FINAL PROJECT REPORT DRAFT

Contents

Context information

Programme	Erasmus+
Key Action	KA2 - Cooperation for innovation and the exchange of good practices
Action Type	KA201 - Strategic Partnerships for school education
Call Year	2015
Round	1
Start of Project	01/10/2015
End of Project	30/09/2017
Project Duration	24 months

Project information

Grant Agreement No.	2015-1-UK01-KA201-013414
National ID	190807
Project Title	Video Enhanced Observation
Project Acronym	VEO

Beneficiary Organisation information

PIC	999985417
Legal Name	UNIVERSITY OF NEWCASTLE UPON TYNE
Business Name	UNEW
Erasmus Code	UK NEWCAST01

Project Summary

The VEO Europa project (www.veoeuropa.com) consortium brought together 6 partners from 5 countries and addressed Strategic Objective 2 of the EU policy on Education and Training (ET2020) 'Improving the quality and efficiency of education and training' by using an innovative technological approach to support initial teacher training and continuing professional development. The project built on work undertaken by Newcastle University, who developed a prototype software application (App) for classroom observation – the VEO app for Video Enhanced Observation. This App adopted a novel and data-driven approach to classroom observation by enabling the observer to 'tag' (video timestamp) a range of different aspects of both teaching and learning for later review. The flexibility of the App allowed for customised tag sets to be developed to match the requirements of the activity being observed.

The objectives of the project were to:

- improve teacher performance through upskilling by sharing best practice
- identify the specific needs of individual teachers and using peer learning and observation to improve their performance and competences
- use the technology to monitor engagement and motivation
- provide a low-cost and time-efficient model of CPD
- provide in-house CPD which is focused on the individual teacher
- use the technology for self-evaluation, monitoring of teacher performance and setting performance management targets
- use the technology to implement and monitor new approaches to pupil learning
- demonstrate how this digital tool can be effective in improving the performance of both teachers and their students

The main outputs were:

- an enhanced App with multi-language interface translation, capable of live recording and tagging, along with a secure portal for retrospective tagging and sharing video, and customisable tagsets
- an online platform hosting the full set of downloadable training modules
- a YouTube channel showcasing training and best practice videos
- a research report and partner publications, including an edited volume with chapters contributed from the project partners and the VEO community of practice
- in addition, an interactive electronic book (iBook) was published via Apple iTunes to promote the project and its outcomes to a wider audience

The project customised the App by developing a multi-language translation interface for tailored use across a range of different country contexts. Learning to use the app was facilitated by a set of downloadable training resources. The training resources were tested with trainees and existing teachers in schools and training organisations in each country, a minimum of 400 teachers. These local workshops also served to develop the technical expertise of teachers, who were able to cascade their learning to colleagues and act as VEO champions in their schools and teacher training organisations, where the VEO trials were taking place. Additionally, through the dissemination strand, the project reached approximately a further 500 key stakeholders in the UK, Germany, Finland, Turkey and Bulgaria, including School Leadership teams, Teacher Training Organisations including HEIs, NGOs, Teaching Unions and National Ministries. Within the exploitation strand, partners have plans to exploit their networks to reach European wide organisations and guarantee the life of the project outcomes beyond project end, including involvement in other projects to build on work already done as well as incorporating VEO into local practice in each country. The VEO Group spin-off company continues its expansion, bringing Video Enhanced Observation to wider groups, including observation in medical and other practice-based settings.

The project research strand gathered evidence of teacher development to ensure maximum access at a European level and inform policy development. In addition, partners presented the VEO Europa project at a further 22 academic conferences and workshops, details of which can be found on our VEO Europa project website (https://veoeuropa.com/veo-europa-outcomes/). Dissemination of the empirical evidence to the academic and professional communities has enhanced the credibility of VEO with teachers and academics and will continue to do so following the publication and resulting promotion of the edited book about the project, scheduled for 2018.

Results: the project has provided evidence of:

- improved confidence and motivation to use technology for teaching and learning
- increased and improved skills and technology use for teaching and learning
- increased use of technology for teacher professional development
- new models of observation in teacher training
- new approaches to video for teacher appraisal and performance management leading to improved teacher performance, confidence and motivation in teachers
- a demonstration of how this technology can be used to provide a more targeted, effective and cost-effective method of professional development

The longer-term impact of the VEO Europa project will be evident in the continuing shift in policy and practice in relation to lesson observation. Video Enhanced Observation is now an integral part of key educational institutions in five countries, with an academic and professional community of practice developing around its principles.

Summary of participating organisations

Role of the Organisation	PIC of the Organisation	Name of the Organisation	Country of the Organisation	Type of Organisation	Accreditation of organisation (if applicable)	Partnership Entry Date	Partnership Withdrawal Date
Applicant Organisation	999985417	UNIVERSITY OF NEWCASTLE UPON TYNE	United Kingdom	Higher education institution (tertiary level)	UK NEWCAST01	01/10/2015	30/09/2017
Partner Organisation	998208474	LAPIN YLIOPISTO	Finland	Higher education institution (tertiary level)	SF ROVANIE01	01/10/2015	30/09/2017
Partner Organisation	999900930	HACETTEPE UNIVERSITESI	Turkey	Other	TR ANKARA03	05/10/2015	30/09/2017
Partner Organisation	985087090	PAEDAGOGISCHE HOCHSCHULE KARLSRUHE	Germany	Higher education institution (tertiary level)	D KARLSRU02	01/10/2015	30/09/2017
Partner Organisation	942521550	edEUcation ltd	United Kingdom	Small and medium sized enterprise		01/10/2015	30/09/2017
Partner Organisation	932550435	Regionalno upravlenie na obrazovanieto-Haskovo	Bulgaria	Local Public body		01/10/2015	30/09/2017

Description of the Project

This project was based on the rationale that the quality of education will only improve if the practice of teachers improves. The prime aim of this project was to improve the quality of teaching and learning through using the VEO App to support initial teacher training and continuing professional development across the 5 partner countries. It had a secondary aim of providing a tool to enable teachers to improve their monitoring and assessment of student learning. In order to achieve the aims, the technology needed firstly to be integrated into practice. For this to happen, the App needed to meet the needs of the different partner countries and participants needed training.

The first objective met was therefore an enhanced App capable of live recording and tagging, along with a secure portal for retrospective tagging and sharing video. The App was improved with the multi-language translation capacity and customisable tagsets. Training materials and a handbook were developed, trialled, evaluated and improved. An online platform hosting the full set of downloadable training modules was developed, along with an accompanying YouTube channel (http://goo.gl/GqPUX3) showcasing training and best practice videos. From the research, a report and partner publications were written, including a proposal for an edited book with chapters contributed from all the project partners as well as the wider VEO community of practice. In addition, an interactive electronic book (iBook) was published via Apple iTunes to promote the project and its outcomes to a wider audience.

The objectives of the project were to:

1. improve teacher performance through upskilling by sharing best practice
2. identify the specific needs of individual teachers and using peer learning and observation to improve their performance and competences
3. use the technology to monitor engagement and motivation
4. provide a low-cost and time-efficient model of CPD
5. provide in-house CPD which is focused on the individual teacher
6. use the technology for self-evaluation, monitoring of teacher performance and setting performance management targets
7. use the technology to implement and monitor new approaches to pupil learning
8. demonstrate how this digital tool can be effective in improving the performance of both teachers and their students

The project builds on work undertaken by Newcastle University spin-off company VEO Group, which developed the prototype VEO App for classroom observation. The App adopted a novel and data-driven approach to classroom observation. It enabled the observer to tag a whole range of different aspects of both teaching and learning, which could then be reviewed with the observee. The App is structured so that the teacher's practice can be analysed in detail, including the way they present the work, their questioning, classroom management and assessment strategies. Meanwhile the learning can be analysed by different types of activity and whether it is undertaken by individuals, groups or the whole class. This wealth of data can then be used in many different ways.

Objectives 1 and 2: the improvement of teacher performance, both in specific and general competences, was achieved with individuals and across the partnership because of the way that the App facilitated a focus on video-based evidence and encouraged dialogue and reflection. All case studies and feedback report that this has been a benefit to the teachers involved, and therefore a success for the project.

Objectives 3, 6 and 7 related to the use of technology. The VEO project put powerful video technology in the hands of every participant, allowing them to record as much and as often as they wished, according to their own personal, professional and institutionally-set development objectives. Depending on the different career phases of the participants, they were also able to focus on wider areas of interest, such as pupil

learning. There are vignettes of new approaches to pupil learning in the research report and this is an area where future research could usefully focus.

Objectives 4, 5 and 8 involved continuing professional development (CPD). With the successful development of the training materials through the VEO Europa project, any institution wishing to introduce VEO can now do so and make flexible use of the handbook and free training materials to run in-house blended CPD training which can be tailored to the needs of the individual teacher. Although project participants were given free access to the VEO App, its low adoption cost has led many participant institutions to purchase ongoing licenses, recognising the value for public money offered by the App.

Overall, objective 8 has been met through the wealth of dissemination opportunities, including publications, both published and planned for future exploitation.

This project builds on the extensive work already undertaken by Newcastle University, which used a business development grant to develop the prototype VEO App. The original concept for the App came from one of the developers Paul Miller, when he was working across a chain of schools in Ghana, where teacher-centric rote-based methods are the norm. He recognised the power of video in facilitating a shared understanding of different pedagogical approaches. He was joined by Jon Haines, who, in his role as an experienced Head of Science, had become aware of the limitations of lesson observations, learning walks and CPD in English schools. Together they developed the VEO App in the VEO Group spin-off company. The key innovation for the VEO Europa project was the opportunity to use the latest in mobile video technology to develop a new methodology for professional development.

The VEO Europa project was able to take a new approach to addressing the CPD and monitoring issues identified in traditional approaches to lesson observation. Previously, where lesson observations had taken place, they were often time consuming and did not effectively capture the strengths and weaknesses of a lesson; the use of tags in the App enables the teacher and the observer to focus on a specific issue in the lesson which can be immediately retrieved and reviewed in the post-lesson discussion. It is therefore much more efficient in terms of time, but also enables the observation to be more focussed.

The project brought together a range of education specialists from five different countries for the first time to test the technology and methodology in a range of different contexts including Primary and Secondary schools, Initial Teacher Training, Language Training and Inspections.

The project explored and adapted best practice from the UK experience to bring a new dimension to CPD provision through combining technology with peer learning. Part of the project innovation has been the explicit transnational approach to technology development. The project developed the capacity for the App interface to be translated into any language and was tested in four additional European educational contexts. In addition, the VEO Europa research framework was made available to other researchers and benefited from also being trialled in Spain, so increasing the range and scope of the project.

The project has explored bringing a new approach to performance management through using the technology for self-evaluation as well as judging the quality of teaching and learning and setting targets for improvement in teacher performance, an area that forms the focus of two chapters in the proposed VEO Europa edited book.

The project has used the technology to provide a clear link between self-reflection and the quality of teaching and learning and has facilitated a focus on developing more innovative teaching approaches, all with the aim of improving teacher performance.

Also innovative are the approaches taken when developing the project outputs. Moving away from the traditional pattern of one-off training sessions with minimal long-term impact, the project website which hosts the training modules and case studies are part of a new approach to self-directed, autonomous CPD,

where the teacher is committed to and invested in, their own professional development, an aspect presented in the research report, case studies and forthcoming publications from the project.

Project Management

Activities

The project was coordinated by P2, because of their extensive experience of evaluating projects and the LLP and Erasmus+ requirements, with individual intellectual outputs led by different members of the consortium, taking account of their particular expertise and experience. Additional time for management was allocated to those leading intellectual outputs. The project management was set out in IO1 in the bid and started with an initial meeting in November 2015, hosted by partner 1 in Newcastle but led by P2 to set up clear systems and structures, clarify roles and responsibilities, and lines of accountability.

Partner agreements were also signed as part of the partners' commitment to the project. A management handbook was produced with a detailed action plan, calendar, and systems for financial accounting, monitoring and reporting. Partner contact details were collated and kept up to date and bi-monthly Skype meetings as well as face-to-face transnational meetings were scheduled, ensuring clear channels of communication within the consortium and reporting to the National Agency. A secure cloud storage service (DropBox) was provided for the storage of essential documentation and communication and secure arrangements were made for the transfer of live research data via the Newcastle University DropOff system.

At the first management meeting the budget was discussed in detail, with the allocation of days to each partner made explicit and clarity on what was expected from this allocation. The financial regulations and the reporting procedures were covered, including the forms to be used and the information required and when.

Consortium partners had delegated management responsibilities to ensure that their schools and training establishments undertook the necessary work on time and to the quality required. They reported any difficulties to the coordinator who then advised on intervention strategies.

The roles and responsibilities of each partner in ensuring quality in both delivery and outcomes was made clear and built into the partner agreements. Although quality assurance evaluations were embedded into the planned activities, a separate quality plan was drawn up by P3, which set out monitoring and evaluation activities and timescales. This was agreed at the kick off meeting in October 2015.

A detailed monitoring grid with milestones set out clearly the timescales, success criteria and partner responsibilities for each action. Progress against the action plan was discussed at the bi-monthly meetings. Records in the form of minutes and agreed actions and deadlines were kept of each meeting. This was seen as a more responsive and efficient way of monitoring progress than asking for written reports from partners. Each partner had the responsibility to monitor their own staff and the schools and training establishments involved and were expected to raise any issues with the coordinator.

Evaluation was carried out internally as outlined in Intellectual Outputs 4 and 6. The internal evaluations took place against the timescales set out and the targets we aimed to reach. There were two purposes, firstly to ensure that the project was on schedule and secondly that the quality of the products was high. There was evaluation of the resources, the processes and the impact.

In addition, the project received British Council 'On-The-Spot-Check During Implementation' visit on 29 June 2016. The National Agency stated that it was "pleased that the controls and systems demonstrated by the University are appropriate and sufficient for the management of an Erasmus+ grant and that the project is being administered in line with the Erasmus+ programme rules". No recommendations were

made, therefore we were pleased to have our processed and procedures validated at the mid-way point of the project.

Indicators of achievement

- All partners provided updates on progress at the minuted bi-monthly Skype or project meetings and to report on any delays, so that intervention strategies could be put in place if necessary.
- A monitoring grid was updated so that progress could be visualised by all partners.
- Financial reports were sent to the beneficiary P1 Newcastle on a six-monthly basis for monitoring by the project team and the internal Newcastle University Finance Department. P1 monitored both progress and financial expenditure and followed up with individual partners for clarification and evidence of activities.
- A separate quality plan was drawn up by P3
- Agendas and minutes were prepared for all face-to-face and Skype meetings
- Quality assurance evaluations were embedded into the planned activities and took place throughout the project, as planned.
- Successful British Council On-The-Spot-Check During Implementation visit 29 June 2016

Evaluation of the training resources was built in to the trialling in Output 4. The evaluation looked at the resources themselves and the methodology used. This was conducted by partners with the leadership teams and the teachers in each of the schools and training organisations, through questionnaires and interviews. With all participants, the nature of the project meant that personal professional development was at the forefront, so teachers and line mangers as well as trainee teachers and their mentors all identified areas for improvement through participation. For each participant, there was qualitative analysis of performance, conducted through a selection of pupil, teacher and leadership feedback. The project's research output IO5 allowed for the systematic gathering and analysis of data, which fed into evaluation and QA processes.

The Quality Plan was led by P3, who will have responsibility for designing and implementing evaluation tools such as the questionnaires used, and questions to be asked during interviews with the participants in the trials. Each partner had the responsibility of carrying these out and reporting back to P3.

Staff profiles had not changed from the initial bid.

Implementation
The activities organised by the project relate to the use of the VEO App for developing teaching and learning. The target group for this project was trainee and current teachers and the focus on both those in training and continuing professional development was aimed at improving the training paths of both. The use of the App and the technological methodology for lesson observation, analysis, sharing of practice and the creation of resources for training addressed the use of digital technology in both teaching and training. The way in which training was structured through peer learning and addressing individual needs produces higher quality learning opportunities than traditional methods such as going on courses or whole staff in-service training. The outcomes of the project, an enhanced App and a set of training modules which can be used by the target groups from any country address all three of the chosen priorities. These target groups did not change from the original application.

Given the way that the project was funded, the main thrust of the project activities were embedded into the plans for intellectual outputs 3, 4 and 5. Output 6 was evaluation, output 7 was dissemination and output 8 was exploitation. Project management and preparatory activities formed outputs 1 and 2. Multiplier events were funded for output 7, but the bulk of the work towards those events, as well as other

forms of dissemination such as talks, workshops and conferences were funded through the project management and implementation grant.

P1, Newcastle University (NCL) is the team who developed the App via the VEO Group spin-off company. They brought the technological expertise to the project and their experience of piloting the new methodology in schools in the UK. NCL managed the further development of the App, worked with schools in the UK on using the App for professional development and supported partners in the practical development of the training materials. NLC will also led the longitudinal research strand. They led on IO5, Research, IO8, Exploitation and parts of IO2, Preparation.

P2, edEUcation supported P1 on project coordination and the development of the training modules in the UK. P2 led on IO1, Management and coordinated the project and ensured that all regulations were met and that reporting was carried out to a high standard. They also led on part of IO2, Preparation and worked with P6 to test and develop the practical training materials.

P3 Karlsruhe University of Education is a leading institute for both initial teacher training at primary and secondary level as well as provider for further education and in-service training. They trialled the App with both trainee teachers and more experienced teachers as part of their continuing professional development. They also led on IO6 Quality Assurance and IO7 Dissemination.

P4 University of Lapland (UoL) Faculty of Education has long established tradition of educating experts within a variety of fields. IO4 Testing and Trialling of the App and methods was led by UoL.

P5. Hacettepe University Department of Foreign Language Education (in Ankara, Turkey) educates teachers and researchers in the principles of modern education. IO3 was undertaken in Ankara with novice language teachers who were learning to teach English as a Foreign Language.

P6 The Haskovo Regional Inspectorate (RIE), Bulgaria, has responsibility for the inspection of all schools in the Haskovo region. P6 trialled the App with serving teachers in schools in the Haskovo region.

Communication between the partners was regular and to a high standard and was commented upon by the partners in the written comments on the evaluation forms at the meetings:

- "These meetings have been very well organised: careful preparation and planning, after which it is easy to put into effect"
- "A hugely productive meeting – lots of work – every working moment used productively"
- "This has been a kind of trans-national meeting that can be an example to other European projects"

Collaboration was well embedded within the project, with many examples of partners working together. The research assistants from Germany and UK P1 co-presented a workshop voluntarily at the ITTE/MTTEP conference in Hull in June 2017, exploiting other networks to create the opportunity to present VEO together. UK P2 and the Bulgarian partners collaborated on their book chapter proposal, bringing a valuable comparative approach to disseminating their project work. The research assistant from P5 brought data to Newcastle University to share with other researchers. The VEO founders went to Finland to work with the P4 trainee teachers and also later to P3 to present at a multiplier event. At every step of the project, partners have met and exceeded expectations, such as P3 voluntarily undertaking to develop an iBook, making use of other skills for the benefit of the VEO Europa project. The communication and collaboration for this project have been exceptional and have brought many benefits to the project. One example in particular is the involvement of P3 and P1 in another Erasmus+ project (Propic) running from 2017-2020, evidence of the partners' wish to continue with successful collaborative working partnerships.

Transnational Project Meetings

Four transnational meetings were planned into this project in months 2, 10, 17, 22 and took place exactly as planned. The final face-to-face project meeting took place before the London conference. Bi-monthly Skype conferences also took place, but not in the months of physical meetings (some details of the meetings are on the project website: https://veoeuropa.com/teammeetings/) . These involved a representative from each consortium member whenever possible in order to monitor progress against deadlines and milestones and to ensure clarity in the activities for the following two months. Regular email contact was also maintained.

Transnational Project Meeting 1: 11-13 November 2015

The initial consortium meeting took place at Newcastle University in the UK. Partners spent one day on project management issues and two days in a workshop as outlined in Intellectual Output 2. The purpose of this meeting was to finalise partner agreements, the management plan and project handbook, to agree an initial dissemination and quality plan and to review feedback from the application and to develop a detailed action plan, which included the project milestones. These documents were drafted in the previous month and circulated in advance by the partners responsible for the particular plans. Administrative and financial issues were covered in this initial consortium meeting. These included the overall budget allocations, reporting processes and the EU requirements for financial reporting. This first meeting also agreed a specification for the project website. At this meeting all partners gave a presentation on the schools and training organisations they planned to involve in the project.

Participants at this meeting were:

- P1: Paul Seedhouse and Sandra Morales (host)
- P2: Paul Harrison and Viktor Markov
- P3: Goetz Schwab
- P4: Tuija Turunen and Outi Kyrö-Ämmälä
- P5: Olcay Sert
- P6: Ivan Panayotov and Rumyana Delcheva

Transnational Project Meeting 2: 13-15 July 2016

The second meeting took place in July 16 in Ankara at Hacettepe University and involved all consortium partners. Research assistants in P1 Newcastle and P3 Karlsruhe Skyped in to the meeting all three days. The purpose of the management meeting was to review progress to date and to plan for the next stage of development. This meeting also prepared the Progress Report. A two day workshop session followed the management meeting, which evaluated the outcomes of the Training Activities and developed a generic set of the initial training modules to be tested in IO4.

- P1: Paul Seedhouse
- P2: Paul Harrison and Viktor Markov
- P3: Goetz Schwab
- P4: Tuija Turunen and Outi Kyrö-Ämmälä
- P5: Olcay Sert and Merve Bozbiyik (host)
- P6: Ivan Panayotov and Rumyana Delcheva

Transnational Project Meeting 3: 16-17 February 2017

The third management meeting was in Karlsruhe in February 17 and was used to review progress to date and to plan for the next stage of development including the preparation of the Exploitation Plan. It

incorporated a one day workshop to analyse the outcomes of the first set of evaluations from the trials and made revisions to the training modules as outlined in IO4.

- P1: Paul Seedhouse and Elizabeth Hidson
- P2: Paul Harrison and Viktor Markov
- P3: Goetz Schwab and Mareike Oesterle (host)
- P4: Tuija Turunen , Outi Kyrö-Ämmälä and Minna Korkko
- P5: Olcay Sert
- P6: Ivan Panayotov and Rumyana Delcheva

Transnational Project Meeting 4: 13 July 2017

The final management meeting took place in Europe House, London before the final conference in July 2017, which maximised the travel grant for the participants. It had originally been planned for after the conference, but the flexible model of organising the conference to run later in the day to accommodate teachers arriving from work meant that it was more logical to have the meeting early in the day. The meeting reviewed final internal evaluations, plans for the conference, dissemination to date, further dissemination activities, the exploitation plan and began preparation for the final report. It also explored opportunities for further joint working.

- P1: Paul Seedhouse and Elizabeth Hidson (host)
- P2: Paul Harrison and Viktor Markov
- P3: Goetz Schwab and Mareike Oesterle
- P4: Tuija Turunen , Outi Kyrö-Ämmälä and Minna Korkko
- P5: Olcay Sert
- P6: Ivan Panayotov and Rumyana Delcheva

Intellectual Outputs
All of the objectives in the original bid were met, and in several cases, exceeded because of the recognition of the research partners of the importance of the topic in their professional fields and their commitment to establishing a credible professional and academic community of practice around video-enhanced observation.

The App

The App was developed to the maximum possible within the time constraints of the project. Initially imagined as an App to be used only with local mobile technologies (iPad), its capacity was developed so that a secure online portal was developed where a community of practice could be developed within and between participating organisations. The security of the portal was a key consideration for all countries as, to a large extent, video would be captured of teachers teaching lessons to schoolchildren. With this in mind, videos cannot be shared publically because of child safeguarding concerns, but we have developed a public YouTube channel for share best practice videos and training materials. The App interface was also intended to be translated from English into the partner languages: German, Finnish, Turkish and Bulgarian. Exceeding this, we were able to develop the App so that it can be translated into any international language. As a new language is required, the user needs only to complete an online form where key terminology is translated into the required language and can then be applied so that the App interface is then fully presented to the user in the target language.

IO1 and IO2

This output related to the management, communication and administrative systems, the project website and social media and the secure Dropbox storage for project documentation. A brief baseline audit of current practice in the partner countries on the use of lesson observation in teacher training, CPD and Performance Management was conducted during this phase and the App was further customised to meet the needs of a trans-national project. Initial training materials for the workshops were developed during this phase.

IO3

This outcome focused on further development of the training resources ready for trialling. Partners led training activities to develop the training module content and worked with key staff from the schools and training institutions to prepare them for the testing phase.

IO4

Output 4 involved testing and evaluating the methodology in all institutions. All aspects of the methodology were trialled across the partnership. Incorporated into this phase were 'feedback loops' to support the research strand, evaluation and facilitate refinements in both the training modules and the App. One variation from the planned output for IO4 related to translating the training materials into partner languages. Due to an overall cut in the initial budget following approval, the German, Finnish and Turkish partners agreed that the version in English would be sufficient for their needs and did not proceed to translating the materials into their languages. Bulgaria was the exception, and translated the training handbook and multiple materials so that they could be used by their participants and other Bulgarian language speakers. The training materials are available on the project website: https://veoeuropa.com/resource-download/

IO5

Output 5 involved the research strand of the project. A research framework was developed by P1 in order to apply a rigorous research approach and gather data for analysis. Four main research questions were developed , in order to ask academically important questions about the way the participants used the app.

The research questions were:

1) To what extent is professional development supported by VEO?
2) How do participants use VEO in their work?
3) To what extent does VEO help teachers and other professionals to improve their monitoring and assessment of student learning?
4) How do teachers and other professionals use VEO to monitor and assess student learning?

The focus of the research was therefore both on the effectiveness of the VEO intervention (the product) and on understanding the process by which users adapt VEO to their professional contexts. This research was of practical value as it fed into the iterative design of the VEO app and accompanying materials.

The data gathered was a combination of self-reported data, observational data and logging of app use. Self-report data included interview and questionnaire data from professionals and students. Observational data included both audio/video data gathered through the VEO app and also video/audio data taken by the researchers of how the professionals deployed VEO in situ. Logging of app use is recorded automatically by the app and feeds into the re-design process.

As with all research, the data corpus is very valuable to the researchers and will take time to process and analyse. The partners are committed to continuing to work on this data to extract the fullest understanding

for publication. Instead of an article, the partners resolved to submit a proposal to Bloomsbury for a book based on the project: working title: "Video Enhanced Observation: Reflection and Professional Development". The book will aim for the widest possible readership and will be able to maximise the exploitation of the large dataset gathered.

IO6

Output 6 focused on Quality Assurance and was on-going throughout the project, having been embedded at key stages

IO7 and IO8

These outputs focused on the dissemination seminars and final conference (IO7) and the exploitation activities (IO8) including the major international conference in month 22.

Multiplier Events

Following the finalisation of the resources, a multiplier event in each country was organised to promote the App and training materials, and highlight the opportunities for their use. The target for each workshop was a minimum of 30 participants from the key target groups, including school leadership team members, representatives from teacher training organisations and regional authorities. These groups were invited using the partners' existing networks. The events were offered free of charge and free materials and promotional products were distributed.

At each event there was an opportunity for hands-on time to try out the App. The events were also used to promote the website and social media links to encourage the continuing development of the community of practice. Partners demonstrated how the resources can be downloaded from the project website. Details of the events can also be found on the project website: https://veoeuropa.com/local-dissemination-events/.

E1 – UK. A large scale reception was organised as part of the EUROCALL 2017 conference on 23 August 2017 at the University of Southampton in the UK. Presentations were given by Professor Paul Seedhouse and Paul Miller (co-founder of VEO). As well as talks, a set of iPads was available for attendees to try out. An in-depth workshop was also held. This event was a considerable success in terms of the approximately 200 attendees it reached, far in excess of the 30 target.

E2 – The Germany event took place on 28 June 2017 at the Pädagogische Hochschule in Karlsruhe. The German partners, assisted by Paul Miller (co-founder of VEO) presented the project and its outcomes to the attendees, who were teachers from local schools and teacher educators (researchers and practitioners) from other Universities (e.g. from Bonn and Munich).

E3 – The Finland event took place on 31 August 2107 at the University of Lapland to a large audience. The participants of the multiplier event were students of different fields from the University of Lapland who were doing pedagogical studies for teachers, some of them working as teachers in primary, secondary or higher education or in non-formal adult education. Moreover, there were primary student teachers from the University of Lapland, kindergarten student teachers from the University of Oulu, and primary school teachers from the City of Rovaniemi.

E4 – The Turkey event took place on 02 June 2017 at the IATEFL Teacher Research Special Interest Group Conference in Istanbul, again developing links with networks known to the partners. It targeted teacher trainers, academics, and teachers practitioner researchers and those mentoring teacher-research in order to support the growing international movement of teachers as researchers and knowledge creators for themselves, their students and their schools.

E5 – The Bulgaria event took place on 29 June 2017 in Haskovo, Bulgaria. A large audience attended and significant local media coverage. Around 50 teachers, school leadership team members, representatives from teacher training organisations and regional authorities participated in the final workshop and the dissemination event. These groups were invited through the Haskovo Regional Directorate of Education existing network.

E6 - the final conference took place in Europe House, London on 13 July 2017. This was used to promote the resources and project outcomes to wider and multinational audience. The participants included representatives from local and regional authorities, HEIs, the inspectorate, ministries, embassies and NGOs. All partners contributed to running interactive workshop sessions at the final conference, showcasing their project work, outcomes and giving demonstrations of the App and all its features. The conference also benefited from input from some transnational participants from as well as linked researchers also using the VEO App and the VEO Europa research framework. Further details of the final conference are available on the project website: https://veoeuropa.com/final-conference-13072017/.

Learning/Teaching/Training Activities

A set of training activities were carried out by P2, P3, P4, P5 and P6 through a 5 day (or equivalent) set of workshops which was followed up by training and support in the partner institutions. The training sessions involved at least two individuals from each of the schools and training institutions involved in the trials. These individuals then had the responsibility to cascade the training in their own institution.

The workshops were used to introduce the modules and help participants plan for their implementation. The focus was practical, and used the actual data and contexts of the schools and training establishments. The added value of this approach was that it dealt with the specific issues and contexts facing the institutions involved.

The workshops covered the topics of:

- the functionality of the App and how to use it
- the principles and practice of peer observation
- identifying best and innovative practice
- identifying CPD priorities
- using the App in the classroom, feeding back and professional dialogue
- collecting data and evidence
- how to use the outcomes in wider professional development
- self-evaluation, external evaluation and how to measure progress
- using the App as a performance management tool

The workshops provided opportunities for discussion on the topics, procedures and practical tools for use in observations. The training materials provided materials of increasing challenge, and provided video tutorials which could also be accessed in the participants' own time. These training sessions were necessary for the resources to be tested on a wider scale and provided the institutions with the chance to develop a level of expertise which they could then exploit locally. The training provided an opportunity to create a hub and spoke model of using the technology and the methodology and a multiplier effect.

Further training and support took place in the institutions through coaching led by the project partners. These institutions were then expected to use the training materials to train a cohort of their own staff.

The full set of training materials, including a handbook is available on the project website: https://veoeuropa.com/resource-download/

All attendees received certificates of attendance for inclusion in their personal professional development profiles.

Participants' Profile: content

P2 (edEUcation) worked with two schools which are both teaching schools providing on-the-job training for future teachers. The 10 participants from Carmel College (principal, careers coordinator and teacher trainers) benefited from 5 workshops allowing them to use the VEO app to its full potential and integrate it in their teacher training programme, but also partially in their CPD and peer-observation. The use of the app with students remained limited due to internal regulatory provisions.

The other schools East SILC - John Jamieson is a special needs school with a teacher training programme and got involved in the project at a later stage. Their training is still ongoing beyond the project duration and the app has not been integrated into their practice yet. Their interest and potential for deployment are significant and the use will be similar to the one at Carmel.

P3

The participants taking part in the VEO workshops at the University of Education Karlsruhe were partly teachers and teacher trainees who were then responsible to further implement the VEO App in their own schools. All in all we selected 2 key staff from each of the schools we worked with in course of the project. They were selected in regard to their stage of teaching. We tried to cover teachers and teacher trainees from as many possible stages of their academic career as possible - some still being teacher trainees, teachers at the beginning of their teaching career and teachers who already have taught for a longer time. The subjects that the teachers were teaching and the kind of school (Primary/Secondary/Bilingual) they were teaching at varied, but most of them had English as one of their main subjects.

In the workshops, we introduced different modules to the participants (e.g. the functionality of the VEO App, examples on how to use it in their own context, as well as principles and practices of peer observation). They were also used to evaluate and refine the training materials, as well as the VEO App itself.

P4

Finnish participants involved in the learning, teaching or training activities were teacher educators from the Faculty of Education, University of Lapland. They worked as practice supervisors for student teachers who used the VEO app during teaching practice periods. Those teacher educators were interested in trialling the VEO app and most of them participated in VEO related research. Initially, the participants were selected based on their supervision duties and over time the participants raised their interest in continuing working with the app.

P5

The participants involved in training and teaching activities are pre-service teachers being trained to be teachers of English in Turkey. The training programme is a 4-year undergraduate BA degree program which involves proficiency classes in the 1st year and then 3 years of theoretical classes on teaching and pedagogy. In the final year, all student teachers need to visit schools to observe experienced teacher and perform a number of tasks including teaching. These schools are public schools with students from 5th to 11th grade, with varying degrees of language proficiency.

The preservice teachers, in our case, received a training on classroom interactional competence and on VEO at different times in their final year. The faculty supervisor (in this case me) and other peer teachers were engaged in the recording and feedback processes, as has been described in our case study. It should

be noted that at this level, the age of the pre-service teachers ranges from 20 to 23, and the recorded classes are their first time teaching experiences. All teacher candidates in our case were Turkish, were born in Turkey and have learnt English in secondary schools in Turkey.

P6

EU educational projects have had a positive impact on educational policy in Bulgaria. The participating schools in VEO Project had some experience with Erasmus+ KA1 and LLP projects and this was the critical point for them to participate and to involve teachers with different profiles and professional backgrounds. The VEO team in Bulgaria decided to select four schools from different educational levels: one gymnasium, one vocational school, one general high school and one primary school. The focus was not only on improving the practical experience of teachers but also on staff monitoring and raising the school's internal standards, exchange of good practices in the school departments and between schools and to help the school management teams to improve their controlling work and CPD policy. Each partner school had the responsibility to identify and work alongside the establishments and select their target group of senior and junior teachers and school management.

Follow-up

Impact

Participants

The target participants in this project were teachers at different points in their teaching careers. Trainee teachers formed a large part of the cohort across the partnership. The project impact on trainee teachers was professional development and an improved training experience, according to their mentors. New practices that were developed around the use of the VEO in the support of trainee teachers meant that they benefited from an improved focus on self-reflective practice and developmental dialogue. It also meant that that trainee teachers were able to incorporate this practice into their professional understanding of them being responsible for the direction of their future development.

More experienced staff have been able improve their own performance by participating in meaningful teacher appraisal and review sessions, moving from a stressful and bureaucratic system to one where coaching and dialogue are foregrounded. One of the chapters in the proposed book presents a case study of a school where this approach was used.

A further impact is on the pupils in the schools concerned. By improving the quality of teaching and learning through improving the performance of teachers, the aim was also to improve the motivation and achievement of the pupils in the schools. This in turn has the potential to lead to improved attendance, behaviour and continuation rates. Although the timescales are such that it has not been possible to collect data on improvements in exam performance, improvement in shorter term attainment and performance has been gathered, for example in one school where teachers have used the VEO app with lower-attaining students to help them to develop their skills in preparing English speaking activities and peer assessment.

Organisations

One aim of this project was to build capacity in the schools and training organisations to take on a leadership role in using the technology for professional development. The schools and training organisations are now in a position to operate locally as hubs of expertise for other schools. They have access to the training modules and experience of using them in practice, enabling them to share their practice will other schools and training organisations and support them in developing similar strategies.

For the staff of the schools and training organisations in each country, the impact has been that they have learned new skills through peer learning, equipping them to better support their colleagues. The skills to be acquired by the staff involved, such as monitoring of performance and coaching and mentoring have been applied more widely to support other teachers in their professional development and to address poor school performance.

The Bulgarian schools in the Haskovo region have had limited experience with using this kind of educational technology and have been able to develop their CPD policies in order to improve the teaching and learning quality. The coaching and mentoring model is also quite new for Bulgarian schools. The VEO model was introduced alongside new educational policies to provide individual support to NQTs which has traditionally been difficult in terms of setting developmental aims because of the limited flexibility of the previous system and is now a recommendation for all schools in the Haskovo region.

Target groups

The breadth of project dissemination has multiplied the potential impact on professional development policy and practice for other schools throughout Europe. Through effective dissemination, the project has demonstrated the way in which teachers and schools can support one another. The project website and all associated materials will continue to be freely available to provide resources for schools, training organisations and regional authorities to provide models of best practice and training materials. One such example of wide-reaching dissemination was the collaborative presentation by the UK P1 and German P3 researchers at the co-badged conferences of the Association for Information Technology in Teacher Education (ITTE), Digital Technologies Network (DTN) and Mobilising and Transforming Teacher Educators' Pedagogies project (MTTEP). The use of professional conferences to reach as wide a stakeholder audience as possible has been a strength of the project, and one that will have impact for several years beyond the end of the project as partners continue to analyse the data collected and disseminate it.

Another approach has been the emphasis on the publication of local and academic articles about the project, reaching a wide local audience in each country through professional publications as well as an international professional audience through peer-reviewed academic articles and the proposed book.

Social media has been another impact-bearing and awareness-raising activity. During the project, our Facebook page showed a regular reach level of 100+ people, which doubled and tripled when posts were made around the time of face-to face meetings and project events. For example, our post about the UK partner's article in Languages Today reached 1,173 people on Facebook and 925 on Twitter. On 27 April 2017, when we published the London conference date, the post reached 1,294 people. Our photo of the partners at the Karlsruhe meeting was seen by 1,943 people and our video viewed by 1,746 people. Photos from the kick-off meeting in November 2015, entitled 'UK, Germany, Finland, Turkey and Bulgaria united for improving teacher education with technology', reached 1,148 people. Our YouTube training video on developing your own tagsets achieved 350 views.

The target participants in this project were teachers at different points in their teaching careers. This project focused on improving initial training and continuing professional development, thereby enhancing the teacher education and training pathways for both groups. In addition, it has been seen that the improvement in education and training for these groups has had a reciprocal effect on their wider communities. From their very first actions in placement schools, trainee teachers have an impact on peers, colleagues, mentors, pupils, parents and their training providers. For every trainee teacher who has worked with the VEO App and methodology, their new knowledge and skill has had a benefit on all of these stakeholders. Pupils have experienced better-trained teachers more quickly than they would have done without the impact of video enhanced observation and professional dialogue.

The use of the App and the technological methodology for lesson observation, analysis, sharing of practice and the creation of resources for training addresses the use of digital technology in both teaching and training, but also in the professional learning of teachers and the learning of their pupils.

The way in which training is structured through peer learning and addressing individual needs through open and professional dialogue has produced higher quality learning opportunities than traditional methods such as going on courses or whole staff in-service training. The outcomes of the project, an enhanced App and a set of training modules which can be used by the target groups from any country address all three of the chosen priorities. The project team asserts that the expected impact has been realised in terms of the funded project, but is also confident of the potential longer-term impact.

Dissemination and Use of Project Results

Targeted audiences

The initial targets for dissemination were teachers, school leadership teams and teacher training organisations in each of the countries of the partnership and identified at a local level through the partners' networks.

- P1 and P2 from the UK targeted teaching professionals, researchers, practitioners and developers interested in all aspects of the use of technology for the learning and teaching of languages and cultures, drawing on fields such as Applied Linguistics, Educational Technology, Computer Mediated Communication, and Digital Literacies.
- P3, the Germany partners, targeted teachers, teacher educators and researchers from different fields to extend the reach of the project and demonstrate its multidisciplinary potential. Partly, the audience were (future) teachers and teacher educators, but also researchers from the field of linguistics, as well as ICT. The rationale was to show them a mobile application to promote their own professional development. In addition, researchers from other fields were targeted as we see VEO as a highly interesting research instrument that can be used for various foci and in many different contexts.
- P4, the Finland partners targeted teachers from different levels and university lecturers, researchers and degree and postgraduate university students mainly from educational sciences. Dissemination events were national and international conferences and seminars on education were the audience consisted of those groups (practitioners, researchers and students).
- P5, the Turkey partners targeted academics engaged in what is known as "Teacher Research". Also personally invited were people with influence in teacher education in Turkey, including professors in faculties of education in different universities, and heads of schools of foreign languages in Turkish universities, taking a bottom up as well as top down approach.
- P6, the Haskovo Regional Directorate of Education, Bulgaria, has responsibility for the inspection of all schools in the Haskovo region. They targeted teachers, school leadership team members, representatives from teacher training organisations and other regional authorities, through the Haskovo Regional Directorate of Education existing network.

Different activities and feedback

Dissemination across the duration of the project took multiple forms, with the aim of spreading the concept of video enhanced observation, the VEO App and methodology and the interim project results as widely as possible and to the most appropriate stakeholders. We produced four digital newsletters, collating the project activities and news within our local and partnership contexts. We maintained an active social media presence, with every partner represented according to the platform they were most comfortable to work with. Links to all our social media can be accessed from the project website

(https://veoeuropa.com/follow-us-on-the-web-and-social-media/). As an example of this, our project has a Storify of our main hashtag #VideoEnhancedObservation, which can be followed back to the very start: https://storify.com/veoeuropa/getting-started.

In addition, the German partners led on the development of an interactive iBook (see website) with input from all partners, to showcase the project and its outcomes. 22 conferences and workshops were delivered. 12 publications have been published which relate to the VEO project, VEO Europa framework and work on Video Enhanced Observation by project partners. Conference banners, posters, flyers and other promotional material were created and used at every opportunity to promote the project and its outcomes. Presentations at internal events, local events and wider conferences were unfunded by the project but valuable for dissemination.

All the project partners, linked researchers, VEO founders and others using the VEO app have contributed to a proposal for an edited book with Bloomsbury about the project and its methodology, including postgraduate research students undertaking MA and PhD study using the VEO app.

300 USB sticks containing all the free training materials were distributed at the UK dissemination events. A further 68 downloads from website have been counted so far and we anticipate that the publication of the book will increase this number significantly, as well as other exploitation opportunities over the next two years. These will remain freely available and will be updated so that they reflect the most current features of the VEO app, as part of the commitment of the VEO Europa project team and the VEO Group spin-off company to maximising the impact of the VEO Europa project.

In addition to exploitation activities explained in the Exploitation Plan, other projects and research involving the VEO app are planned or currently underway. The proPIC project started in September 2017 (2017-1-DE01-KA203-003547) and involves using the results of the VEO Europa project to develop an interactive tutorial for using Video Enhanced Observation as one strand of a project to develop an innovative study programme in the context of foreign and second language learning and teaching combining research-orientation, transnational collaboration and the use of mobile technologies.

Sustainability

All the training materials and handbooks created during the life of the project are freely available on the project website (https://veoeuropa.com/) and will continue to be freely available. The six modules are available to download separately or as an entire zip file of all resources, for maximum efficiency for the user. A training handbook is provided to give an overview of the training suite and best practice videos and tutorials are provided on the VEO Europa YouTube channel (http://goo.gl/GqPUX3). The project website will remain live for at least two years beyond the project end, and P1 Newcastle is committed to maintaining the site, adding links and news, and developing the website as a companion website for the project book, which is planned for completion by 2020. The partnership will also continue to use and build networks using social media and will seek to maintain an interest by providing updated tweets and blogs.

A demonstration version of the VEO app is available for free download from the Apple iTunes store. This limited use version can be used with the training materials to get started with the methodology. The VEO Group spin-out company is the long term vehicle to promote the growth, development and dissemination of the technology and methodology. As such, in its business operations, which have been developed in parallel with the project, in the longer term VEO Group will charge a low fee for access to shared video and data storage capabilities. This will cover associated hosting and development costs, ensuring the organisation's sustainability. VEO Group have committed to maintaining free access for all project researchers and participants for their continued promotion and dissemination of the VEO Europa project methodology and results. Any new project costs will be negotiated with VEO Group directly in order to

cover the storage costs for video stored on the Amazon cloud. Having been enhanced by the VEO Europa project, any language may be selected and translated, allowing for the widest possible reach for the enhanced app.

For research-informed audiences and in order to continue developing the community of practice that has grown up around Video Enhanced Observation, all research publications and conference outputs will continue to be curated on the project website and will be open access for any researcher wishing to learn more. In addition, the research framework and research materials will be freely available in order to highlight and promote the academic rigour with which the research strand of the project was carried out. Any researcher wishing to replicate the project will be able to do so.

A detailed exploitation plan has been developed. The partners will use their networks to encourage other schools and training providers to review their existing provision to incorporate the newly developed modules. They will aim to exploit existing structures such as Headteacher and HE conferences, by offering to run workshops.

Partners will offer packages to supplement the free resources at the standard commercial rate for interested training providers and groups of schools. They will market to a minimum of 500 schools and training providers in the first year. The targets are to involve 50 new schools and training providers in each country of the partnership in the first year and a further 100 in countries beyond the consortium. Given the multiplier factor that can be produced by exploiting existing conferences and networks, this is a realistic target. Additionally we have a target for a further 1000 downloads of the resources.

Partners will exploit their links with HEI and with European Headteachers to fully market and promote the resources. They will explore the options of attending annual and regional conferences of these organizations to present the resources and the outcomes of the project.

A further strand of the exploitation strategy will be with the other key stakeholders, particularly policy makers. We will share the outcomes of the research strand with regional, national and EU-wide organisations by sending them a tailored copy of our research report. The partnership will maintain records of progress, continue to collect case studies illustrating impact and use these for professional dialogue with key decision makers.