakia, Czech Republic
Oral presentation to a scientific event	US	Conference on Educational Assessment 2014	01/05/2014	Szeged, Hungary	Scientific community - Civil society	200	International
Flyers	US	SAILS partner meeting (GA + PSC), networking oppurtunity ASSIST-me project	05/05/2014	Szeged, Hungary	Scientific community - Civil society	50	Hungary, Europe
Oral presentation to national conference	UPRC	1st National Conference "Neos Paidagogos"	10/05/2014	Peiraeus, Greece	Scientific community - Civil society	200	Greece
Oral presentation to a scientific event	ATIT	Proconet meeting	13/05/2014	Brussels, Belgium	Scientific community	20	Ireland, Polish, UK, Belgian, Norway
Oral presentation to a scientific event	US	AEMASE (African-European-Mediterranean Academies for Science Education)	19/05/2014	Rome, Italy	Scientific community	80	International
Oral presentation to a scientific event	ATIT	4th Scientix Science projects workshop	23/05/2014	Brussels	Scientific community - Civil society	32	European
Oral presentation to a scientific event	UPJS	Science day	27/05/2014	Humenné, Slovakia	Civil society	60	Slovakia

Oral presentation to a scientific event	MAH	NFSUN (Nordic Research Symposium on Science Education)	04/06/2014	Helsinki, Finland	Scientific community - Civil society	150	Sweden, Norway, Denmark, Finland
Oral presentation to a scientific event	SDU	NFSUN (Nordic Research Symposium on Science Education)	04/06/2014	Helsinki, Finland	Scientific community - Civil society	150	Sweden, Norway, Denmark, Finland
Oral presentation to a scientific event	UPJS	Experimental workshops event	09/06/2014	Brno, Czech Republic.	Scientific community - Civil society	46	Czech Republic
Organisation of Workshops	LUH	Presentation of SAILS at workshop with in-service teachers	11/06/2014	Hannover, Germany	Civil society	5	Germany
Oral presentation to a scientific event	UPJS	Teacher training course	13/06/2014	Rimavská Sobota, Slovakia	Civil society	25	Slovakia
Videos	ATIT	Webinar to inform Science Teacher in Flanders about Belgium Workshop	17/06/2014	Belgium	Civil society	35	Belgium
Posters	JU	XVI School of Chemistry Didactics, Poland	20/06/2014	Krakow, Poland	Civil society	60	Poland
Flyers	JU	XVI School of Chemistry Didactics, Poland	20/06/2014	Krakow, Poland	Civil society	60	Poland
Organisation of Workshops	ATIT	workshop for partners on creating video clips illustrating inquiry based science teaching & assessment techniques	23/06/2014	Dublin, Ireland	Scientific community - Civil Society	30	Europe
Oral presentation to a scientific event	ALL PARTNERS	SAILS teachers' conference	24/06/2014	Dublin, Ireland	Scientific community - Civil society - Policy makers	174	Ireland, UK, Poland, Portugal, Sweden, Slovakia, Turkey, Denmark, Germany, Greece, Hungary, Belgium
Posters	ALL PARTNERS	SAILS teachers' conference	24/06/2014	Dublin, Ireland	Scientific community - Civil society - Policy makers	174	Ireland, UK, Poland, Portugal, Sweden, Slovakia, Turkey, Denmark, Germany, Greece, Hungary, Belgium

Videos	ATIT	Teacher Case study Interviews captured at SMEC/SAILS Conference Teachers conference	24/06/2014	Dublin, Ireland	Scientific community - Civil society - Policy makers	248	European
Organisation of Conference	DCU	SAILS teachers' conference	24/06/2014	Dublin, Ireland	Scientific community - Industry - Policy makers	174	Belgium, Denmark, Germany, Greece, Ireland, Germany, Hungary, Poland, Portugal, Sweden, Slovakia, UK
Oral presentation to a scientific event	DCU	SAILS teachers conference	24/06/2014	Dublin, Ireland	Scientific community - Civil society - Policy makers	174	Ireland, UK, Poland, Portugal, Sweden, Slovakia, Turkey, Denmark, Germany, Greece, Hungary, Belgium
Oral presentation to international conference	UPRC	SMEC	24/06/2014	Dublin, Ireland	Scientific community - Civil society - Policy makers	150	Ireland
Oral presentation to a scientific event	UPJS	6th International Conference on Research in Didactics of the Sciences, DidSci 2014	25/06/2014	Krakow, Poland	Scientific community - Civil society	120	Poland, Czech, Slovakia
Posters	JU	Conference on Research in Didactics of the Sciences, DidSci, Krakow, Poland	26/06/2014	Krakow, Poland	Scientific community - Civil society	100	European
Flyers	JU	Conference on Research in Didactics of the Sciences, DidSci, Krakow, Poland	26/06/2014	Krakow, Poland	Scientific community - Civil society	100	European
Oral presentation to a scientific event	MAH	ERIDOB (European researchers in didactics of biology)	30/06/2014	Haifa, Israel	Scientific community	40	European
Organisation of Workshops	UPJS	Summer school for Mathematics, Physics and Informatics	30/06/2014	Kosice, Slovakia	Civil society	45	Slovakia
Oral presentation to a scientific event	UPJS	Summer school for Mathematics, Physics and Informatics	30/06/2014	Kosice, Slovakia	Civil society	45	Slovakia

Oral presentation to a scientific event	DCU	GIREP 2014	07/07/2014	Palermo, Italy	Scientific community - Civil society	200	International
Organisation of Workshops	UPJS	GIREP 2014	07/07/2014	Palermo, Italy	Scientific community	200	Europe
Oral presentation to a scientific event	UPJS	GIREP 2014	07/07/2014	Palermo, Italy	Scientific community	200	Europe, International
Oral presentation to a scientific event	JU	GIREP 2014	07/07/2014	Palermo, Italy	Scientific community - Civil society	200	International
Oral presentation to a scientific event	DCU	ECRICE 2014	08/07/2014	Jyväskylä, Finland	Scientific community - Civil society	200	European
Oral presentation to a scientific event	JU	ECRICE 2014 European Conference on Research in Chemistry Education	08/07/2014	Jyväskylä, Finland	Scientific community	200	European
Oral presentation to a scientific event	UPJS	Hands on Science Conference	21/07/2014	Aveiro, Portugal	Scientific community - Civil society	150	Europe
Organisation of Workshops	SDU	Teacher workshop at Lake Soegaard in Denmark	08/2014	University of Southern Denmark	Civil society	35	Denmark, Sweden, Israel, USA, UK
Oral presentation to a scientific event	DCU	ICWIP 2014	07/08/2014	Waterloo, Canada	Scientific community	200	International
Oral presentation to a scientific event	JU	International Congress on Science Education	27/08/2014	Brazil	Scientific community - Civil society	700	International
Oral presentation to a scientific event	SDU	On the definition of learning	28/08/2014	University of Southern Denmark	Scientific community	50	Denmark, Sweden, Israel, USA, UK
Oral presentation to a scientific event	ATIT	2nd Scientix Projects' Networking Event	05/09/2014	Brussels, Belgium	Scientific community - Civil society	25	European
Oral presentation to a scientific event	KCL	Cycle 2 Scientix teacherskick-off meeting	06/09/2014	Brussels, Belgium	Civil society	40	European

Organisation of Workshops	HUT	2nd and 3rd SAILS Summer School for Science Teachers in Ankara	08/09/2014	Ankara, Turkey	Civil society	30	Turkey
Organisation of Workshops	KCL	Workshop by Chris Harrison	09/09/2014	ASE HQ Hatfield	Scientific community - policy-makers	40	National
Oral presentation to a scientific event	UPJS	ICTE Conference Programme	10/09/2014	Roznov, Czech Republic	Scientific community	100	Czech, Slovakia, Poland
Posters	JU	XXI Conference of Polish Science Teachers Association	14/09/2014	ToruD , Poland	Civil society	120	Poland
Flyers	JU	XXI Conference of Polish Science Teachers Association	14/09/2014	ToruD , Poland	Civil society	120	Poland
Oral presentation to a scientific event	LUH	GDCP Conference in Bremen	15/09/2014	Bremen, Germany	Scientific community - Civil society	300	Germany
Flyers	LUH	GDCP Conference in Bremen	15/09/2014	Bremen, Germany	Scientific community - Civil society	300	Germany
Oral presentation to a scientific event	UPJS	Conference Science and Technology Education for the 21st Century	15/09/2014	Hradec Králové, Czech Republic	Scientific community - Civil society	47	Slovakia, Czech, Poland
Posters	JU	9th IOSTE Symposium for Central and Eastern Europe	15/09/2014	Hradec Králové, Czech Republic	Scientific community - Civil society	300	European
Flyers	JU	9th IOSTE Symposium for Central and Eastern Europe	15/09/2014	Hradec Králové, Czech Republic	Scientific community - Civil society	300	European
Organisation of Workshops	LUH	MNU conference	24/09/2014	Hannover	Scientific community - Civil society	500	Germany
Flyers	LUH	MNU conference	24/09/2014	Hannover	Civil society	500	Germany
Oral presentation to a wider public	US	Németh László High School Science Lab	25/09/2014	HódmezQvásárhely	Civil society	18	Hungary

Oral presentation to international conference	UPRC	International and European Trends in Education and their impact on the Greek Educational System	26/09/2014	Athens, Greece	Scientific community - Civil society	300	Greece
Flyers	DCU	Frontiers in Physics conference	27/09/2014	DCU, Dublin	Scientific community - Civil society - Policy makers	73	Ireland
Organisation of Workshops	DCU	Frontiers in Physics conference	27/09/2014	DCU, Dublin	Scientific community - Civil society	73	Ireland
Organisation of Workshops	ATIT	SAILS workshop Belgium for in-service teachers	01/10/2014	Geel, Belgium	Civil society	70	Belgium
Organisation of Workshops	UPJS	ICT in IBSE	01/10/2014	Kosice, Slovakia	Civil society	29	Slovakia
Oral presentation to a scientific event	UPJS	Trendy v didaktice biologie (Trends in biology education)	02/10/2014	Prague, Czech Republic	Scientific community - Civil society	65	Slovakia, Czech, Poland
Oral presentation to national conference	UPRC	ICT in Education	03/10/2014	Rethimno Greece	Scientific community - Civil society	150	Greece
Flyers	UPRC	SAILS partners meeting (GA + PSC)	08/10/2014	Athens, Greece	Scientific community - Civil society	50	Greece, Europe
Oral presentation to a wider public	DCU	Science and Stormont	13/10/2014	Belfast, Northern Ireland	Scientific community - Industry - Civil society - Policy makers	100	Ireland
Oral presentation to a scientific event	UPJS	DIDFYZ	16/10/2014	Ra kova dolina, Slovakia	Scientific community - Civil society	100	Slovakia, Czech, Poland
Oral presentation to a scientific event	DCU	AMGEN Teach event	18/10/2014	Maynooth, Ireland	Civil society	140	Ireland
Oral presentation to a wider public	US	Ságvári High School meeting, Science Lab	20/10/2014	Szeged, Hungary	Civil society	15	Hungary

Oral presentation to a wider public	ATIT	2nd Scientix conference	25/10/2014	Brussels, Belgium	Scientific community - Civil society	589	Europe
Flyers	ATIT	2nd Scientix conference	26/10/2014	Brussels, Belgium	Scientific community - Civil society	598	European
Oral presentation to a scientific event	DCU	2nd Scientix conference	26/10/2014	Brussels, Belgium	Scientific community - Civil society	598	European
Oral presentation to a wider public	DCU	Graduate event	28/10/2014	DCU, Ireland	Civil society	50	Ireland, UK
Flyers	DCU	Meeting with Science Education Graduates	28/10/2014	DCU, Dublin	Civil society	50	Ireland, UK
Oral presentation to a scientific event	US	InterAcademy Partnership Science Education Programme conference	28/10/2014	Beijing, China	Scientific community	100	International
Articles published in the popular press	JU	Foton a quarterly on physics	01/11/2014	Poland	Scientific community - Civil society	600	Poland
Oral presentation to a scientific event	MAH	FND (Swedish research organization in science education)	05/11/2014	Karlstad, Sweden	Scientific community - Civil society	25	Sweden, Norway, Denmark, Finland
Exhibitions	US	Cavalcade of Experiments	08/11/2014	Szeged, Hungary	Scientific community - Civil society	200	Hungary
Organisation of Workshops	LUH	Presentation of SAILS at workshop with in-service teachers	13/11/2014	Hannover, Germany	Civil society	12	Germany
Oral presentation to a scientific event	ATIT	EMINENT -Experts Meeting in Education Networking as part of a Scientix presentation of EU funded projects	14/11/2014	Zurich, Switzerland	Policy makers	50	European
Oral presentation to a scientific event	IEUL	ICT in Education	14/11/2014	Lisbon, Portugal	Scientific community	25	Portugal, Brazil, Angola, Mozambique
Flyers	IEUL	ICT in Education	14/11/2014	Lisbon, Portugal	Scientific community	25	Portugal, Brazil, Angola

Exhibitions	ATIT	20th VeLeWe (Flanders Association of Science Teachers) Conference /20ste Vlaams Congres van Leraars Wetenschappen	15/11/2014	Kortrijk, Belgium	Scientific community - Civil society	200	Belgium
Flyers	JU	Distribution of project brochure and information on training programmes	17/11/2014	Poland	Scientific community - Civil society	600	Poland
Oral presentation to a scientific event	US	International Conference on Renewing Textbook	18/11/2014	Budapest, Hungary	Scientific community	100	International
Organisation of Workshops	LUH	Presentation of SAILS at workshop with pre- and in-service teachers	28/11/2014	Hannover, Germany	Civil society	6	Germany
Flyers	JU	IRRESISTIBLE project Community of Learning Meeting	13/12/2014	Krakow, Poland	Scientific community - Civil society	20	Poland
Publication	IEUL	SAILS included in Institute of Education Newsletter 2015	2015	Lisbon, Portugal	Scientific community - Civil society		Portugal
Publication	UPJS	Inquiry activities in science education part A + parts B (Physics, Chemistry , Biology)	2015	Kosice, Slovakia	Civil society		Slovakia
Organisation of Workshops	IEUL	WEBINAR on SAILS and Inquiry (invitation by the ministry of education)	2015	Lisbon, Portugal	Scientific community - Civil society		Portugal
Oral presentation to a scientific event	IEUL	conference for teachers on Inquiry (invitation by The Future School project).	2015	Lisbon, Portugal	Civil society		Portugal
Oral presentation to a scientific event	KCL	ASE International Conference	07/01/2015	Reading, England	Civil society	2000	UK
Organisation of Workshops	ATIT	SAILS workshop Belgium for in-service teachers	14/01/2015	Geel, Belgium	Civil society	38	Belgium
Organisation of Workshops	LUH	Presentation of SAILS at workshop with in-service teachers	15/01/2015	Osnabrück, Germany	Civil society	25	Germany

Exhibitions	UPRC	Presenting SAILS on a stand (lealfets) at BETT2015	21/01/2015	London, UK	Scientific community - Industry - Civil society - Policy makers - Medias	1000	Europe
Organisation of Workshops	US	pre-service teacher training workshops in the SzeReTeD Lab	02/2015	Szeged, Hungary	Civil society	18	Hungary
Oral presentation at a scientific event	UPJS	2nd South-Eastern European Meeting on Physics Education 2015	02/02/2015	Ljubljana, Slovenia	Scientific community - Civil society	60	Europe
Oral presentation to a scientific event	UPJS	Didactics of Physics seminar	03/02/2015	Košice, Slovakia	Scientific community - Civil society	15	Slovakia
Organisation of Workshops	DCU	Workshop on Assessment in Science and Mathematics which brought together three European projects	13/02/2015	Dublin, Ireland	Scientific community - Civil society	40	Europe
Organisation of Workshops	HKR	Investigation with UV beads: SAILS workshop at HKR in Sweden	24/02/2015	Kristianstad, Sweden	Civil society	12	Sweden
Organisation of Workshops	KCL	workshop in-service teachers	26/02/2015	London, UK	Civil society	8	UK
Organisation of Workshops	US	pre-service teacher training workshops in the SzeReTeD Lab	03/2015	Szeged, Hungary	Civil society	18	Hungary
Oral presentation to a scientific event	SDU	Big Bang conference	01/03/2015	Roskilde, Denmark	Civil society	900	Denmark
Flyers	LUH	SAILS partner meeting (GA +PSC)	04/03/2015	Hannover, Germany	Scientific community - Civil society	50	Germany, Europe
Flyers	LUH	JuLe-conference Hannover	07/03/2015	Hannover	Civil society	600	Germany
Posters	LUH	DPG-Conference 2015	10/03/2015	Wuppertal	Scientific community - Civil society - Policy makers	200	Germany
Organisation of Workshops	HKR	Investigation with UV beads: SAILS workshop at HKR in Sweden	10/03/2015	Kristianstad, Sweden	Civil society	12	Sweden

Posters	MAH	MaNv-bienette in Malmö	14/03/2015	Malmo, Sweden	Scientific community - Civil society	500	Sweden
Oral presentation to a scientific event	MAH	MaNv-bienette in Malmö	14/03/2015	Malmo, Sweden	Scientific community - Civil society	500	Sweden
Oral presentation to a scientific event	UPRC	National Conference of Pedagogical Society for Secondary Education	15/03/2015	Athens, Greece	Scientific community - Civil society		Greece
Organisation of Workshops	HUT	SAILS workshops Turkey in-service teachers	21/03/2015	Kocaeli, Turkey	Civil society		Turkey
Oral presentation to a scientific event	US	Inquest for Physics Teachers	26/03/2015	Hévíz, Hungary	Scientific community - Civil society	140	Hungary
Oral presentation to a scientific event	US	Pedagogical-Methodological Training for the Lecturers and Students of the Faculty of Pharmacy of the University of Szeged	27/03/2015	Szeged, Hungary	Scientific community	30	Hungary
Organisation of Workshops	DCU	ISTA conference 2015	28/03/2015	Cork, Ireland	Scientific community - Civil society	200	Ireland
Flyers	DCU	ISTA conference 2015	28/03/2015	Cork, Ireland	Scientific community - Civil society	200	Ireland
Posters	DCU	ISTA conference 2015	28/03/2015	Cork, Ireland	Scientific community - Civil society	200	Ireland
Oral presentation to wider public	UPRC	Cyprus Ministry of Education and Microsoft Cyprus in Nicosia	29/03/2015	Nicosia, Cyprus	Scientific community - Industry - Policy makers		Cyprus
Oral presentation to a scientific event	UPJS	Creative Physics teacher conference	07/04/2015	Smolenice castle, Slovakia	Civil society	59	Slovakia
Organisation of conference	UPJS	Creative physics teacher 2015	07/04/2015	Smolenice, Slovakia	Scientific community - Civil society	59	Slovakia, Czech Republic

Oral presentation to a scientific event	DCU, KCL, LUH	NARST 2015 symposium of EU-funded inquiry projects	11/04/2015	Chigaco, US	Scientific community - Industry - Policy makers		Word-wide
Oral presentation at a scientific event	DCU, LUH, KCL	Presentation NARST 2015	11/04/2015	Chicago, US	Scientific community - Civil society	1000	International
Oral presentation to wider public	UPRC	Meeting with University of Valladolid (School of Telecommunications Engineering),	19/04/2015	Valladolid, Spain	Scientific community		Spain
Oral presentation to a scientific event	DCU	CEA2015 (Conference on Educational Assessment)	23/04/2015	Szeged. Hungary	Scientific community - Civil society	100	International
Organisation of Conference/Oral presentation on a scientific event	US	Conference on Educational Assessment 2015	23/04/2015	Szeged, Hungary	Scientific community - Civil society	161	International
Oral presentation to a scientific event	HUT	IOSTE Eurasia Regional meeting	24/04/2015	Istanbul, Turkey	Scientific community - Industry - Civil society - Policy makers - Medias	100	International
Oral presentation to a scientific event/ Oral presentation to wider public	KCL	5th Scientix Projects' Networking Event	24/04/2015	London, UK	Scientific community Civil society - Policy makers	30	Europe
Oral presentation to a scientific event	KCL	SCIENTIX	24/04/2015	London, England	Scientific community	40	International
Oral presentation at a scientific event	UPJS	Invited lecture at Braga University seminar, Portugal	27/04/2015	Braga, Portugal	Scientific community - Civil society	45	Portugal
Organisation of Workshops	KCL	workshop inservice-teachers	01/05/2015	London, UK	Civil society	15	UK
Organisation of Workshops	ATIT	SAILS workshop Belgium for in-service teachers	06/05/2015	Leuven, Belgium	Civil society	77	Belgium

Oral presentation to a scientific event	UPJS	Didactics of Physics seminar	07/05/2015	Košice, Slovakia	Scientific community - Civil society	15	Slovakia
Oral presentation to a scientific event	ATIT	Scientix networking event in Brussel	08/05/2015	Brussels, Belgium	Scientific community - Civil society	21	Europe
Flyers	ATIT	Scientix networking event in Brussel	08/05/2015	Brussels, Belgium	Scientific community - Civil society	21	Europe
Oral presentation to a scientific event	IEUL	Seminar for science teachers at Nuclio (Interactive astronomy core - non-profit organization	10/05/2015	Portugal	Scientific community	20	Portugal
Oral presentation to a scientific event	UPJS	Didactics of Physics seminar	20/05/2015	Košice, Slovakia	Scientific community - Civil society	15	Slovakia
Oral presentation to a scientific event	UPRC	2nd National Conference “Neos Pedagogos”, Eugenides Foundation	23/05/2015	Athens, Greece	Scientific community - Civil society		Greece
Oral presentation to a scientific event	US	International Science Technology Engineering Mathematics (STEM 2015)	26/05/2015	Kuala Lumpur, Malaysia	Scientific community - Civil society	80	International
Organisation of Workshops	DCU	SAILS workshop: Ireland	03/06/2015	Dublin, Ireland	Civil society	25	Ireland
Oral presentation to a scientific event	ATIT	EDEN conference	10/06/2015	Barcelona, Spain	Scientific community - Civil society	100	International
Flyers	MAH	SAILS project partner meeting (GA + PSC)	11/06/2015	Malmo, Sweden	Scientific community - Civil society	50	Sweden, Europe
Organisation of Workshops	KCL	Kings College: Teacher Writing Weekend	15/06/2015	Guildford, England	Civil society	10	National

Oral presentation at a scientific event	JU	1st International Baltic Symposium on Science and Technology Education, Šiauliai, Lithuania	15/06/2015	Šiauliai, Lithuania	Civil society,.scientific community	150	Lithuania, Poland, Estonia, Latvia
Oral presentation to a wider public	DCU	Instem Conference	17/06/2015	Freiberg, Germany	Civil society, Scientific Community	50	Europe
Flyers	UPJS	Science on Stage festival "Illuminating Science Education "	17/06/2015	London, UK	Civil society	430	Europe
Oral presentation at a scientific event	JU	SAILS Summary conference in Poland and	19/06/2015	Krakow, Poland	Civil society, Scientific Community	150	Poland
Flyers	JU	SAILS Summary conference in Poland and	19/06/2015	Krakow, Poland	Civil society, Scientific Community	150	Poland
Oral presentation to a scientific event	HUT	35th International Society for Teacher Education (ISfTE) Conference 2015: Presentation: Teachers' Reflections upon Inquiry Learning and Assessment in Science	21/06/2015	New Jersey, USA	Scientific community - Industry - Civil society - Policy makers - Medias	100	International
Organisation of Workshops	DCU	SAILS workshop: Ireland	23/06/2015	Dublin, Ireland	Civil society	25	Ireland
Organisation of Workshops	LUH	Presentation of SAILS at workshop with pre- and in-service teachers	24/06/2015	Hannover, Germany	Civil society	13	Germany
Oral presentation to a wider public	US	Chemistry Consultants' National Meeting	25/06/2015	Budapest, Hungary	Scientific community - Civil society	22	Hungary
Oral presentation at a scientific event	UPJS	National conference at State Pedagogical Institute in Bratislava – IBSE in Slovakia	25/06/2015	Bratislava, Slovakia	Civil society, Scientific Community	100	Slovakia
Organisation of Workshops	UPJS	Summer school for Mathematics, Physics and Informatics	25/06/2015	Košice, Slovakia	Civil society	40	Slovakia
Oral presentation to a scientific event	UPJS	Summer school for Mathematics, Physics and Informatics	25/06/2015	Košice, Slovakia	Civil society	40	Slovakia
Oral presentation at a scientific event	UPJS	National conference at State Pedagogical Institute in Bratislava – IBSE in Slovakia	25/06/2015	Bratislava, Slovakia	Civil society, Scientific Community	100	Slovakia
Oral presentation to a scientific event	UPRC	8th National Conference of Teachers for ICT	26/06/2015	University of Aegean, Syros, Greece	Scientific community - Civil society		Greece

Organisation of Workshops	UPJS	Summer school for Mathematics, Physics, Informatics teachers – IBSE and assessment	01/07/2015	Kosice, Slovakia	Civil society	40	Slovakia
Oral presentation at a scientific event	JU	6th Eurovariety in Chemistry Education, Tartu, Estonia	05/07/2015	Tartu, Estonia	Civil society, Scientific Community	72	Europe
Oral presentation at a scientific event	DCU, IEUL, UPJS, JU	GIREP 2015: Symposium on Teacher education for assessment of IBSE skills and competences: materials and programmes of the SAILS project	06/07/2015	Wroclaw, Poland	Civil society, Scientific Community	200	International
Oral presentation at a scientific event	DCU, IEUL, UPJS, JU, SDU	Presentation, GIREP EPEC 2015	06/07/2015	Wroclaw, Poland	Civil society, Scientific Community	200	International
Oral presentation to international conference	UPRC	International Conference GIPEC EPEC 2015	06/07/2015	Wroclaw, Poland	Scientific community - Civil society	150	Poland
Oral presentation to a scientific event	UPJS	GIREP 2015, Wroclaw	06/07/2015	Wroclaw, Poland	Scientific community - Civil society	200	World-Wide
Organisation of Workshops	LUH	Presentation of SAILS at workshop with in-service teachers	16/07/2015	Hannover, Germany	Civil society	19	Germany
Organisation of Workshops	HUT, LUH	SAILS teachers workshop, participants: German teachers "Workshop: Science and Engineering Practices"	16/07/2015	Hannover, Germany	Civil society	20	Germany
Oral presentation at a scientific event	JU	AAPT Summer Meeting, Maryland, USA	25/07/2015	Maryland, USA	Civil society, Scientific Community	700	US
Oral presentation at a scientific event	DCU, IEUL, LUH, KCL, JU, SDU	ESERA 2015: 2 symposia together of which one together with ASSIST-me and FaSMEd and 1 oral presentation	31/08/2015	Helsinki, Finland,	Civil society, Scientific Community	1200	International
Posters	DCU	ESERA 2015	31/08/2015	Helsinki, Finland,	Civil society, Scientific Community	1200	International
Posters	SDU	ESERA 2015	31/08/2015	Helsinki, Finland,	Civil society, Scientific Community	1200	International

Organisation of Workshops	HUT	stem & makers fest/expo Turkey 2015 & 1. stem teacher conference (SAILS - Strategies for Assessment of Inquiry Learning in Science) & 1. stem conference	07/09/2015	Ankara, Turkey	Civil society - Scientific community	2000	Turkey
Posters	JU	XLIII Annual Meeting of Polish Physical Society, Kielce, Poland	07/09/2015	Kielce, Poland	Civil society, Scientific Community	150	Poland
Flyers	JU	XLIII Annual Meeting of Polish Physical Society, Kielce, Poland	07/09/2015	Kielce, Poland	Civil society, Scientific Community	150	Poland
Oral and poster presentation to educators	KCL	Keynote by Paul Black, Christine Harrison	09/09/2015	London, England	Scientific community - Civil society	80	National
Organisation of Workshops	LUH, KCL, HUT, IEUL	16th ENEC-Conference	10/09/2015	Lisbon, Portugal	Civil society,.scientific community	200	Portugal
Oral presentation at a scientific event	UPJS	National meeting of physics educators from teacher training faculties in Bratislava	11/09/2015	Bratislava, Slovakia	Scientific community	25	Slovakia
Oral presentation at a scientific event	DCU, KCL	BERA 2015 (British Educational Research Association)	15/09/2015	Belfast, Northern Ireland	Civil society, Scientific Community		UK, Ireland
Posters	LUH	GDCP-Conference Berlin	17/09/2015	Berlin, Germany	Civil society, Scientific Community	300	Germany
Flyers	DCU	Frontiers in Physics conference 2015	19/09/2015	Galway, Ireland	Scientific community - Civil society	100	Ireland
Posters	JU	XXI Conference of Polish Science Teachers Association, Poland	19/09/2015	Poland	Civil society	100	Poland
Flyers	JU	XXI Conference of Polish Science Teachers Association, Poland	19/09/2015	Poland	Civil society	100	Poland
Oral presentation at a scientific event	JU	58th Annual Meeting of Polish Chemical Society	20/09/2015	Poland	Civil society, Scientific Community, policy makers	200	Poland
Flyers	JU	58th Annual Meeting of Polish Chemical Society	20/09/2015	Poland	Civil society, Scientific Community, policy makers	200	Poland
Exhibitions	US	Researcher's Night 2015	25/09/2015	Szeged, Hungary	Civil society	361	Hungary

Oral presentation to a scientific event	US	Workshop for science teachers	26/09/2015	Budapest, Hungary	Scientific community - Civil society	26	Hungary
Oral presentation at a scientific event	UPJS	Slovak national conference in Prešov	30/09/2015	Prešov, slovakia	Scientific community	50	Slovakia
Oral presentation to a scientific event	UPJS	Conference on Physics education	30/09/2015	Prešov, Slovakia	Scientific community - Civil society	80	Slovakia, Ukraine, Poland, Hungary
Organisation of Workshops	JU	SCIENTIX National Conference, Warsaw, Poland	08/10/2015	Warsaw, Poland	Civil society, Scientific Community, policy makers	150	Poland
Flyers	JU	SCIENTIX National Conference, Warsaw, Poland	08/10/2015	Warsaw, Poland	Civil society, Scientific Community, policy makers	150	Poland
Oral presentation to a scientific event	KCL	Final SAILS conference UK	09/10/2015	London, UK	Civil society, Scientific Community, policy makers	40	UK
Posters	KCL	Final SAILS conference UK	09/10/2015	London, UK	Civil society, Scientific Community, policy makers	40	UK
Oral presentation to a scientific event	US	AEMASE - African European Mediterranean Academies for Science Education	12/10/2015	Dakar, Africa	Scientific community - Industry - Civil society - Policy makers - Medias	90	International
Organisation of Workshops	UPJS	Seminar of invited guest from teacher traning faculty in Brno on IBSE and assessment	13/10/2015	Kosice, Slovakia	Scientific community	15	Slovakia
Oral presentation to a scientific event	UPJS	Didactics of Physics seminar	13/10/2015	Košice, Slovakia	Scientific community - Civil society	15	Slovakia
Oral presentation at a scientific event	UPJS	School conference Grammar school in Michalovce	15/10/2015	Michalovce, Slovakia	Civil society	50	Slovakia
Oral presentation at a scientific event	UPJS	High school Project final conference	15/10/2015	Michalovce, Slovakia	Civil society	80	Slovakia
Flyers	DCU	SAILS partner meeting (GA_PSC)	19/10/2015	Dublin, Ireland	Scientific community - Civil society	50	Ireland, Europe

Oral presentation to national conference	UPRC	1st National Conference on Educational Innovation	24/10/2015	Larisa, Greece	Scientific community - Civil society	300	Greece
Organisation of Workshops	IEUL	Meeting between Irish, UK and Portuguese pilot teachers to develop SAILS units	26/10/2015	Lisbon, Portugal	Civil Society	12	Portugal, UK, Ireland
Website/Applications	KCL	Special website publication/page publishing Internation/UK resoruces of SAILS	01/11/2015	online: www.kcl.ac.uk/SAIlS	Scientific community - Civil society -Policy-makers - Medias		Word-wide
Oral presentation at a scientific event	UPJS	Scientix seminar at UPJŠ in Košice	04/11/2015	Kosice, Slovakia	Civil society, Scientific Community	45	Slovakia
Oral presentation to a scientific event	UPRC	National Conference “Education in ICT Era"	07/11/2015	Athens, Greece	Scientific community - Civil society		Greece
Organisation of Workshops	ATIT	VeLeWe congres in Flanders	14/11/2015	Kortrijk, Belgium	Civil society	60	Belgium
Organisation of Workshops	KCL	Workshop by Chris Harrison	14/11/2015	Bath Spa University	Scientific community - policy-makers	100	National
Organisation of Workshops	KCL	Workshop by Chris Harrison	14/11/2015	University of Huddersfield	Scientific community - Civil society	100	UK
Organisation of Workshops	HUT	SAILS workshops Turkey in-service teachers	15/11/2015	Kocaeli, Turkey	Civil society		Turkey
Oral presentation at a scientific event	UPJS	International seminar of Didactic of chemistry PhD students	16/11/2015	Prague, Czech Republic	Scientific community - Civil society	60	Czech, Slovak, Poland
Organisation of Workshops	KCL	Workshop by Chris Harrison	17/10/2015	Birmingham	Scientific community - policy-makers	12	National

Oral presentation to a wider public	ALL	SAILS Stakeholder meeting, European Parliament	18/11/2015	Brussels, Belgium	Scientific community - Industry - Civil society - Policy makers - Medias	70	Europe
Posters	ALL	SAILS Stakeholder meeting, European Parliament	18/11/2015	Brussels, Belgium	Scientific community - Industry - Civil society - Policy makers - Medias	70	Europe
Flyers	ALL	SAILS Stakeholder meeting, European Parliament	18/11/2015	Brussels, Belgium	Scientific community - Industry - Civil society - Policy makers - Medias	70	Europe
Flyers	DCU, ATiT	EMINENT -Experts Meeting in Education Networking as part of a Scientix presentation of EU funded projects	19/11/2015	Barcelona, Spain	Scientific community - Industry - Civil society - Policy makers - Medias	250	Europe
Posters	DCU, ATiT	EMINENT -Experts Meeting in Education Networking as part of a Scientix presentation of EU funded projects	19/11/2015	Barcelona, Spain	Scientific community - Industry - Civil society - Policy makers - Medias	250	Europe
Oral presentation to a wider public	DCU, ATiT	EMINENT -Experts Meeting in Education Networking as part of a Scientix presentation of EU funded projects	19/11/2015	Barcelona, Spain	Scientific community - Industry - Civil society - Policy makers - Medias	250	Europe
Oral presentation to national conference	UPRC	6th International Conference Edudidactics 2015	20/11/2015	Athens, Greece	Scientific community - Civil society	350	Greece
Oral presentation to a scientific event	UPJS	Didactics of Physics seminar	24/11/2015	Košice, Slovakia	Scientific community - Civil society	15	Slovakia

Oral presentation at a scientific event	JU	2nd African Conference on Research in Chemical Education	24/11/2015	Thohoyandou, South Africa	Scientific community - Civil society - Policy makers	100	International, South Africa, Zimbabwe, USA, Taiwan, Italy, Nederlands
Flyers	JU	2nd African Conference on Research in Chemical Education	24/11/2015	Thohoyandou, South Africa	Scientific community - Civil society - Policy makers	50	International, South Africa, Zimbabwe, USA, Taiwan, Italy, Nederlands
Press releases	ATIT	Press release for SAILS Stakeholder meeting, European Parliament	26/11/2015	Brussels, Belgium	Media		Europe
Oral presentation to a scientific event	UPJS	National conference on Mathematics education	26/11/2015	Jasná, Slovakia	Scientific community - Civil society	120	Slovakia
Organisation of conference	UPRC	Greek national SAILS conference	28/11/2015	Greece	Civil society, researchers, policy makers	300	Greece
Organisation of conference	MAH, HKR, SDU	Joint Danish/Swedish national SAILS conference	30/11/2015	Odense, Denmark	Civil society, researchers	50	Denmark, Sweden
Oral presentation to a scientific event	MAH	Presented last work in SAILS at own university in a conference workshop for 500 teachers. One of the Swedish teachers also presented her work at this workshop Malmoe conference for teachers	12/2015	Malmo, Sweden	Civil society		Sweden
Oral presentation to a scientific event	UPJS	Didactics of Physics seminar	01/12/2015	Košice, Slovakia	Scientific community - Civil society	15	Slovakia
Oral presentation to a scientific event	UPJS	School on touch, Edulab conference	11/12/2015	Košice, Slovakia	Civil society	220	Slovakia
Organisation of Workshops	UPJS	School on touch, Edulab conference	11/12/2015	Košice, Slovakia	Civil society	60	Slovakia
Organisation of Conference	DCU	National Closing Conference of SAILS project	14/12/2015	Dublin, Ireland	Civil society, teachers, educaotrs, policy makers	60	Ireland
Organisation of Conference	US	National Closing Conference of SAILS project	18/12/2015	Szeged, Hungary	Civil society, Scientific Community, policy makers	60	Hungary

Publication	UPJS	Inquiry activities in science education part A + parts B (Physics, Chemistry , Biology)	31/12/2015	Kosice, Slovakia	Civil society		Slovakia
Organisation of Workshops	HUT	in-service teacher workshops	10/2012-01/2013	Ankara, Turkey	Civil society	20	Turkey
Organisation of conference	SDU	Danish/Swedish national conference	30-11-2015	University of Southern Denmark	Scientific community - Civil society	40	Denmark, Sweden
Oral presentation to a scientific event	KCL	Presented at National and regional ASE meetings	2012-2015	UK	Scientific community - Civil society	480	UK