



### **DELIVERABLE D8.17: Annual Report and Evaluation**

**Project Acronym:** ENGAGE

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## DOCUMENT HISTORY

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2	24.09.14	Presentation of external evaluation plan at Paris partner meeting	Bernadette Stiell (CEIR, SHU)
3	2-15.12.14	Q&A - input and feedback from all key partners on Year 1 progress	Bernadette Stiell (CEIR, SHU)
4	19.12.14	First draft of year 1 evaluation report to Pat Morton	Bernadette Stiell (CEIR, SHU)
5	19.12.14	Submission to EU	Pat Morton (SHU)

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## 1. EXECUTIVE SUMMARY

The Centre of Education and Inclusion Research (CEIR) at SHU were appointed as the external evaluator of the Engage project, led by CSE at SHU.

Engage is an ambitious project aimed at raising youth awareness of Responsible Research and Innovation (RRI) through Inquiry Based Science Education (IBSE) by changing how science is taught in secondary schools across Europe. It is a hugely challenging project, involving 11 European delivery partner countries. It aims to influence 12,000 science teachers and reach 2 million students aged 11-16. This 3 year project started in January 2014, and is now at the end of its first year of activity.

This report outlines the main activities undertaken in the project to date and reviews these initial outcomes in relation to the key objectives of the programme's 9 work packages (WPs). Based on feedback from partners, it provides information on these activities, a preliminary assessment of the outcomes to date, including a focus on the commitment of the partners and quality of internal communications. It also identifies key actions and recommendations as the project moves into Year 2, which can be summarised as:

### Key learning to date:

- A project of this type, scale and complexity requires a longer set up phase to be planned in from the start, to establish clear and shared understandings, as well as identify and address likely developmental issues
- Partner commitment is extremely high, but given the complexity, range of skills and experience, other projects/commitments, not all partners/tasks are able to progress at the same rate. This requires ongoing monitoring and with adjustments made as necessary
- Face to face partner meetings have been well organised, well attended and highly effective at clarifying priorities and issues, as well as stimulating the development and progress of the project
- The early engagement of RRI experts promises to stimulate further innovative developments towards meeting the project's objectives, including promoting the longer term legacy of the project
- Project and financial management is challenging and complex, but for this project has been effective and generally responsive - evidenced by the high levels of positive partner feedback. It is likely to require time for some processes to become effectively established at all institutional/organisational levels to ensure smooth running

- Internal communication using Asana and other platforms is likely to become increasingly challenging as more partners work across WPs/tasks. Access to documents needs to be improved.

**Key actions and recommendations:**

**For the director and project steering board**

- Continue supporting WP leads to prioritise key activities, with additional support and flexibility where necessary to identify and innovatively/collaboratively resolve problems early
- Identify consistent ways of monitoring WP task progress which is currently patchy
- Continued frequent use of clearly focused f2f meetings, including Flashmeetings where specific WP issues are identified
- Identify and address accessibility and functionality issues on Asana, so that partners can locate documents etc across the tasks and WPs.

**For WP leads and partners**

- Continued proactivity in managing and problem solving where issues arise
- Continued frequent contact within the team to identify and monitor challenges and barriers to progress, through focused f2f or Flashmeetings to discuss, problem solve and encourage all team members in their tasks. This builds on the significant collaborative commitment amongst partners and is the greatest asset for overcoming challenges.
- WP leads to liaise and communicate more with each other to increase integration, deepen their thinking, build on and share conceptual and practical learning from other WPs, and problem-solve between them

Overall, the initial outcomes of the Year 1 activities and levels of partner commitment and responsive management would suggest that the project is on track on to deliver, as well as promising to leave a lasting legacy for future generations of students.

## 2. INTRODUCTION

The Centre of Education and Inclusion Research (CEIR) at SHU were appointed as the external evaluator of the Engage project, led by CSE at SHU.

Engage is an ambitious project aimed at raising youth awareness of Responsible Research and Innovation (RRI) through Inquiry Based Science Education (IBSE) by changing how science is taught in secondary schools across Europe. It is a hugely challenging project on many fronts. It aims to shift the teaching of science away from a focus on established facts to areas of uncertainty and debate, by transforming teachers' beliefs, knowledge and practice towards RRI teaching. This is underpinned by a 3-step model whereby teachers Adopt, Adapt and Transform their pedagogy in order to positively impact students' skills, attitudes and behaviours in science. The mechanisms and support for bringing about this change is complex, involving curriculum and material development, CPD, online courses, a website and online community. It is also ambitious in terms of scale. It involves 11 European delivery partner countries, intends to influence 12,000 science teachers and reach 2 million students aged 11-16. 365 teachers are expected to reach the transform stage, which should have a measurable impact on 88,000 students.

As a result of Engage:

- Students of transform teachers will:
  - analyse, evaluate, reason and argue (skills)
  - feel able to reach an informed viewpoint (attitudes)
  - watch or discuss science issue (behaviours)
- More science teachers will:
  - use RRI pedagogy with ENGAGE materials (adopt)
  - start to change beliefs, knowledge, practice (adapt)
  - make substantial move to RRI teaching (transform)

This 3 year project started in January 2014, and is now at the end of its first year of activity.

This report outlines the main activities undertaken in the project and reviews these initial outcomes in relation to the key objectives of the programme's 9 work packages (WPs). Feedback from partners provides information on these activities, an assessment of the outcomes, and key issues and actions as the project moves into Year 2.

The external evaluation framework is also outlined (section 7).



Over the 36 months, the external evaluation will seek to ascertain:

1. To what extent has Engage achieved its all 7 objectives and goals set out in the DoW?
  - a. What worked well, for whom and why?
  - b. What have been the challenges and how have these been addressed?
2. What has been the:
  - a. Commitment of the partners
  - b. Quality of internal communications
3. What has been the impact on stakeholders?
  - a. Students, teachers, pre & in-service teachers and scientists
  - b. Effectiveness of the management, media and stakeholder impact
  - c. Delivery on time/budget
  - d. Lasting legacy of Engage

As this is the evaluation report for Year 1, the focus will be on summarising the main activities and achievements as specified in the DoW (Q1), with suggestions for actions, followed by an assessment of Q2 – exploring the commitment of partners and quality of internal communications. Q3 will be addressed in the annual evaluation reports in Year 2 and the final report.

### **3. METHODS**

In order to evaluate the progress of Engage over the first year of the programme, the following sources of information were used:

- The external evaluator's reflections and assessment of the Paris partner meeting that was attended in September 2014, highlighting progress and issues to date
- Assessment of deliverables and main activities and outcomes of current and active WPs
- Feedback from the key partners, via emails sent in December 2014. Partners were asked a series of questions about the achievements and contribution of their teams to the current and active WPs, and updates and challenges on the adopt phase progress in each partner country (see Appendix 1). Responses were transferred to an Excel spreadsheet for thematic and case analysis.

### **4. WP ACTIVITY AND ACHIEVEMENTS**

#### **Progress and milestones to date**

DOW identifies nine work packages (WPs). These are briefly described below, followed by a summary of the Year 1 activity and achievements to date. Partners' feedback and responses are presented with additional evaluative commentary.

This section aims to answer the evaluation question:

- To what extent has Engage achieved the objectives and goals set out in the DoW?

#### **4.1 WP1 - Framework**

The WP1 team was led by WZ with six other collaborating partners: SHU, OU, FOR, FAU, HIV and UNI.

This preparatory phase (January - August 2014) involved conducting participatory action research to specify, contextualise and develop the RRI interventions, teaching and learning for the programme as a whole and for specific countries in terms of their current curricula.

Knowledge sharing between the partners was critical to this, as was the early involvement of science education organisations and RRI experts. Within the first year of the project, this was successfully achieved through T1.1-T1.4 – namely an analysis of RRI curricula; developing a framework for preparing OER materials; developing exemplar materials; developing guidelines for the face-to-face and on-line courses, as well as a prototype course; and conducting a pilot study for observing and testing the OER materials.

**RRI Curriculum Analysis:** Four partners led by FOR planned and ran surveys in all partner countries on: the how 'RRI curriculum' fits their national frameworks; RRI pedagogical strategies from within the informal science education and science centre communities; learners' existing ideas on RRI; and RRI science (evidence, technology, values, argumentation). The aim is to identify existing appropriate curriculum materials.

This comprehensive piece of work was successfully conducted with the engagement and collaboration of all partners and resulted in the timely delivery of D1.1 in month 6, which included clearly structured and presented diagrams summarising the key findings with references, specifications and recommendations for the subsequent.

This document provides vital contextual information on the policy, national framework, existing local RRI resources and teachers' preparedness in each partner country. The results of this survey/data gathering was useful to teams working on T1.2-1.4 in their designing of curriculum materials, pre-empting the levels of localization and goal setting in terms of teachers' readiness to engage. In developing the prototype teachers' course (T1.3), it was helpful that D1.1 had identified that RRI concepts were rarely presented in existing CPD. This enabled the team to integrate high-order learning skills and IBL more explicitly into the development of courses and emphasis on teachers' skill acquisition.

D1.1 also sets the scene for the subsequent adoption, adaption and transform stages development of the Engage in each of the partner countries. It is likely to continue to be an important reference document for the overall evaluation as it provides a baseline context for each country, from which relative and absolute progress can be assessed.

However, not all partners found this process to be a productive or useful one in terms of the subsequent development of Materials:

“In the first months we spent considerable time and effort making tables and overviews of “RRI content” in the school curricula for all partner countries. My feeling is that this

was not particularly useful for the later development of materials. In my view we should not expect all materials to work equally well in all countries, but provided we produce a sufficient number of materials each country will be able to adapt an acceptable number successfully. In addition, several other factors are likely to affect the success of a material besides the chosen topic” (HIV).

As outlined in D1.2 in month 8, the outputs and achievements of T1.2-4 were intended to provide clarity of vision for the subsequent development of Engages phases and related WPs. This preparatory phase established the guiding principles, strategies, prototypes and pedagogical design for the CPD courses in WP2 and WP3 (e.g. T2.4 MOOC and T3.2 Online Courses).

The ‘Reference Guidelines with Exemplars for Learning Content & Teaching Training’ (D1.2) was clearly structured and well-articulated. It provides guidance for all project partners who will be developing their localised online courses and workshops along a set of shared principles during the on-going phases of deployment and sustainability. The timing of this deliverable enabled further discussion at the Paris meeting and has given partners a suggested 4-5 months preparation time for their first ‘Adopt’ workshops and MOOCs in January/February 2015.

#### **Activities achieved:**

**Prototype OER Materials:** Four partners, led by SHU developed RRI exemplars - sets of materials: Topical/ Sequence/Project, with input from the 'advisory group' and 'expert RRI teachers'.

Ten activity prototypes were successfully designed and developed using the specified structure and Asana to facilitate the collaborative process. Partners were encouraged to contribute their suggestions and ideas; comment on whether the proposed activity was relevant to their curriculum and engaging; and provide additional localisation information (other country-specific data, research, context etc). However, as outlined in more detail in section 6, the editorial team found Asana to be a helpful tool for managing this process within the team and received helpful suggestions and from a core group of partners, but not all were as proactive at times.

Once agreed, translation of materials was carried out. Goals were matched to ‘big ideas’ in science (e.g. science in society) or skills/performance (e.g. ask and define). Partners’ feedback

via Asana suggested that the framework had been useful, well defined and clearly explained. Further work was identified in terms of improving the definition of certain skills and simplifying some of information that would be presented to teachers.

**Prototype Courses:** Five partners led by OU developed the content of the ENGAGE Workshop as well as an exemplar of MOOC, both for testing.

The F2F workshops and MOOCs are intended to be complimentary and build on teachers' RRI skills practice over the 3 years. However, the key challenge to this is the successful targeting and engagement of teachers in the Materials at the local level during the Adopt phase. The D1.2 report offered helpful, practical suggestions about how partners could market and promote the benefits of their courses, emphasising, for example the accreditation value. The careful monitoring of progress, both qualitatively and quantitatively, is intended to enable improvements to be made, thus maximising the potential of the programme to reach its ambitious recruitment goals. Exemplar F2F workshop and MOOC programme outlines offer partners a well-structured format that addresses the objectives of each phase and a clear basis for further adaptation and localisation. Internal evaluation and feedback following the Adopt workshops and MOOCs should lead to further development and refinement of this framework, which will inform the ongoing development of courses for the adapt and transform phases.

However, there have been some delays in the conceptual development of the CPD framework and MOOCs which are being addressed. This has had some knock on effects on the delivery of T3.2.

**Classroom testing and observation:** Five partners led by FAU carried out a classroom test of the prototypes with 'expert RRI teachers' in the UK, Norway, Cyprus and Israel in May-July 2014. Observations and feedback from the 120 pupils and 6 teachers involved in the pilot assessed their implementation and effectiveness and were reported in the pilot evaluation document. Teachers had the choice of using any of the six prototype materials being piloted, and also selected the evaluation approach they felt would be most feasible. Data was gathered using observation guidelines and forms, interview guide and questions, teachers' questionnaire and students' questionnaire. These were drafted in English and translated and localised for the other pilot countries.

A key aim of the UK piloting was to test whether the email marketing approach was likely to be effective in recruiting large enough numbers of teachers in the adopt phase and whether the website enables appropriate/sufficient access. Various approaches were tested and the results highlighted which subjects, formats, days of the week and time of day was most effective at increasing email 'open rates'.

Feedback and results were generally positive – overall students and teachers found the materials interesting and engaging. The findings were used to make some changes to the materials. However, discussion at the Paris meeting would suggest that some caution is needed in making changes based purely on the pilot, given that there were a number of specific contextual issues and circumstantial differences that will have affected the pilot outcomes. Notwithstanding the differing responses and feedback in each country, there were a number of interesting observations drawn that will further inform the adopt-adapt-transform process and development and localisation of materials.

In their feedback for this evaluation, HIV reported finding that the piloting process was additionally helpful in terms of their deeper understanding of the issues they were likely to encounter in the Adopt phase:

“Piloting material (Ban Coke in our case) and observing the use in two classes – this gave us several new insights into the challenges that would be difficult to find without the real-life experience of the classroom” (HIV)

**Video Library:** Five partners, led by HIV are responsible for developing this strand. Many uses and aims of the videos were suggested by partners and the decision was made to focus mainly on demonstrating the key RRI pedagogies, using expert RRI experts. However, at the Paris meeting it was discussed further and partners identified a number of logistical and ethical issues that resulted in a collaborative rethink. It was decided that instead of each partner being responsible for filming their own video clips, it would be more efficient and pragmatic to pool the resource allocation. This has meant some delays to the development of this task, but plans are now in place to use animated clips to show effective RRI pedagogies in practice. Each partner will be tasked with translating the voice overs to provide appropriate localisation.

Partners at HIV provided feedback on this aspect, suggesting that more time was needed for partners to clarify and develop their thinking for this task:

“It has caused some problems for our work with the videos that we have not started out with a clear, concise and consistent verbal description of the pedagogical elements and

practices the videos are supposed to exemplify and illustrate. In the project there are several partners with long experience and an impressive record in RRI pedagogies, but this also means that in many cases there will be different opinions, that people use different phrases and have different perspectives etc. Since the videos will be short and few in numbers we need very precise guidelines for the script”

### **Lead partner feedback**

“The main achievement as I see it, is in succeeding at [getting] the project going! My feeling after the kick-off meeting is that all partners [were] waiting for WP1 to set the direction and we did it” (WZ)

More specifically, the main points of achievements were considered to be:

- Performing an important RRI Surveys & Analysis in all partners countries
- Developing a framework for development of curriculum materials
- Developing a structure and schedule for collaborative development, feedback and localization processes involving all partners
- Developing exemplar of curriculum materials
- Conducting pilot testing in 4 countries
- And finally (and still in process) – developing a framework for teachers programs (face to face and MOOC)

What worked well:

“We have a dedicated and pedagogically strong team. Collaboration with most partners of WP1 was very easy-going and productive. All partners were very committed. At least 4 partners (FORTH, OU, SHU, & FAU) were outstanding!”

What didn’t work so well:

“We needed more time and a clearer vision of the project in order to decide on the goal and scope of the video library. Also it was not clear from the beginning whether we needed to plan only the framework for the teachers program or also the content, as we better discussed the issue – we realized we needed to also get the content and we did.”

### **Key actions and recommendations**

- Although WP1 has clarified the vision of Engage and produced analysis and guidelines to shape the subsequent phases, it will be helpful to return and refine these as the project progresses. These should not constrain the creative and innovative development of resources and Materials, for examples.
- Some flexibility in interpreting and applying these principles will be necessary
- Additional planning will be needed to reschedule the delayed elements of this WP, to

- ensure, wherever possible, that this does not impact on Adopt stage progress

## 4.2 WP2 – Knowledge Hub

ELS is the leader of WP2, collaborating with OU and VUT.

This preparatory phase work (Jan - August 2014) was informed by WP1 and focused on the project website, the materials platform and online community. It included the development of the virtual environment for the online courses and the learning analytic tools to record the use of materials and online community interactions. It also aims to support partnership brokering - enabling schools to find and select RRI experts and establish a scheduled mentoring partnerships, and embedded student quizzes and surveys which feed into the formative and summative evaluations. It also provides tools for collecting The Deployment stage (Sept 2014 onwards) has involved updating and increasing functionality.

The deliverables (D2.3 & 2.4) were due in month 9 and submitted in months 9 and 10 respectively, generally achieving their objectives:

- To provide a collection of tools for efficient and effective communication, sharing of ideas, expert articles, media, and delivery of materials
- To create a platform acting as an access point for tools, materials and user-generated contents
- To integrate the platform in the web environment of the existing portals and platforms used by teachers
- To provide information, guidance and support to the use of tools and sharing of experiences

The development of the multilingual OER platforms means translation (into 9 partner languages besides English) has been an additional and element - but highly necessary if Engage is going to reach the target numbers of teachers in each country and have a sustained impact.

### Lead partner feedback

Main achievements: "The WP2 team formed by LL (ELS), OU, VUT has reached the main goals of the WP:

- The platform was defined (WordPress + edX)
- The web site is up and running and already translated in almost all languages (at the current date only the Cyprus site is missing)



- The MOOC player is an open source platform used also from the biggest US universities; The Video Library relies on YouTube, but it is also possible to use the web portal to store, retrieve and play videos
- The Learning analytics task is supported by a plethora of services: Google Analytics, AWstats, some statistic-oriented plugins in the web site, and a module to make surveys on the community.

What worked well: "With only 3 partners it was easy to remain aligned in all the phases of the development"

What didn't work so well: "The big load on only 1 partner has unbalanced the development and created some bottle neck".

Partners' commitment: "We expected a little more of involvement from OU in the translation and management phase of the web portal".

VUT were actively contributed to the sometimes lengthy discussions involved in finding solutions to establishing a secure and trusted online environment. The f2f meetings in Genoa were particularly fruitful in resolving these issues and taking forward the Knowledge Hub.

In general, most country partners felt that they had contributed well in providing feedback and translating material for the website, and were positive about it:

"So far the website seems to work admirably even for people with a rather elementary grasp on web publishing" (HIV)

"I am pleased website publishing has basically met the deadline of end of Nov for everyone's initial materials to be online" (ELS, WP4 lead).

### 4.3 WP3 - Resources

As outlined in the DoW, the objectives of WP3 were:

- To develop "Topicals", Materials which maximise take-up of ENGAGE programme
- To develop "Sequences", which help teachers to learn the expert's "toolkit"
- To develop "Project", Materials which help schools to establish partnerships between learners and scientists
- To develop the production process and workflow for fast publishing in response to the news.
- To develop the Course content for the MOOCs

SHU is the leader of WP3. The majority of partners have contributed to WP3 (apart from ELS and TUD).

### **Activities for WP3**

T3.1 Process for Materials development: This task was led by SHU and aimed to produce a set of templates for pedagogical techniques and concept explanations, which can be easily adapted, to enable fast publishing in response to RRI issues in the news.

T3.2 Online Courses: This task was led by OU to develop 3 open online courses for large number of teachers. The content covers the three areas of teacher knowledge: pedagogies, how to teach by building on students' ideas, and learning about the nature of science. These MOOC's will be delivered during the WP4 Adapt, WP5 Adopt and WP6 Transform.

There were delays in the completion of this task due to issues in the conceptual development of the CPD framework and MOOCs in WP1.

T3.3 OER Materials: This task was led by SHU and aimed to produce in parallel, the three kinds of open educational resource materials (Topicals, Sequences & projects) based on topical RRI issues, to support their classroom experimentation. This included all design and management of translation into 11 languages.

T3.4 Localisation: In this task led by UNI, each partner adapted the materials as necessary to fit better the context of the national curriculum. The localized version was sent to the OU partner who is responsible for publication in the Portal.

D3.5) RRI OER Annual reports: This deliverable presents the Online Courses and OER Materials produced by period, due in month 12 and not yet available for external evaluation.

D3.6) RRI OER Reference Guidelines: This deliverable describes the process for materials development and localization guidelines. It will be updated but as it is due in month 12, is not yet available for external evaluation.

### **Lead partner feedback**

Main achievements of WP3 were the:

- Rigorous Framework for the aims/objectives to define the specification of materials
- Effective Materials development process for fast publishing building in creative input, partner involvement and various quality assurance processes
- Very good uptake by teachers, so far, based on UK publishing

What worked well:

- Materials development team had a very strong collaboration
- Partners have responded well to request for ideas, review, localisation
- Good collaborative development of our 'CPD Framework', the basis of Workshops and Online Courses

Other contributors to this WP3 confirmed this, highlighting that the three way discussions between the Materials writers and Tony (Lead) to choose topics for materials worked well, as did the detailed feedback from to improve materials and the quick working needed to design and produce attractive materials:

"Weekly editorial meetings have really helped in writing the resources as we have time to plan the outline as a team. Communication via Asana within the editorial team helps us to keep to deadlines. [We had] a very clear vision for the resources which we all share. Good editorial feedback from Tony" (SHU WP3 team).

Notably, localisation has been a smaller task than originally thought. Many of the resources only required minor localisation.

What didn't work so well:

"CPD Framework has taken a long time to develop, with limited conceptual input from the team. We didn't have time to prototype Online Courses before summer, so we are now doing that" (WP3 Lead)

Others in the WP3 team identified that it was:

"not always easy to choose topics because of the constraints – the one I find most constraining is that there always has to a dilemma / controversy; we cannot choose a topic simply because it illustrates innovative science or an application of science that almost everyone would think is a 'good thing'".

#### **Key points and recommended actions**

- Some of the guiding principles for materials development may need to be relaxed or revised to enable flexibility in the Adapt and Transform phases.
- Delays in the conceptual development of the CPD and MOOCs may impact on their implementation, which could also possibly affect delivery plans in the Adopt phase and beyond. Appropriate actions need to be identified that would ameliorate this possibility.

For WP3 overall, the commitment of partners was generally considered to be high, evidenced by the translations of Materials:

"In nearly all countries [these] have been progressing well" (WP3 Lead)

WP3 team members also acknowledged the need for more consistent feedback from partners on the development of the Materials:

"I had a lot of input from them on the first activity (Ebola) in the planning stage and I think the activity was better for it. This has disappeared in later activities. Not sure why - too busy with translation possibly" (WP3 team).

A core group of partners were highlighted as often providing localisation comments and also voting regularly to choose topics for new materials; other partners responded to requests more sporadically.

**Recommended action** - wherever possible, partners prioritise giving feedback on Materials - notwithstanding the demands on their time for other WP-related tasks. The quality, design and localisation of materials are critical to the uptake and effectiveness in the Adopt and subsequent stages.

Some partners commented that the production of new materials has been handled very well and with impressive speed (HIV) However, TRACES pointed out that the production mechanism for the materials in the first phase is mainly piloted by one partner: "this is very efficient, but risk to lower the engagement of other partners" (TRACES)

#### 4.4 WP 4 - Adopt

FOR is the leader of WP4. Eleven partners who are running the ENGAGE CPD are contributing to WP4.

These tasks are critical for uptake of Engage on a massive scale.

As stated in the DoW, the objectives of WP4 are:

- to attract a large number of teachers to embed RRI approaches through IBL in everyday teaching practices

- to engage teachers get onto the path of RRI science, by acquiring the ability to use RRI teaching approaches so as to achieve productive outcomes.
- to motivate a proportion of teachers propel from the “adopt stage” to reach the “adapt stage” in the progressive staircase of involvement.
- to test the model and its impact in Year 1, which will be re-iterated in subsequent years, and as the basis of subsequent stages (adapt/transform)

The planned activities associated with WP included:

T4.1 Localised Dissemination Plan & Networking. This task has been led by FOR and aims to:

- Prepare a localised dissemination plan for networking and collecting user feedback through survey
- Publicise and disseminate pilot 'RRI materials', with 'Video Library of teaching strategies' through teacher associations and social networks
- Recruit 'expert RRI' teachers to be workshop facilitators at the event
- Invite RRI or IBSE experts to be interviewed or sharing recent papers, news to be published in the Portal.
- Contact Science Centres, Science Museums or other venues for partners to run F2F workshops

T4.2 Programme Implementation, Workshops & MOOC. This task, led by FOR aims to:

- Deliver F2F workshops and MOOC B
- Coordinate with WP3 leader, to ensure relevance of Open Educative Resources to interests of local teachers
- Coordinate with WP3 leader, on relevance and translation of 'just-in-time' CPD materials on portal
- Participate in project-wide review of adopt cycle after Year 1 and planning to re-iterate the model outcomes
- Review data on teachers' usage of online materials
- Coordinate with evaluator on impact of Adopt programme implementation

T4.3 Online Content for reflection: Partners led by VUT planned to update the Knowledge Hub based on Task 4.1 and Task 4.2

Deliverables D4.7) Adopt Dissemination & Networking Plan: This deliverable refers to task 4.1 is currently being drafted and was unavailable for evaluation in month 12. D4.8) Annual Report on Adopters Programme Implementation: This deliverable refers to task 4.2 and 4.3, due for completion and submission in month 18.

### **Lead partner feedback**

As lead partner for the WP4 strand, FOR provided an evaluative overview of this phase to date. They report that by December 2014, the following achievements have been made across all aspects of WP4:

- Definition of the specific ADOPT targets that we want to achieve by June 2015 - embedded in the learning objectives and the content of the CPD activities (as provided by the revised CPD framework- WP3). The specification of the ADPOT targets aimed at ADOPT partners to raise their awareness of what they should achieve in ADOPT by June 2015.
- Development of a general dissemination plan for the ADOPT, focusing on the proposed actions that ADOPT partners should implement so as to introduce the activities (materials usage, F2F workshops and online courses) into all applicable areas (local contexts and key audiences). The general dissemination plan contributes to the aims of ADOPT by: a) informing partners on the main activities that they need to implement and b) by facilitating them to reflect on their national contexts for more efficient disseminating outcomes.
- Development of localized dissemination plans with an aid of a template, focusing on the country specific opportunities and challenges for ADOPT implementation, the identification of existing networks and the target groups that are more likely to engage, their specific needs and the added value for them to participate in ADOPT – issues that need to be taken into consideration during dissemination in each country. The localized plans are expected to increase the chances of achieving the ADOPT targets in each country.
- Provision of monitoring guidelines to ADOPT partners on how to monitor what is happening in their countries during the implementation of the dissemination plan, how they will have early feedback by teachers in order to avoid poor results during implementation (for both quantitative and qualitative perspectives). This also aims at contributing to increasing the chances of achieving the ADOPT targets in the whole and in each country specifically.

The above achievements are reported in D4.7-Adopt dissemination and networking plan (also submitted in month 12)

Tasks relating to the above mentioned achievements have worked well, in terms of the outcomes of the work conducted (according to our contractual obligations as in the DoW). However, cohesion between the work within WP4 and other WPs could be improved. This is important given that ADOPT dissemination has been dependent on various developments within the project (for example the CPD framework, evaluation orientation and tools, knowledge hub).

No problems were reported with partners' commitment to WP4 tasks so far.

## Partner feedback on Adopt progress

In addition to the Lead's feedback, each of the Adopt delivery partners was asked to report on their progress to date with regard to their Adopt activities.

Below is the reported progress and perspectives of the 11 Adopt countries. (Much of the success of this phase depends on science teachers' familiarity and readiness for RRI-type approaches, which in part, relates to the status of RRI in their respective curricula - as outlined in D1.1).

### UK

In the UK, Materials dissemination is reported to be going well, with teacher signups at nearly 2500 and downloads currently over 10,000 - suggesting that the materials are popular. The UK is therefore likely to easily meet the target for adopt teachers. This is partly because of higher levels of engagement because of the previous upd8 programme and website and high volume dissemination networks (e.g. newsletters to 30,000 teachers). However other components (e.g. online courses) are not yet ready to disseminate (SHU lead).

There are still challenges ahead. Some concern was expressed by the UK team that teachers did not yet understand how to use adopt materials, as they are not intended to be used to teach new material, but rather to apply what students have already learnt. The suggestion was made that perhaps this needs to be specified on the website.

**Recommended action** - the website/Materials should state explicitly that Engage resources are to be used to extend students' current learning - not to teach new content.

An important point was raised by the UK team that some of the activities being developed may be too UK-centric, because of the limited input and feedback when choosing news stories. This may limit the local appeal and use by teachers in other countries (see recommendation above about partners prioritising feedback on Materials).

Although partners had not fed back that they had particular issues, writers were concerned about the extent to which ideas often changed from the original outline that partners first voted on, to the final resource.

Key actions for the UK in the Adopt period and beyond include:

- creating a valuable online course which teachers actually sign up to
- creating meaningful online content, to build an effective and engaged 'online community'

- getting feedback on how teachers are using Materials - i.e. finding out what they think of them and how 'purposeful' their use is - a key criteria for successful Adopt; comments about their use to encourage more teachers to adopt
- keeping resources interesting
- ensuring that curriculum links are clear and obvious
- dissemination of resources to the teachers, including via social media e.g. Engage twitter account
- recruitment of some UK teachers to help trial the activities - crucial for the adapt phase

As one of the SHU writing team stated:

"Teachers will only use them if they see them as relevant and that they will help their students pass exams".

There was also a sense of urgency in needing to move more quickly to be ready for Adapt (SHU, Project Manager).

## **Greece**

The lead in Greece reported that the Adopt phase has seen the successful implementation of 3 dissemination activities so far, to science teachers, advisors and school heads. The team have also developed a number of individual informal contacts. Feedback from these activities has given the team confidence that the overall concept of ENGAGE will be received well by these audiences.

In terms of challenges, however, recent curriculum changes in upper secondary schools and changes in assessment methods have not been in line with RRI objectives. This is likely to reduce the numbers of teachers of age groups 15 and above, using the Materials or attending courses. Materials developed to date provide limited scientific content that is directly relevant to the new Greek educational context.

Key priorities and actions include the launch of e-mail marketing to attract lots of teachers download and use the materials and provide early feedback.



## **Germany**

The German lead identified that key to their Adopt stage progress has been the creation of two lists of potential teachers/users - some of which have been contacted. In addition, they are following up contacts and potential users from previous ILLI science education projects as well as approaching several local teacher training organisations. All the teaching material and project information have been translated into German.

However, the main challenge remains to persuade as many teachers as possible to use the Adopt stage resources and to remain involved in the ADAPT stage.

## **France**

In France, TRACES have been working with a range of educational institutions. January 2015 will be a big step with the official release of the French version of the website.

They are also providing relevant and localised Material for French and Swiss teachers. The main challenge and priority is to gather a community of teachers and gain the recognition of the national education institution in order to further promote the programme.

## **Romania**

The Romanian lead found the preparation of their localised dissemination plan (for Deliverable 4.1) helpful in enabling them to think through their options and strategy for creating their database of teachers, and organise their workshops and on-line courses. They are also exploring the steps towards gaining accreditation for the on-line courses, in order to make it attractive for more teachers. They have had discussions with different educational stakeholders to introduce them to the ENGAGE Adopt materials and invite them to use these materials in their classroom. Alongside this, they have engaged inspectors of science from three counties to identify and target teachers interested in participating in the F2F workshops and online courses.

In terms of the main challenges to adoption, the team identified that in Romania, science is not integrated, but taught as three separate subjects. This means that most teachers are not familiar with interdisciplinary socio-scientific issues. Also, there is currently insufficient time for each discipline to teach the full compulsory curriculum, leading many teachers to rush through topics. The introduction of non-compulsory RRI materials therefore poses significant challenges to the use of Adopt materials during regular lessons.

As most in-service teacher training and CPD programmes are accredited, it will be very difficult to convince teachers to participate in a course without credits. The accreditation hurdle has

created a lot of additional work for the team, but without it, they are unlikely to reach their targets.

Key actions/priorities in moving the Adopt phase forward in Romania include:

- The preparation of the necessary documentation for obtaining accreditation for the Adopt on-line course
- Obtaining the e-mail contacts of many more Science teachers, in order to send them the invitation to download and use the Adopt materials.

## **Israel**

Adopt phase achievements include the translation of the brochure and website into Hebrew. The brochure was also published in an on-line science teachers' journal. The team have also conducted face to face introduction sessions of ENGAGE materials in two courses for teachers (total of 49 teachers). The dilemma tool (one tool of the adopt teachers' program) has been successfully piloted with 6 teachers. In addition, they are in the process of compiling a mailing list of science teachers for introducing these teachers to ENGAGE.

It remains a challenge to recruit enough teachers for the F2F programs during the school year. The lead suggests that it may be easier during the summer vacation, but they would need to do this before June 2015 to meet the programme timeframes.

Key actions and priorities include:

- Delivering printed copies of the brochure to 220 chemistry teachers that will participate in a teachers conference on the 23th of December
- Introducing ENGAGE at that teachers' conference. BAN COKE has been chosen as a unit suitable for demonstrating ENGAGE main ideas.
- Piloting the effective group discussion tool with all 49 teachers who were involved in the introduction session, by the end of February 2014
- Establishing an effective email communication with teachers. Their mailing list includes about 2500 teachers so far

### **Spain**

The Spanish team reported good progress with Adopt, in accordance to the timetable in all respects. No problems were envisioned and everything was going well.

Their main challenge is to reach a large number of teachers who will download and make use of the materials.

Their key priorities for action include the collation of teachers' emails in sufficient numbers. 600 emails have already been identified. In addition to this, they are sending messages to relevant teachers' portals which, it is hoped, will eventually greatly multiply the potential audience.

### **Norway**

The team from Norway reported that they are currently refining the materials published on the Norwegian website - adding localization where possible. They are also in the process of retrieving email addresses for all relevant schools in the country, preparing to advertise the project via relevant social media and linking up with partner schools.

They anticipate their main challenge will be in convincing teachers to use materials and pedagogical approaches with which they are not very familiar, and with rather minimal support. In the initial stages, the team are planning to approach cooperative schools and teachers in order to establish a first body of experience, if necessary. An additional and different challenge is to "mainstream" the rolling out of Adopt with the national strategies for CPD for teachers that are currently under implementation in Norway (we will put considerable emphasis on this in 2015)

### **Switzerland**

So far, the Swiss team have met a set of regional coordinators of the science teachers' networks, in the French speaking part (Fribourg, Berne, Jura, Neuchâtel where their Engage programme is focused).

Their challenge is to find appropriate local weblinks (in French) so that the materials will encourage more effective adoption, given the importance of topics being locally/regionally relevant.

In terms of key actions and priorities, the team are taking care to maintain and improve the contact with the experts/coordinators, informing them of what is going on and giving them suggestions for the future.

### **Lithuania**

For the Lithuanian team, the preparation of their ENGAGE dissemination campaign has worked well. They are currently finishing the localization of their teaching materials and hope to start the intensive work after the New Year.

Their main challenges will be in attracting the attention of local science teachers and activating their involvement in ENGAGE activities.

Their key priorities are the planning of broad dissemination activities and motivating their local science teachers.

### **Cyprus**

The Cypriot team report that they have been able to translate and localize the materials but they are still looking to recruit and engage more teachers, which is their key challenge given the time constraints. Dealing with this is their main priority in going forwards with Adopt.

#### **Key points and recommendations from WP4**

The following activities should continue to be prioritised in order to recruit and engage the maximum number of teachers:

- email marketing
- accreditation routes
- utilising existing contacts and developing new networks
- identifying opportunities in the curriculum – no matter how limited – to introduce RRI
- translation for the website and other localisation of materials
- use of social media wherever possible
- partners to continue sharing ideas and suggestions for maximising dissemination

#### **4.5 WP5 - Adapt**

No activity to report or evaluate at this stage

#### **4.6 WP6 - Transform**

No activity to report or evaluate at this stage

#### **4.7 WP7 - Legacy**

Led by OU, the aims of this WP are to:

- disseminate the project, including outcomes and case studies to other groups of stakeholders
- develop strategies for promoting awareness and impact during and after the project
- develop strategies to promote sustainability for the Engage project
- produce key event – RRI festival of best practice

All partners also contribute to this legacy by attending meetings, participating in project reviews and collaborating with the implementation of the dissemination plan.

##### **Activities and partner feedback**

T7.1 RRI seminar at the Paris meeting was a success – details of which are available: URL: <http://www.engagingscience.eu/en/2014/09/09/seminar/> As reported in feedback from OU, there were more than 40 attendees, 26 projects represented and 15 external expert guests. The feedback from the event was very positive.

Other RRI activity completed successfully - photos, blog news, interviews videloclips were published by the OU and disseminated by all partners

T7.2 Dissemination plan and branding task was completed successfully, which was presented in D7.1, submitted 3 months early to support the programme. Dissemination plan has been expanded and localised through T4.1 (FOR) and ENGAGE brochure and presentation were updated.

#### **4.8 WP8 - Internal evaluation**

##### **Activities and partner feedback**

Delays to appointment and changes within the team meant that the internal evaluator started in July 2014, to follow on from the pilot plan produced by FAU. TUDelft designed an outline evaluation plan, which was presented and discussed during Paris meeting, including the delivery and frameworks with the external evaluator. Pilot evaluation of Engage materials has been done and the evaluation report written and shared with the partners. Online survey prepared by TUDelft and professional online survey software (Survey Gizmo) has been bought. Questionnaires are in the translation process.

Preparing evaluation instruments, communicating with the other WP leaders, getting review and feedback have all worked well.

Difficulties have arisen due to staffing delays which necessitated some adjustments at the beginning.

Communication has generally been very helpful, and partners have helpfully contributed to WP8.

#### **4.9 WP9 – Management**

The Project Management has been led by CSE at SHU, the objectives being to coordinate the project; manage the consortium and budget; report on financial and other matters and ensure the production of all project activities and deliverables are on time.

This is intended to ensure that the overall project delivery is of high quality and targets are met. Partners are also critical to the effective management of the project, and involves their participation in regular online meetings (via FlashMeetings) and attendance at annual project meetings.

In order to evaluate the management of Engage, the views of the lead, project director and other partners was sought, as well as reviews of project steering group minutes and deliverables.

Key questions are whether the activities and deliverables have been completed on time and to budget; have planned meetings taken place; were issues identified and addressed at meetings; are partners satisfied with the management of the project overall.

#### **Deliverables**

All deliverables were completed and submitted – the majority, on time. Where delays occurred, these were negotiated and additional time was given to ensure completion. These have often been complex reports with multiple inputs and contributions, requiring careful coordination by lead authors. Overall, their comprehensiveness, quality and clarity suggest good levels of WP leadership and management in the coordination and delivery of these outputs. All deliverables have been uploaded and are available to the wider consortium. This has enabled partners to share, learn from and build on the outputs of other WPs in developing and delivering their own, interconnected tasks.

### Meetings

Two partner meetings were held – the kick off meeting in Milton Keynes in February 2014 and pre-Adopt phase meeting in Paris in September 2014. According to all parties, these were both well attended, well organised and focused, and highly productive in enabling the partners to grasp the vision and priorities of the complex programme; develop face to face relationships; establish a strong sense of shared purpose and collaboration. This is a view expressed by the WP9 lead and echoed by many partners:

“We have developed a good collaborative partnership approach – I believe this was embedded from the start with the kick-off meeting at Milton Keynes – so partners had a good understanding of the project from the start” (WP9 Project Manager)

### Director/Lead views on management:

Overall, the project director’s self-assessment of the management was that it was “fairly good”. He identified that the positives were:

“We have a well-defined vision, and created a team with good morale and has shown ability to work together, to the same ends, and maintains a high degree of participation”. (PD)

The project manager highlighted that partners are well engaged on the whole with the project, although some required “a little chivvying”. She went on to identify:

“what has worked well is the flexibility of partners and the response to requests for information and input. Discussion in meetings has been very good – online and face to face”.

However, both identified areas of weakness:

“[We are] not so good on detailed management of tasks at the WP level, and delivery timescales - WP leaders are not always good at their project management, and our monitoring has been patchy” (Director).

It is important however, to see this within the context of the scale and complexity of the multi-partner programme, as both the director and project manager points out:

“Engage is a very complex and ambitious project - with big targets, huge amount of outputs to deliver, many interacting components, and contingent tasks - and a short time to get things right” (PD).

“Management of this complex project has been hard at times – we have had very little time for the set up stage – we should have allowed more. Some partners can be a little slow or difficult to get hold of – but most are very good”.

The key constraint has therefore been time and speed – particularly given the complexity and demands of such an ambitious project.

The Director was positive about the development of the Materials and the efficiency with which this process works from a design and production perspective, but ideally, would like to see this level of responsiveness and efficiency reflected by other WP teams:

“I think we have been slow to get other things to the development stage, so they can be tried out, and reiterated.”

For him, this process is critical to the overall progress of the project, and he has some concerns that this could undermine the overall delivery:

“This means we may not achieve all our success by the project end date” (PD)

### **Partners’ views on the overall management and leadership of Engage**

Despite the project director’s anxieties, the partners have been universally positive about the levels of management, coordination and support offered at all levels. Nearly all describe the management as being good, effective or very effective.

Other comments about the overall management include:

“Communication with the management has been very helpful. The manager is very responsive and accessible, providing useful responses. The management of the discussions and online meetings has also been very rich and effective” (UB)

“The project is reasonably well led, but the project is very complex and covering all important activities, tasks and deadlines is obviously demanding. It should be added that the management is consistently helpful and civil” (Norway)

“It could be useful that WP leaders could be more active for the forcing the partners to follow the deadlines, remembering by e-mails as well”. (LiEd)

### **Specific management issues**

In terms of more specific management problems, only two have been identified. The first relates to the late appointment of an internal evaluator (TUDelft). As the WP9 lead points out, this meant partners had to design and carry out evaluation for pilot stage and we did not have a plan in place until the Paris meeting in month 9. Since then however, the external and internal evaluator have liaised to ensure that both aspects can be delivered in a coordinated way. In



some partner teams, staff changes and shortages have also slowed progress, especially initially (e.g. HIV).

The second issue relates to the financial management and payment of freelance writers at SHU, where there have been significant delays in generating Purchase Orders to enable invoices and payments to be made. This has been disappointing and demotivating for the staff involved, but it is to their credit that they have continued to work efficiently and with commitment to the project. It should be pointed out however, that this problem relates to wider university financial system difficulties that are outside the direct management or control of Engage. This issue seems to have been finally resolved and does not appear to have negatively impacted the outputs or progress of this critical strand of activity.

The project manager also identified that financial issues have been a learning curve, particularly in terms of working through the complex EU requirements, but also acknowledges that these are common issues often faced in the management of such financially complex, multi-partner programmes.

**Key learning:**

- A project of this type, scale and complexity requires a longer set up phase to be planned in from the start, to establish clear and shared understandings, as well as identify and address likely developmental issues
- Partner commitment is extremely high, but given the complexity, range of skills and experience, other projects/commitments, not all partners/tasks are able to progress at the same rate. This requires ongoing monitoring and with adjustments made as necessary
- In some areas, the levels of conceptual development required from the outset have been significant and sufficient time needs to be given to this
- Project and financial management is challenging and complex, but for this project overall, it has been effective and generally responsive. It is likely to require time for some processes to become effectively established at all institutional/organisational levels to ensure smooth running

**Key actions and recommendations:**

**For the director and project steering group**

- Continue supporting WP leads to prioritise the key activities, with additional support where necessary to identify and innovatively/collaboratively resolve problems early
- Identify consistent ways of monitoring WP task progress which is currently patchy
- Continue frequent use of clearly focused f2f meetings, including Flashmeetings where specific WP issues are identified

**For WP leads and partners**

- Continued proactivity in managing and problem solving where issues arise
- Continued frequent contact within the team to identify and monitor challenges and barriers to progress, through focused f2f or Flashmeetings to discuss, problem solve and encourage all team members in their tasks. This builds on the significant collaborative commitment amongst partners and is the greatest asset for overcoming challenges.
- WP leads to liaise and communicate more with each other to increase integration, deeper their thinking, build on and share conceptual and practical learning from other WPs, and problem-solve between them

## 5. COMMITMENT OF THE PARTNERS

The degree of commitment by partners at all levels is a clear strength of the project overall. It is universally commented on as being positive and helpful, and is a significant enabling factor that drives the project’s progress.

The high levels of commitment have been identified by directors and project manager:

“In general, high level of input,(evidenced in part by) translations of Materials in nearly all countries have been progressing well “ (PD)

“Partners are well engaged on the whole with the project – some with a little chivvying” (PM)

WP leads and team members were generally equally positive:

“Very [committed]. All partners were committed. At least 4 partners (FORTH, OU, SHU, & FAU) were outstanding! (WP1 lead)

“A core group have been very helpful and have responded to calls for help every time. We ask partners for ideas, votes on the ideas we have come up with and localisation information. We never get a full response - on average about 4 partners respond. However, it is good to see the resources translated and going on up the websites” (WP3 team, SHU)

“Partners are much more committed than in other projects that I have been working on and I believe this is because of the shared responsibilities, the on-line meetings but most importantly because of the common interests between the partners” (UNic)

“Everybody seems to us to be committed in ENGAGE and we are doing the best we can” (DICS)

“We feel the responsibility to do everything in time, and especially on the success of ENGAGE at the local scale” (LiEd)

Even where there have been delays and difficulties, commitment has remained strong, for example:

“Our team has a sincere commitment to Engage, but we have been somewhat hampered by staff shortage especially in the first months of the project. Luckily the group is now stronger and cooperation with related projects has been improved” (HIV)

## 6. QUALITY OF INTERNAL COMMUNICATIONS

Given the number of partners involved and complexity of the activities and tasks, it is imperative that internal communication is facilitated regularly and effectively. The main mechanisms for achieving this have been the use of Asana, online Flashmeetings and f2f partner meetings.

These were evaluated through feedback from questions to all partners and attendance at the Paris meeting in September 2014.

### **Asana**

Views on the ease, helpfulness and use of Asana have been mixed overall. Some partners have found Asana difficult to use initially, but once they mastered it, have found it to be a helpful mechanism for ‘having things in one place’ for their active WP, but it still has limitations:

“Asana is very helpful in organizing everything and providing links to all materials but sometimes it is overwhelming especially if you do not access it everyday” (UNic)

Asana was generally seen as most helpful in contributing to effective internal communication when working with members of their own WP team. It allowed them to work together responsively on tasks. However, where this was not possible because of individual difficulties with Asana, email was an additional or alternative mechanism for contact.

More issues have arisen with partners trying to locate documents, or especially when working across other WPs as the range and number of tasks and activities have increased.

“I have mixed feelings. At the beginning it was very convenient, especially within WP1, as now other WP's work in parallel – I find it a bit more difficult to track what's going on in other groups” (WEIZ)

“Asana is a good tool, not complex but challenging. In order to obtain the best results, email is usually used for individual communications” (ELS)

“It is of great help to work with the aid of a system like this for communicating and arranging tasks. Yet, working with ASANA has been difficult in this period, mainly because for some periods partners only had access to the specific tasks that were following” (FOR)

It appears that some WP teams/individuals have found using Asana more difficult than others. For example, the WP3 team have generally found Asana effective, enabling the editorial team to manage and meet their deadlines. However, at times, progress on developing Materials has been limited because some partners have had difficulties with Asana. This has meant that they have been less responsive in their feedback:

“WP3 have used ASANA very well - better than any other WP, mainly because Tony is running it, and I have expected the team to use it regularly and consistently” (SHU)

This evaluation suggests that the use of other sites for communication has further complicated matters. Resources and documents are variously located across wiki, upd8, google docs and Asana, with email still being used as an alternative when difficulties arise:

“It is much better just to have everything in one place. I know we are supposed to now be using Google Drive only, but I don't understand this yet and so haven't used it” (SHU)

“Asana is a rather constant source of frustration. Most serious is that a our new person in the project still only seems to have access to a small part of the messages, tasks etc that she should be able to find” (HIV).

Other minor technical suggestions for improvement include the insertion of dates for repeat projects (ie projects that have exactly the same timescales, like producing materials, that are separated by 2 weeks). It was suggested that it would be helpful to see when and who has seen the documents so that specific follow-ups can be made. Finally, one partner felt there were still problems with Asana notifications that could be resolved.

Given that the project is entering its 2<sup>nd</sup> year, and the demands for this level of engagement in the difficulties with Asana are not just ‘teething problems’ that have been, or will be resolved quickly over time. As the project increases in complexity and pace, it is likely that

communication difficulties could limit the progress of tasks for some, if not all the partners across WPs.

Moving forwards therefore, it is critical that the project has clearly established and workable mechanisms for sharing and communicating across WPs, to facilitate and maximize progress towards meeting the targets and outcomes.

#### Key actions and recommendations

For Project Director/Project Steering Board:

- Systems for emailing, task setting /monitoring and document sharing need to be clearly streamlined, well organised and accessible to all partners.
- Find ways of facilitating connections between tasks and work, so that partners can easily access and work across multiple WPs (developments in other parts of the project should be visible to all)
- Proactively monitor activity on Asana to identify who is not/can not accessing or participating and find ways of supporting/resolving any difficulties
- Seek specific feedback from partners about partners’ difficulties with Asana and suggestions for improvements
- Identify additional Asana related technical support if necessary, to improve functionality as the project progresses

#### WP partner communication

As stated above, within their active WPs, some partners have found Asana to be an effective means of communication, whilst for others it has been only partially helpful. Where difficulties have arisen, the use of email, teleconferencing, FlashMeetings and face to face contact have smoothed and facilitated fruitful contact.

Partners commented that within their WPs:

“[Communication has been] very Good - lots of discussion, input and feedback” (SHU team)

“No communication problems from our side, people were responsive either in ASANA or via personal emails” (FOR)

At times this was manageable because they were working with only a small number of partners. Sometimes it depended on the level of familiarity and experience with using other platforms. This often meant that some partners responded quickly via Asana, whilst others needed prompting or did not respond at all. The SHU project manager summarised:

“Some have found it harder than others – some are already online experts– they find it easy – others are more familiar with email and normal methods”.

Face to face meetings – sometimes organised to meet particular needs and challenges as they arose – were particularly helpful:

When we needed a deeper and longer discussion about a specific issue we also set separate skype meeting and I also flew to Genoa to meet wp2 partners in order to specify the pedagogical requirements of the knowledge hub (WEIZ)

Face to face meetings have been very helpful. Meeting the other partners means subsequent communication is easier (SHU)

### **Flashmeetings**

Managers and partners were generally positive about the organisation and attendance at Flash meetings:

“Online with Flash works well – it is polite and easy to operate. The face to face meetings have gone very well and communication has been very good. The quality of English language across partners is magnificent” (SHU)

“The online Flash meeting is a very effective tool because it allows to have a big number of participants without confusion” (ELS)

“All the FM and F2F meeting have been productive and contributed into understanding better the objectives of the project and into planning the work ahead” (FAU)

Most partners had attended FlashMeetings whenever possible, but some commented that it was helpful to listen afterwards if they were not able to be present. But given the demands of the work, one member still saw this as a concern:

“Flash meetings and partner meetings are very complex and covering all important activities, tasks and deadlines is a serious challenge” (HIV)

Two partners raised issues with FlashMeetings, in terms of the timing and planning of the agenda:

“I find the Flash meetings difficult to follow sometimes, especially if they are not set up with the purpose of working on a specific issue and are about discussing various issues. Furthermore, it is not very easy to participate in all the flash meetings because of time constraints”. (UNic)

“The planning of the Flashmeeting were announced too late, often making the participation and the preparation of the meeting rather difficult”(TRACES).

From the feedback received, it would seem that contact with others outside the WP team was much less, and one partner felt that there could be additional benefits to having more opportunities to informally exchange ideas:

“I am not aware of what people in other WPs (in which UNic is not involved) are doing currently” (UNic)

“We have had very limited contact with other partners outside of Asana and Flash meetings, and we should possibly be more active using email, conference calls etc to strengthen the cooperation and informal exchange of ideas/information” (HIV)

### **Partner meetings**

Meetings in Milton Keynes and Paris were seen by all to be important and helpful in enabling understanding, building relationships and setting priorities. They were well organised with a clear purpose and set of activities.

The Milton Keynes kick-off event was the first f2f meeting of the project which simulated the whole project delivery in 4 days. The project’s phases and approaches were explored and the Steering Board members led sessions to establish an understanding of roles and WP expectations. Issues were raised and addressed. Online communication arrangements were agreed, using Asana for recording meetings and progressing tasks online.

The Paris meeting achieved its aims to:

- improve strategies and develop approaches, post pilot

- enable partners to gain the necessary knowledge of RRI engagement confident and prepared to start adopt phase
- improve co-ordination, collaboration and effectiveness
- promote the evolution of emerging ideas

The interaction, clarification, learning and discussion at the Paris meeting meant this was a constructive and helpful event. Issues were raised and progressed. The RRI seminar, in particular, brought together expertise and ideas that should continue to inform the development of the project in the Adapt and Transform stages, as well as the overall legacy of the programme.

Partners were positive about these meetings:

“We were not present to the Paris's workshop, but we was in Milton Keynes where the f2f meeting allowed us to explain and solve some points that with other communication system would take some days” (ELS)

“Really helpful to meet people face to face in MK and Paris – important to establish relationships if you’re working with people. Vital to get their feedback on our ideas, and to have a chance to explain F2F how we are developing materials”  
(SHU)

Overall, the initial outcomes of the Year 1 activities and levels of partner commitment and responsive management indicate that the project is on track on to deliver, as well as promising to leave a lasting legacy for future generations of students.



## **7. EXTERNAL EVALUATION FRAMEWORK**

The external evaluation is informed by, and builds on the internal evaluation which is led by TU Delft. Further work is underway to ensure both are planned together to gather the data necessary to evaluate the objectives and outcomes of Engage.

**Engage - CEIR External evaluation framework**

	Classroom impacts		Wider impacts		
	Teacher indicators (Measure)	Student indicators (Measure)	Stakeholders - Pre & in-service trainers (Measure)	Stakeholders – Scientists (Measure)	Beyond targeted countries
<b>Adopt</b>	Obj2: Use ENGAGE with exemplar support  (≥25% of ‘adopt’ teachers reach L3 of ENGAGE integration / purposeful intention)		Obj5: More pre & in-service trainers include ENGAGE practice  (Most surveyed believe materials helped their ENGAGE teaching)		Obj 7: Impact extends to non-Programme countries  (x% teachers in Netherlands, Italy and Portugal use ENGAGE materials and rate them as ‘very useful’)
↓					
<b>Adapt</b>	Obj3: Transition/change in either beliefs, knowledge or practice  (≥25% of ‘adapt’ teachers made dignify positive shift in 2/5 ENGAGE				

	dimensions)				
↓					
<b>Transform</b>	<p>Obj 4: Substantial change to beliefs, knowledge and practice</p> <p>(≥25% of 'transform' teachers made significant positive shift in 4/5 ENGAGE dimensions)</p>	<p><b>Obj1: Knowledge /skills –</b></p> <p>Awareness of wider ENGAGE issues</p> <p>Evaluation skills</p> <p>Critical analysis</p> <p>Ethical, argued reasoning</p> <p>(outcome measures - tbc)</p>			
		<p><b>Attitude</b></p> <p>More confident reaching informed viewpoint</p> <p>(outcome measures tbc)</p>		<p>Obj 6: Scientists more confident and capable to engage with ENGAGE teachers &amp; students</p> <p>(≥50% of scientists/ENGAGE experts feels more confident interacting with teachers &amp; students re ENGAGE issues)</p>	
		<b>Behaviour</b>			



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		Read/watch/discuss science/tech outside the classroom  (outcome measures tbc)			
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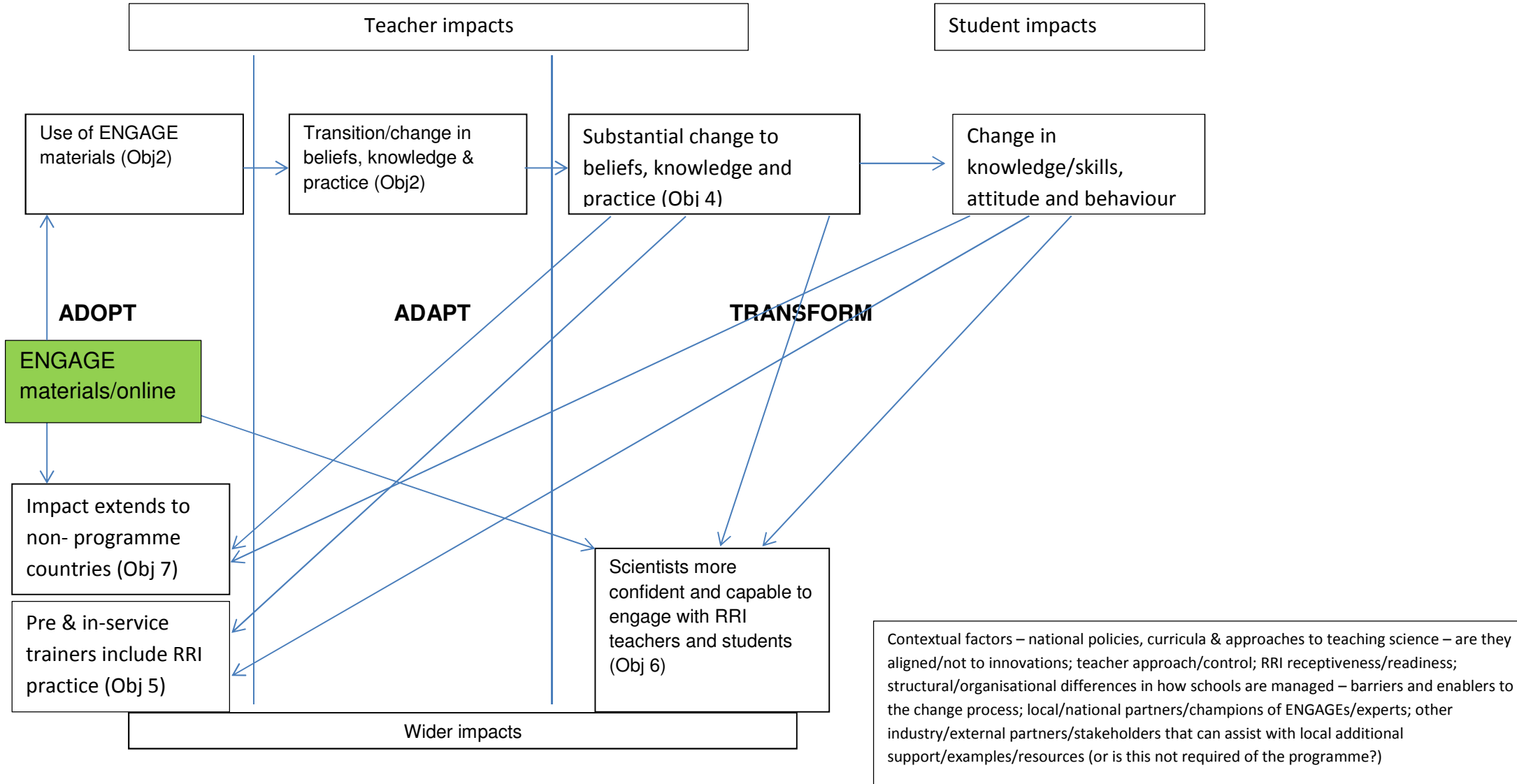
	Classroom impacts		Wider impacts		
	Teacher indicators (Measure)	Student indicators (Measure)	Stakeholders - Pre & in-service trainers (Measure)	Stakeholders – Scientists (Measure)	Beyond targeted countries
<b>Evaluation methods re Obj 1-7</b>	<p>Partners: analytics &amp; monitoring data</p> <p>Delft: monitoring outcomes of all Engage teachers; survey of progress towards meeting obj 2,3,4</p> <p>CEIR: follow-up tel/Flash interviews with a sample of 'transformed' teachers to confirm/explore transformation process from obj 2,3 to 4</p>	<p>Partners: analytics &amp; monitoring data</p> <p>Delft: monitoring student outcomes; pre and post tests; survey/FG/interviews with a stratified/randomised sample of Engage students;</p> <p>Student self - assessment; Teacher assessments of students' skills, attitudes and behaviour</p> <p>CEIR: Follow up tel/Flash interviews with sample to explore/confirm transformation</p>	<p>Delft: survey of stratified/randomised sample of pre &amp; in-service trainers</p>	<p>Partners - to identify English speaking experts /scientists in each country</p> <p>CEIR tbc - survey/interviews of all/sample of ENGAGE experts/scientists involved in ENGAGE</p>	<p>Delft/CEIR - tbc: Summarise/analyse online web-based feedback from teachers in other countries</p> <p>CEIR - possibly follow up questions/interviews as resources allow.</p>



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<b>Project outcomes / results</b>  <b>(Delft/ CEIR tbc)</b>	11750 teachers used topical materials and online content 645 teachers attended workshops 3020 teachers used sequences  etc	2 million students aged 11-16 reached	2 pre and 2 in-service training providers have integrated elements of ENGAGE  1 training provider per country taken up online courses/workshops	100 scientists/science communicators taken part in school partnerships/projects	
	New teacher adoption continues after Yr3		100 projects showcased, 100 main stakeholders at RRI festival in each country  Policy report circulated to 1000		
<b>CEIR - overall evaluation will also assess:</b>	p76 - the commitment of partners - the quality of the internal communication - effectiveness of the management - media and stakeholders impact		Methods: Analysis of any evidence gathered by Delft; observations and feedback from structured online meetings, possible surveys/interviews with partners - tbc		
	Contextual barriers and enablers - in line with logic model		Some background from existing data/survey - D1.1 Additional data gathered by CEIR through online partner meetings - e.g. structured sessions as part of Paris agenda, 22-24 <sup>th</sup> Sept and work package meetings (dates tbc). Gather perspectives of teacher educators /CPD providers to provide additional insights/views on effectiveness and impact on		

**Logic model**





**Logic model**

The ENGAGE PROG = the intervention

Inputs – teachers, pupil factors (e.g. engagement, readiness for ENGAGE)

Process = adopt, adapt, transform

Intermediary outcomes – at adopt, adapt phases – for students and teachers

Long term outcomes – for wider stakeholders

Contextual factors – Paris, September = useful opportunity for contextual understanding



## Appendix 1

Questions emailed to WP leads:

1. Briefly, what have been the main achievements of WPx?
2. For WPx, what has worked well?
3. What hasn't worked well for WPx?
4. How committed have your WPx partners been?
5. How effective has communication been:
  - Using Asana – how helpful/difficult has this been?
  - With your other WPx partners?
  - With the wider Engage partners – at online Flash meetings, partner meetings in Milton Keynes and Paris?
6. Can you outline how the Adopt phase is progressing in [your country]
  - What is going well so far?
  - What do you see as the main challenges to adoption?
  - What are the key actions/priorities in moving the Adopt phase forward in [your country]?
7. How effective do you think the management of Engage has been?
8. Any other points or recommendations that you think might help Engage move forwards?

Questions emailed to partners not currently leading active WPs:

1. Briefly, what have been your team's contributions and achievements in the first year of Engage?
2. What do you think has worked well for each of the WPs you have been involved in?
3. What hasn't worked well in the WPs/for your team?
4. How committed do you feel you and other partners have been to Engage?
5. How effective has communication been:
  - Using Asana – how helpful/difficult has this been?
  - With your other WP partners?
  - With the wider Engage partners – e.g. at online Flash meetings, partner meetings in Milton Keynes and Paris?
6. Can you outline how the Adopt phase is progressing in Switzerland
  - What is going well so far?
  - What do you see as the main challenges to adoption?
  - What are the key actions/priorities in moving the Adopt phase forward in Switzerland?
7. How effective do you think the management of Engage has been?



8. Any other points or recommendations that you think might help Engage move forwards?