



Workplace-based e-Assessment Technology for Competency-based Higher Multi-professional Education

Deliverable 7.3. Dissemination and Exploitation Plan – 1st Annual update

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Executive Summary

This is deliverable D7.3, the annual update on dissemination and exploitation plan (D&E Plan) and results of the FP7 project WATCHME (ICT-2013-11). This work was carried out as part of WP7 dissemination and exploitation.

An important goal of the WATCHME project is to ensure the far-reaching dissemination and exploitation of the project's results and outcomes. Dissemination and exploitation activities are being carried out throughout the project and will continue after it finishes to facilitate sustainability. The annual update of the D&E plan and results provides an overview of the D&E activities throughout the past 12 project months and since the submission of deliverable D7.2. This report will further highlight any changes made to the original dissemination and exploitation plan.

1. Introduction

This is deliverable D7.3, the Annual update on dissemination and exploitation plan and results of the FP7 project WATCHME (ICT-2013-11) and was produced as part of WP7 Dissemination and Exploitation.

The purpose of the annual update is to provide an overview of dissemination and exploitation results thus far and strategic changes made throughout the reporting period to the initial dissemination and exploitation plan submitted in month 6.

WATCHME Project Summary

The WATCHME project aims to improve workplace-based feedback and assessment and professional development by means of learning analytics. It solves the efficiency and quality problems of workplace-based feedback and assessment by means of an electronic portfolio system that is enhanced with:

- A student model which monitors the learners' competency development;
- A just-in-time feedback module; and
- A visualization tool which informs learners, teachers and institutes just in time as well as on an analytical level.

2. Dissemination and Exploitation Management

The position of the dissemination and exploitation manager (D&E manager) was allocated to Prof. Dr. Harm Peters (Charité - Universitätsmedizin Berlin, Germany). He is the head of the Dieter Scheffner Center for Medical Education and Educational Research.

3. WATCHME Dissemination Plan

3.1 Dissemination Goals

The WATCHME D&E plan (Del 7.2) comprised the necessary and likely key points in the dissemination and exploitation of the project. The aims are to ensure that:

- Institutions, companies, authorities and people with potential interest in the project are continuously informed about WATCHME, its content, goals and consortium partners
- WATCHME is established in the field of education as a kind of keyword/brand for electronically facilitated workplace-based assessment and professional development as well as for the development and implementation of Entrustable Professional Activities (EPAs) or core practices.
- The impact of WATCHME extends beyond the project funding period; i.e. the project's results and products are further used and marketed.

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During the reporting period, WATCHME has successfully collaborated with EU partner projects LACE, Lea's Box, Pelars and INTUITEL and consequently published a joint policy recommendation document and a review of workshops. Throughout the remaining project period, the consortium intends to further contribute to the development of relevant policies. Therefore, a further goal added to the list is:

- WATCHME actively contributes to the development of relevant policies and acts as advisor to those responsible for shaping and introducing policies in the areas of learning analytics and workplace-based learning.

3.2 Dissemination target Groups

The project, resulting from its consortium structure, contents and aims, brings together educational researchers from human medicine, veterinary medicine, teacher training, and information computer technology.

The key audiences were defined in Del 7.2 and expanded as the project develops. The starting point included medical schools, schools for veterinary education and institutes for teacher education and their scientific national and international societies, soft- and hardware developers and providers as well as the scientific community and companies dealing with learning, technology enhanced learning and learning analytics. WATCHME aims to make the educational and technical developments known to the scientific community and to introduce the resulting technology products to the end users, e.g. students and supervisors in veterinary medicine, human medicine and teacher training, as the project progresses

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Between month 6 and month 18, the consortium managed to make a considerable contribution to the scientific community through presentations at national and international conferences and journal publications. As shown in Table 1 especially the

research partners have actively contributed to a number of highly relevant and prestigious conferences in the field. WATCHME was presented at key conferences in the field, such as AMEE, EARLI Sigs, Ottawa conference and GMA. Further, there have been a number of publications in journals such as Academic Medicine, Journal of General Internal Medicine, European Journal of Anaesthesiology, Medical Teacher and Medical Education. Moreover, a newspaper article on WATCHME was published during the reporting period in an Estonian Newspaper.

Following the first periodic report D1.6 (submitted 30th April 2015) and the feedback received by the reviewers, the consortium decided to make an increased effort to target other EU projects. In order to initiate collaborations, the WP7 lead has since actively disseminated collaboration opportunities within the consortium and especially the technical partners were reminded to make an increased effort to contribute to the dissemination of WATCHME through collaborations with partner projects.

Throughout the next reporting period special attention will be paid to target industry and end-users. Here, the technical partners will play a vital role and it is envisaged that following first technical results from the project, the technical partners will increasingly have opportunities to present the software to end-users and industry at trade shows and fairs.

Table 1: Dissemination activities between September 2014 and August 2015

Presentations					
Date	Authors	Title	Type of Contribution	Name of Event	Location of Event
August 27-29 2014	Marieke van der Schaaf	Improving workplace-based assessment and feedback by learning analytics and e-portfolio	Oral presentation	SIG 1 conference Earli	Madrid, Spain
August 27-29 2014	van der Schaaf m, Donkers J, Slof B, Van Tartwijk J, Driessen E, Baddi A & Ten Cate O	Improving workplace-based assessment and feedback by learning analytics in e-portfolios: the WATCHME project	Oral Presentation	SIG conference Earli	Madrid, Spain
Aug 30 - Sep 3, 2014	Holzhausen Y, Maaz A, Degel A & Peters H	Identifying EPAs for Undergraduate Medical Education	Oral presentation	AMEE conference	Milan, Italy
Aug 30 - Sep 3, 2014	Peters H, Beckwoldt J, Chen HC, Maaz Am Holzhausen Y & ten Cate O	Entrustable Professional Activities in Undergraduate Medical Education	Workshop	AMEE conference	Milan, Italy
Sept 1-3 2014	Chen, HC, McNamara M, Teherani A, O'Sullivan P, ten Cate O.	Entrustable professional activities for the assessment of early medical students.	Workshop Conference presentation	AMEE	Milan, Italy
Sept 1-3 2014	Ten Cate, O.	The role of EPAs in CBME. Symposium Entrustable Professional Activities in Undergraduate medical education.	Oral presentation	AMEE	Milan, Italy
Sep 24-27 2014	Holzhausen Y, Maaz A & Peters H	EPAs in undergraduate education- a Delphi study	Poster	GMA	Hamburg, Germany
Sep 24-27 2014	Peters H, Breckwoldt H, Asja Maaz & Ylva Holzhausen	Entrustable Professional Activities in Undergraduate Medical Education	Workshop	GMA	Hamburg, Germany
8 October 2014 (invited)	Ten Cate O	How entrustable professional activities can serve competency-based medical training	Oral presentation	Mayo Clinic	Rochester, Minnesota, USA
10 October 2014 (invited)	Ten Cate O.	Preparing learners to contribute to workplace needs: the role of entrustable professional activities.	Oral presentation	UCLA Symposium on the Science of Learning in Medical Education;	Los Angeles, USA
November 2014	Van der Schaaf, M.F., Donkers, J., Slof, B., Van Tartwijk, J., Driessen, E., Baddi, A., & Ten Cate, O.	WatchMe: Workplace-based Assessment and Feedback by Means of E-portfolios.	Proceedings	SIG Conference	Madrid, Spain

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November 21, 2014	Leijen A, Malva L, Hunt P, Krull E, van der Schaaf M, Slof B	Improving workplace-based learning as an example of teacher training: a model for monitoring a teacher's professional development and suggestions for building an ePortfolio	Poster	ISATT	Tartu, Estonia
November 2014	Leijen A, Malva L, Hunt P, Krull E, van der Schaaf M, Slof B & van Tartwijk J	Improving workplace-based learning: an example of pre-service teacher education	Oral presentation	ISATT	Tartu, Estonia
November 6-7, 2014	Janssen D & Holthuisen M	Mateum was present with a EPASS product stand at the in Egmond aan Zee at November 6 and 7 2014. A presentation about the WATCHME project was shown at a TV screen.	Oral presentation	NVMO	Egmond aan Zee, the Netherlands
November 6-7 2014	Chen, HC, McNamara M, Teherani A, O'Sullivan P, ten Cate O.	Entrustable professional activities for the assessment of early medical students.	Poster Conference presentation	AAMC annual meeting	Chicago, USA
November 6-7 2014	Chen, HC, McNamara M, Teherani A, O'Sullivan P, ten Cate O.	Entrustable professional activities for the assessment of early medical students.	Poster Conference presentation	AAMC annual meeting	Chicago, USA
March 2015	Hunt, P., Leijen, A., Malva, L., Slof, B., & Van der Schaaf, M. F.	Performance-based competency requirements for student teachers: a validation study	Oral presentation	9th International Technology, Education and Development Conference.	Madrid, Spain
20 March 2015	Ten Cate, O.	Entrustable professional activities- their significance for competency based training and assessment in current health care.	Oral presentation	Paediatric Grand Rounds, Children's Hospital Colorado	Colorado, USA
19 March 2015	Ten Cate, O.	EPA Basics	Oral presentation (invited)	The Children's Hospital / University of Colorado, Denver	Colorado, USA
19 March 2015	Ten Cate	Entrustable professional activities as an educational framework	Oral presentation (invited)	The Children's Hospital / University of Colorado, Denver	Colorado, USA
9 April 2015	Ten Cate, O.	Update: What is new in the EPA playground?	Oral presentation (invited)	Family Medicine Department, Singapore General Hospital	Singapore
10 April 2015	Ten Cate, O.	Entrustable professional activities as a framework for education and assessment in the clinical workplace.	Oral presentation	SGH 21 st Annual Scientific Meeting, Singapore General Hospital	Singapore
15th April 2015	Schaaf, M., Janssen, D.	WATCHME: a project overview	Oral presentation	LACE Policies for Educational Data Mining and Learning Analytics- workshop	Brussels, Belgium
1 May 2015	Ten Cate, O.	Part 1: How entrustable professional activities can serve CBME and CBMP. Competency based training workshop.	Oral presentation (invited)	University of Toronto, Faculty of Medicine, Continuing professional development	Toronto, Canada
1 May 2015	Ten Cate, O.	Part 2 Entrustment decision-making as an approach to assessment in the workplace. Competency based training workshop	Oral presentation (invited)	University of Toronto, Faculty of Medicine, Continuing professional development	Toronto, Canada
11 May 2015	Ten Cate, O.	Entrustable professional activities. Aligning CBME with every-day clinical practice in anesthesiology.	Oral presentation (invited)	Standford Anesthesia Grand Rounds	Palo Alto, CA
22 May 2015	Schut, S.	WATCHME: E-portfolios with learning analytics	Oral presentation	NVMO E-Learning Meeting	Netherlands
29 May 2015	Hoff, R.G.	Wanted: the anaesthesiologist of the future".	Presentation	Dutch Society of Anesthesiology	Netherlands
June 2015	Slof, B., Leijen, A., Van der Schaaf, M. F., & Van Tartwijk, J.	Werkplekieren optimaliseren: Leraar Portfolio's met Learning Analytics	Oral presentation part of a symposium about learning analytics	42e Onderwijs Research Dagen 2015	Leiden, The Netherlands.
1 June 2015	Holzhausen, Y & Renz, A.	WATCHME: Workplace-based e-Assessment Technology for Competency-based Higher Multi-professional Education	Oral presentation	DSFZ research symposium	Berlin, Germany
18 June 2015	Holzhausen, Y.	WATCHME: a project overview	Oral presentation	INUTITEL final conference,	Karlsruhe, Germany
27 June 2015	Reading	The future of virtual learning environments and technology	Workshop	Reading Teaching and Learning Conference 2015	Reading, UK
31 July 2015	Schut, S.	WATCHME: a project overview	Oral presentation	1st European Learning Analytics Summer Camp	Prague, Czech Republic
August 25-29, 2015	Van der Schaaf, M. F., Slof, B., Donkers, J., Ten Cate, O., Leijen, A., Krull, E., Hunt, P., Malva, L., Šerban, O., Boud, D.	WATCHME symposium: Entrustment decision-making and learning analytics in e-portfolios for workplace-based assessment in medical and teacher education	Symposium (presentations below)	EARLI	Limassol, Cyprus
August 25-29, 2015	Peters, H.	Entrustable Professional Activities for Learning in Competency-based Undergraduate Medical Education	Presentation 1	EARLI	Limassol, Cyprus
August 25-29, 2015	Leijen, A., Slof, B., Krull, E., Malva, L., Hunt, P., van Tartwijk, J. & van der Schaaf, M.	Performance-based competency requirements for student teachers and how to assess them	Presentation 2	EARLI	Limassol, Cyprus

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August 25-29, 2015	Schreurs, E., Badii, A. Camp, A., Duimel-Peeters, I., Sierban, O., Thiemert, D., Costa, J. van der Schaaf, M. & Donkers, J.	Participatory Design of a Learning Analytics Enhancement to E-portfolios: The Human Factor	Presentation 3	EARLI	Limassol, Cyprus
August 25-29, 2015	WP 3,4,5	Entrustment and Learning Analytics in E-portfolios for Workplace Learning and Assessment	Presentation 4	EARLI	Limassol, Cyprus

Publications

Date	Authors	Title	Journal contributions	Name of journal	Status
August 2014	Teherani A, Chen HC	The next steps in competency-based medical education: Milestones, entrustable professional activities and observable practice activities.	Journal article	Journal of General Internal Medicine	published
	Van der Schaaf, M.	Interview: Het belang van kennisoverdracht voor de toekomst [The importance of knowledge transfer for the future].	Interview	Annual report Actuarial Institute. January 2015	Published
February 2015	Jonker G, Hoff RG, ten Cate OTHJ.	A case for competency-based anesthesiology training with entrustable professional activities: An agenda for development and research	Journal article	European Journal of Anaesthesiology	published
March 2015	Hunt, P., Leijen, A., Malva, L., Slof, B., & Van der Schaaf, M. F.	Performance-based competency requirements for student teachers: a validation study	Oral presentation	9th International Technology, Education and Development Conference.	Madrid, Spain
June 2015	Krull, E. & Leijen, A.	Perspectives for defining performance-based indicators of teaching skills of student teachers for providing formative feedback through learning analytics	Journal article	Creative Education	Published
Sep 2015	Hauer, KE., Boscardin, CK, Fulton, TB, Lucey, C., Oza, S., Teherani, A	Using a Curricular Vision to Define Entrustable Professional Activities for Medical Student Assessment	Journal article	Journal of General Internal Medicine	Published
	Van der Schaaf, M.	Interview: Het belang van kennisoverdracht voor de toekomst [The importance of knowledge transfer for the future].	Interview	Annual report Actuarial Institute. January 2015	Published
n/a	Chen HC, McNamara M, Teherani A, ten Cate O, O'Sullivan P.	Developing entrustable professional activities for entry into clerkships	Journal article	Academic Medicine	Accepted
n/a	ten Cate O, Chen HC, Hoff RG, Peters H, Bok H, van der Schaaf MF.	Guidelines for Competency-based Workplace Curriculum Development based on Entrustable Professional Activities - a Matrix Mapping Approach	Journal article	Medical Teacher	provisionally accepted
n/a	Van der Schaaf, M. F., Donkers, J., Slof, B., Van Tartwijk, J., Driessen, E., Badii, A., & Ten Cate, O.	Workplace-based Assessment and Feedback by Means of E-portfolios	Journal article	Educational Technology Research and Development	Under review
n/a	Fee, C., Promes, S., Schott, M., Boscardin, CK.	Factors associated with data source selection among emergency medicine residents & faculty to inform Milestones performance ratings (judgments).	Journal article	Medical Education	In preparation

Newspaper articles

Date	Authors	Title	Newspaper articles	Name of Newspaper	Location
16 January, 2015	Liina Malva	Student Teachers Receive Their Own E-Portfolio	Newspaper article (in Estonian)	Õpetajate Leht, (http://opleht.ee/20147-opetajaks-oppijad-saavad-oma-e-portfolio/)	Estonia

Collaborations

	Partner	Name of partner project	Aim of collaboration	Input	Output
15 April 2015	Marieke van der Schaaf, Denise Janssen	LACE	Informing policy makers	Presentation at LACE policy event, contributing to joint publication	Joint publication: LACE Law Manifesto
31 July 2015	Suzanne Schut (UM)	LACE, Lea's Box	Exchange and formulating common themes at the 1st European Learning Analytics Summer Camp, Prague.	WATCHME presentation, contribution to discussions, contribution to joint discussions	Started working on a joint publication with Lea's box and LACE. To be continued.
18 June 2015	Ylva Holzhausen	INUITEL	Exchange of ideas at the final INTUITEL conference	WATCHME presentation	none
18 June 2015	Reading	INTUITEL	Contribution to INTUITEL final conference, Discussion on how	WATCHME presentation, active contribution to	None

		WATCHME might complement work of INTUITEL	discussions		
Blog posts on external platforms					
	Authors	Title	Blogs/ tweets	Website	Link
July 2015	Natalia Barbour	The Power of the Pen	Blog post	Jayway	http://www.jayway.com/sharing-knowledge—digitizing-ideas/the-power-of-the-pen/
August 2015	Natalia Barbour	The Craftsmanship of Workshop Design	Blog post	Jayway	http://www.jayway.com/sharing-knowledge—digitizing-ideas/craftsmanship-of-workshop-design/
Product stands					
	Who	Name of event	Location	Details	
November 6-7, 2015	Mateum	NVMO Congress	Netherlands	Presented a product stand. Visitors were informed about the status of the WATCHME project.	

3.3 Dissemination Channels

3.3.1 Website and Online Media

WATCHME actively utilizes different online media. First, the project website (developed in March 2014) represents the main interface for the dissemination of WATCHME project objectives, progress and results. It provides access for the wider public and experts in the field. The website provides key information on the aims of the WATCHME project, including project summary, project components and a detailed description of every work package. Second, a Wiki site is used to facilitate internal communication among the consortium partners. The Wiki site provides a platform for internal exchange of information, documents and data files and for documentation of the WATCHME meeting and project progress. The management of the WATCHME website is provided by the University of Utrecht.

Also, a Twitter, Facebook and LinkedIn account are used for dissemination purposes.

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Following the periodic review meeting, the consortium thought of ways to make the project website more attractive in order to increase interest and traffic to the site. As a result, some additional items were added to the website and news were given a more prominent space on the start page. In order to assess progress in terms of numbers of visitors to the site, a visitor counter widget was introduced. In addition, an RSS feed was set up, to inform those interested in the site and the project of any changes on the website. Additionally, special attention was paid to increasing the frequency of news feeds and updates. Also, two newsletters were published during this reporting period.

At the same time, changes to the Wiki site were made. It was noted, that some of the information on the Wiki site was incomplete. Consequently, considerable time and effort was spent on filling this site with the relevant and necessary files and documents and to streamline parts of its organization in order to make its use easier for consortium members.

Following the periodic review, it became apparent that the social media activity had not been as good as intended and that there was room for improvement. It was hence

decided that this is an area WATCHME wanted to concentrate on throughout its second project year. As a direct consequence of this, there are now fortnightly meetings in which two partners actively approach consortium partners in order to find interesting information, which can be used for blog posts and newsfeeds on the social media platforms. Consortium partners are now continuously encouraged to share news of their respective work packages and to actively participate in the dissemination of ongoing project developments. In addition, responsibilities for updating the individual websites are now clearly assigned. This increased attention to social media efforts has resulted in an increase in blogs posts, news feeds and tweets.

3.3.2 Dissemination Materials

The early stages of WATCHME saw the development of a logo, business cards, and a fold-out flyer, which summarizes the central information about the objectives of the project. A generic poster (A0 size) about the project was prepared and distributed to all consortium partners in July 2014. The poster is being used and adapted for specific exhibitions and events and will facilitate a harmonized visibility of the WATCHME results.

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In addition to the existing dissemination materials, the WATCHME partners at MATEUM recently designed a roll-out banner to be taken to trade shows. In response to the first periodic review, consortium partners were reminded to actively place the WATCHME logo on their respective institutional websites and ensure all email signatures contain a link to the project website. Consortium partners were reminded to distribute dissemination materials at every opportunity.

3.3.3 Scientific Conferences and Tradeshows

As set out in the original dissemination and exploitation plan (Del. 7.2), the participation in national and international scientific conferences, tradeshows and fairs provide the key dissemination platform for WATCHME. These dissemination activities are continuously recorded on the project's Wiki site.

Key dissemination events as set out in the original dissemination and exploitation plan (Del 7.2) are:

- European Association for Research on Learning and Instruction (EARLI)
- American Educational Research Association (AERA)
- Association for Computing Machinery's Special Interest Group (SIG) on the Design of Communication (DOC)
- Association for Medical Education in Europe
- Computer Assisted Assessment (CAA) conference
- Faculty of Veterinarian Medicine of the University of Utrecht Conference on Education
- German Society of Medical Education (GMA)
- Royal Dutch Medical Association conference (KNMG)

- Netherlands Association for Medical Education (NVMO)
- LEARNTEC: Learning with IT - International Trade Fair and Convention
- Øredev (international developer conference)
- Ottawa Conference

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The participation in scientific conferences and meeting has been particularly strong throughout the reporting period. As evident in Table 1, especially the educational partners have presented at an impressive range of conferences. Throughout the reporting period, WATCHME partners have presented the project and its outcomes on 38 occasions at 22 different conferences, symposia and research meetings.

Since the start of the project, WATCHME partners have already presented at seven out of the 12 targeted conferences originally set out in the initial D&E plan.

Following the periodic review, the consortium saw the need for increased activity among the technical partners of the project. As the focus of the research throughout the first 18 months of the project was largely placed on the educational content of the e-portfolio, it is to be expected that the contribution to technical and learning analytics conferences and tradeshow will increase as the relevant results are produced within the project.

With the first part of the LA tools developed (JIT) the partners at Mateum will be able to actively demonstrate the working of the improved EPASS system to end-users by targeting visitors of fairs and tradeshows. Partners at Mateum expect a clear distinction in feedback between experienced EPASS/e-portfolio users and visitors who are not familiar with an electronic portfolio. There are currently two yearly events which Mateum plan to visit as an exhibitor, the Dutch NVMO conference and the international AMEE conference. Depending on the response of visitors at these events and after assessing the associated costs, partners at Mateum will decide how to continue targeting end-users at trade shows and which exhibitions to visit further. In addition to participating as an exhibitor, Mateum also plans to run technical workshops of the system during these fairs and tradeshows which will allow visitors to try out the system first hand. Existing questionnaires currently used for obtaining feedback on EPASS from its users will be adapted and distributed to allow participants to provide feedback during these workshops.

Partners at Jayway plan to prepare talks promoting WATCHME in three different areas: UX/Design, Systems Architecture/ Technology and in general digitalization of project dissemination.

- General digitalization project: the digitalized project dissemination will be communicated through blogs posted on the Jayway and WATCHME website as well as breakfast/ evening seminars held at Jayway. The aim is to hold three events in total, one in Copenhagen, Malmö and Stockholm. Philip Kron will be responsible for organizing these events.
- User Experience Design: Throughout the next year, partners at Jayway are planning to present at Design Matters 2016, UX Camp Copenhagen, Øredev and other conferences on digital design.

- System Architecture/ Technology: Partners are planning to prepare at least one talk on the technology and architecture utilized in WATCHME. This talk will be submitted to Øredev 2016, AtTheFrontEnd and possibly JavaOne or at least one other relevant software conference.

For the following reporting period, partners at the University of Reading are planning to attend the Conference on Technology Supported Learning & Training in Berlin (Online-Educa), the European Conference on Technology Enhanced Learning (EC-TEL) and the ICT2015 event, at which they are planning to disseminate WATCHME flyers, network with other projects and identify possible exploitation partners.

3.3.4 Scientific Journals

An important way to disseminate WATCHME project results is through scientific publications. This is largely led by the academic and research project partners. The aim is to target high impact factor journals. The Consortium is committed to produce at least two joint journal publications per year plus a number of conference publications. Possible target scientific journals for dissemination of WATCHME are:

- Academic Medicine
- Educational Technology Research & Development Journal of Graduate Medical Education
- Journal of Veterinary Medical Education
- Medical Education
- Medical Teacher Learning and Instruction
- Teaching and Learning in Medicine Teaching and Teacher Education

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Throughout the reporting period, WATCHME partners have had four articles published and one accepted in peer-reviewed journals, and further had one publications in a conference proceeding. Two further manuscripts have already been accepted and one manuscript is currently under review. Manuscript submission to the *Journal of Graduate Medical Education* and *Advances in Health Sciences Education* are in planning for the upcoming periods.

Furthermore, partners at the University of Reading are submitting a manuscript on Bayesian Modelling and Reasoning for the creation of Student Models to the IEEE Transactions on Learning Technologies Journal between September and December 2015 and have further contributed to a manuscript on Improving Workplace-based Assessment and Feedback by Learning Analytics and e-portfolio paper, submitted to the Educational Technology Research & Development Journal.

3.3.5 Societies and Organizations

WATCHME aligns well with international initiatives in postgraduate medical training that seek ways to validate competency-based training and to justify potential decrease

of training time. During and after the project's lifetime dissemination strategies are carried out in different professional field

Medical education

Within the community of medical education worldwide, a high interest in the outcomes of this project is expected. Many programs eagerly seek possibilities for improvement of competency-based medical training with feedback and assessment.

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The educational partners have disseminated first project results to the scientific community and already achieved most of the aims as set out in the original D&E plan (Del 7.2). Partners from the medical education background presented at a range of conferences: Ottawa, AMEE, ACGME, GMA, NVMO and the Meeting of the Swiss Interfaculty Committee for Medicine, and published in a range of academic journals in the field: Academic Medicine, Journal of General Internal Medicine, European Journal of Anesthesiology and Medical Teacher.

Veterinary education

The results will be exploited for veterinary medicine at European level by disseminating the results of the learning analytics in relation to development of competencies during workplace learning via NOVICE (Network of Veterinarians in Continuing Education) in which learning communities of veterinarians from within and outside Europe are participating in formal and informal learning. The results will have a major impact on the veterinary profession due to the fact that veterinary associations (e.g. the Royal Netherlands Veterinary Association) will implement competency-based learning as the foundation for their mandatory quality system for lifelong learning of veterinarians. Furthermore, the results will be exploited within the yearly EAEVE (European Association of Establishments of Veterinary Education) meetings and within FVE (Federation of Veterinarians in Europe) meetings and journals. In the Consortium Veterinary Education Worldwide (ViEW) the developments of workplace learning, and the added value of learning analytics will be shared with colleagues from within Europe, North America, Australia and South Africa. ViEW organises a yearly pre-conference workshop to the AMEE conferences and a variety of ViEW groups are active on the NOVICE platform, among these a ViEW group on Assessment. These are both excellent platforms for exploitation of the results.

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Throughout the reporting period, the Hungarian veterinary partners have presented at the FEPS (Federation of European Physiological Societies) conference about using of new methods (virtual patients and EPAs) in teaching veterinary physiology. They further presented in July at the Veterinary Faculty, Budapest and at the Teacher education, Utrecht to disseminate the WATCHME project. For the coming reporting the veterinary partners have presentations accepted at AMEE and NVMO later this year. And further aim to submit manuscripts to both Dutch and Hungarian veterinary and educational journals. An effort will be made to present at different national and international educational conferences. Furthermore, the results will be exploited within the yearly EAEVE (European Association of Establishments of Veterinary Education)

meetings and within FVE (Federation of Veterinarians in Europe) meetings. In the Consortium Veterinary Education Worldwide (ViEW) the developments of workplace learning and the added value of learning analytics will be shared with colleagues from Europe, North America, Australia and South Africa through collaboration meetings and presentations. ViEW organises a yearly pre-conference workshop at the AMEE conference. Moreover, a variety of ViEW groups are active on the NOVICE platform, among these exists a ViEW group on Assessment (www.noviceproject.eu). These are both excellent platforms for dissemination and exploitation of the WATCHME. The NOVICE platform provides an informal way of discussing new methods of teaching among participants from different veterinary institutions. The discussion during these meetings cover a wide range of topics all related to educational problems and their solutions in veterinary medicine.

Teacher education

Workplace-based assessment is key in European institutes for teacher education and most institutes are working in a competency-based manner. In Western European countries it is common to work with (electronic) portfolios. At European level an important forum for dissemination is the European Association for Research on Learning and Instruction (Earli), including its special interest groups (SIGs) concerning Assessment and Evaluation and Teacher professionalisation. The educational Partners of WATCHME are active within this association. Earli's journal is Learning and Instruction, which is an important journal to be considered for dissemination of project results. A second important forum is the Association for Teacher education in Europe. This association organizes annual conferences and edits the European Journal of Teacher Education. The practical deliverables will also be promoted at national levels, such as, in the Netherlands, through the Dutch/Flemish Organization of Educational Research and in their SSCI journal *Pedagogische Studien*. In Estonian WATCHME's Partner Tartu University is a leading organisation that will expand results at their Partner schools.

Annual update

The teacher education partners disseminated the results regarding the development of a matrix tool (deliverable 2.1) and natural feedback markers (deliverable 2.2) at one national (ORD) and three international conferences (CAA, Earli Sig Assessment and Evaluation and TED). In collaboration with the technical partners they further organized a symposium at the EARLI conference and gave four oral presentations. Furthermore a poster was presented at the ISATT conference. There is currently one manuscript on the development of the EPASS environment under review by a peer-reviewed journal and the submission of a second manuscript (i.e., review assessment instruments teacher education) is in preparation. First submission to a peer-reviewed journal is expected in December 2015.

An effort will be made to present the preliminary results of the formative evaluation at the CAA, Earli sig in Tartu and ORD throughout the next 10 months and to submit a manuscript on development EPASS system teacher education to a peer reviewed journal. The teacher education partners also intend to organize workshops (i.e., e-pass system) at the CAA, Earli sig in Tartu and ORD in collaboration with the technical partners.

3.3.6 Collaborations with Organizations and Synergies with other Projects

At a concertation meeting on EU FP7 project in February 2014, WATCHME was introduced to a large panel of TEL projects, ranging from small 4-partner STREP projects to consortia with 53 partners. Among those, the following EU FP7 projects were deemed to be of special interest for collaborative dissemination and expansion.

- Eagle- government learning
- Intuitel- automatic reasoning and pedagogic models as add-on to existing LMS
- Lea's Box- tools for competence-centered multi-source learning analytics
- LACE- learning analytics community exchange
- MIRROR- platform for reflective learning at the workplace
- EmployID-facilitation of professional identity transformation in public employment services

Annual update

Following the periodic review, the WATCHME consortium paid increased attention to establishing links and seeking exchange with other EU projects. Since then, WATCHME has actively linked with relevant projects through social media and actively sought synergy and exchange opportunities. WATCHME has now engaged in fruitful and productive collaborations with EU partner projects LACE, LEA's Box and INTUITEL.

On 15th April 2015, two WATCHME partners, Marieke van der Schaaf and Denise Janssen, contributed to Policies for Educational Data Mining & Learning Analytics in Brussels. This briefing event was organised by the LACE project consortium in collaboration with the PELARS, Lea's Box, and WATCHME consortia and with the support of European SchoolNet. This one day event was aimed at educational policy-makers, influencers and stakeholders as well as political representatives who make an effort in understanding the current state-of-the art in learning analytics and educational data mining. During this meeting, the group put together recommendations for EU and national institutions about future policies on Learning Analytics for the training of workforce. The synthesis of these recommendations was later published as the "LACE LAW Manifesto", and "LACE Policy recommendations for learning analytics from three stakeholder workshops" which are both available online.

On June 18th, WATCHME partner Ylva Holzhausen presented WATCHME at the final conference of the INTUITEL project with the title "Next Generation E-Learning:

Adaptive Environments for mainstream Learning Management Systems". This event brought together around 60 participants from industry, academia and policy-making, as well as LMS-providers, customers and end-users of such systems. As a result, WATCHME had been invited to submit an editorial piece and made contact with a head teacher from a vocational college who was interested in purchasing EPASS.

On July 31st WATCHME partner Suzanne Schut joined the 1st Learning Analytics Summer Camp in Prague (CZ) organized by sister project Lea's Box. This event proved to be a very fruitful opportunity for synergies and exchange with other experts in the field of learning analytics and educational data mining. The main goal of this summer camp was to bring together the European players in the field of learning analytics and educational data mining, to find synergies and common goals and to see how these projects can work together to make a meaningful difference in the educational landscape with our efforts and results. This event also resulted in the draft of a joint publication (still in progress).

Moreover, WATCHME partner Martijn Holthuijsen submitted a joint proposal for a symposium at the ICT 2015 "Innovate, Connect, Transform" event in Lisbon in October this year along with partners from the LACE project.

Throughout the next reporting period, we hope to build on those successful relationships and seek or develop further collaborations opportunities. Regrettably both the MIRROR and EAGLE project have since finished and there were no opportunities for collaboration or exchange during the short period at which these projects run parallel.

3.4 Dissemination Plan

3.4.1 First Year Dissemination Activities

Dissemination plans for the first year of the project were:

- Designing the WATCHME logo
- Setting up the WATCHME project website
- Setting up social media accounts (Facebook, twitter, LinkedIn)
- Designing and distributing WATCHME flyers and business cards
- Designing WATCHME poster templates
- Submitting first conference and journal contributions

Annual update

All planned dissemination activities for the first year of the project were successfully undertaken.

3.4.2 Second Year Dissemination Activities

Planned dissemination activities for the second year were:

- Extending the WATCHME website
- Promoting WATCHME at conferences and events, placement of first exploitable results
- Submitting manuscripts on WATCHME results to academic journals

Annual update

All planned dissemination activities for the second year have already been undertaken.

3.4.3 Third Year Dissemination Activities

Dissemination activities carried out in the third year of the project will include:

- Further extending the WATCHME website
- Promoting the WATCHME project at conferences and events, focusing on exploitable results
- Submitting manuscripts on WATCHME results to academic journals
- Creating a WATCHME online manual which summarizes the project results and outcomes and which is accessible through the project website

Annual update

In addition to the aims reported in the original D&E plan for the third year, the consortium will further concentrate on:

- Further strengthening the project's visibility on social media platform
- Concentrate on increased dissemination to the end-user group
- Increase dissemination at technical conferences and journals

- Offer technical demonstrations of the system at conferences and trade shows
- Build on existing collaborations with partner EU project
- Seek further collaboration opportunities with other projects
- Explore further policy advisory opportunities

3.4.4 Dissemination Activities after the Project End

Disseminating WATCHME results and outcomes in terms of contributing to scientific conferences and publications in academic journals will continue beyond the end of the project by all consortium partners. Key to the post-end-of-project dissemination strategy will be an online WATCHME manual that provides a summary of the project results and experiences and will include online tools and training videos. The manual will contain key information on pedagogical strategies, technical implementation, user evaluations, exploitations routes and scientific publications. The latter will be the main stay for scientific dissemination and targeted at high-ranking educational journals. The WATCHME manual will be available online through the WATCHME website. The website will also include detailed information on future technical dissemination and exploitation activities that follow the WATCHME project phases. The project website will remain online for at least 3 years following the completion of the project, and project partners are able to individually update on further developments resulting from the project's work.

Annual update

The aim of WATCHME is to make the developed LA tool available to existing and new EPASS users. In order to ensure a sustainable implementation of the additional LA tools developed and evaluated throughout the course of the project into the EPASS system, all knowledge about the LA components (JIT, VIZ, student model) will be transferred from the WATCHME partners Jayway, Netrom and University of Reading, to Mateum and Maastricht University. This knowledge transfer is expected to commence during the summative evaluation phase.

The knowledge transfer is further needed to ensure the aim of enabling WATCHME partners to continue using EPASS and the LA tools following the end of the project and to support Mateum and Maastricht University implementing and supporting the LA tools for other (non WATCHME) EPASS users.

4. WATCHME Exploitation Plan

Exploitation implies strategies to successfully involve target groups, end-users, stakeholders and transferring the results/products for the WATCHME project into their professional domains.

The key objectives for the exploitation of the WATCHME results are:

- Make the technical developments known to the scientific community
- Promote the resulting WATCHME electronic portfolio system within the educational community as an innovation in work place-based assessment and implementation of Entrustable Professional Activities (EPAs)
- Make the WATCHME results and benefits of the developed outputs attractive and known to the wider public and learning community

This will be achieved by concentrating on the key benefits of the research, marketing the project results and creating the basis for further research, development and implementation.

4.1 Intellectual Property Rights

An Intellectual Property and Resources management plan (IPR plan, see deliverable D1.5) was developed at the start of the project by the project coordinator (PC). The IPR management strategy was also part of the Consortium Agreement (CA).

The IPR management strategy focuses on rapid dissemination and exploitation to maximize the potential for benefit realization to all stakeholders. WATCHME is based on open source as much as possible. The Parties have agreed to distribute the Software resulting from the Project under MIT license(s). In each license, all Parties that are actively involved in the development of the licensed software will be mentioned as copyright holders. The project builds upon the electronic portfolio system EPASS. EPASS contracts are designed and administered by the SME Mateum, paying a handling fee per electronic portfolio. Mateum also provides the management of EPASS during the project. Mateum offers the service, do the design and management

and facilitate the helpdesk services. Also, the server needed for the student model is hosted by Mateum on their regular provider. The student model software and visualization models (WP 5) will be open-source, licensed under MIT. All source codes are hosted under a source server (SVN server), where all source codes are securely stored. Furthermore this server takes care of versioning and availability of the source code. This will all be arranged by UM.

IPR and licenses management are dealt with within the CA. The full IPR strategy is considered and specified by the consortium as a formally agreed framework set out within the CA; including the subscription and provision for EPASS. Any changes made to the EPASS code during the project will not be public domain, but remain under the aforementioned shared ownership; Assessment instruments and feedback tools developed during WATCHME; as the *foreground* owned by Mateum, MU or any of the other Partners, shall be integrated into the EPASS as open source.

Annual update

There are currently not changes to report to the Intellectual Property Rights.

4.2 Exploitation Strategy

The exploitation strategy is based on user requirements, the technological objectives, goals and developments of the WATCHME project, as well as the business cases and objectives of the Partners in the WATCHME project

The exploitation plan aims at synergizing the exploitation plans for partner-level exploitation as well as a plan for exploiting the results of the project as a whole. Key to the exploitation plan is the scientific and technological output of Work package 6 (implementation and evaluation), which implements the developed ICT-based feedback and assessment tools in practice. The exploitation plan enables end-users to test the developed technological applications within their workplace according to the three main evaluation phases:

- Just-in-Time feedback at the work-place with e-portfolios on mobile devices,
- Integration of visualization tools, and
- Summative evaluation in a quasi-experimental design.

The project applications will be integrated and made accessible through community platforms as developed in Work Package 3.

The goal is to gather feedback about the use and deployment potential of the WATCHME applications by external stakeholders and to transfer this feedback into the methodological and technological further development of the project.

Annual update

Throughout the reporting period, end-users have been actively involved in the design of the e-portfolio. There were two focus groups held with students and supervisors from the medical education field to provide feedback on the content and layout of the portfolio. Further, partners from Jayway run a creative workshop with 18 participants from the intended user groups (both supervisors and students from the medical education field) in order to gain an insight into the needs and requirements of the end-user for the design of the added visualizations tool. Moreover, in preparation for the start of the data collection and evaluation phases within WP6, consortium partners run

pilot studies in their respective test beds with their respective portfolio configuration, which provided much helpful insight into current shortcomings of the system as viewed by the users. This feedback is currently being implemented by the technical partners at Mateum. Moreover, a pilot study across all educational institutes was undertaken to test the first prototype of the JIT module. For the next reporting period, the research partners will stay in constant dialogue with participants in the test phase and a range of questionnaires has been developed in order to collect structured feedback about the usability of the portfolio as well as its impact on students' learning and supervisors' ability to provide structured and meaningful feedback.

On from the 27th August, the technical partners at Mateum implemented changes to the system based on the feedback received from the educational partners on the basis of the outcome of the pilot studies. This means, the project is now at a stage where the configurations of the EPASS system have been developed, piloted and adapted for the individual educational partners. Consequently, the coming months will offer an opportunity for the technical partners to demonstrate the system to potential end-users. One existing plan is to invite technical partners along to conferences where they can utilize existing WATCHME workshops to run more detailed demonstrations of the system. This would link the technical demonstration to scientific presentation of WATCHME and EPASS. As the EPASS configurations have only just been completed, these demonstrations will be a focus of the next reporting period.

All educational partners will follow an academic exploitation route. This means exploitation will first and foremost be through the integration of results and insights into the teaching material that is being delivered to the students. This includes for instance undergraduate courses and PhD programmes. Besides much effort is invested in conference-contributions and paper writing.

A second approach for exploitation specific for University of Reading is the extension of the research base, being able to provide new research offerings and thus ensuring third stream income for the University. This will also be related to establishing knowledge transfer partnerships, of which the School of Systems Engineering had a significant number in the past years. These KTPs allow companies to work closely with the University staff to integrate the research outcomes into their portfolios, adapting them where necessary. This is especially important for projects where the results are offered on an Open-Source basis, as is the case for WATCHME. University of Reading will identify suitable collaboration opportunities with companies interested in the technology provided. In addition, University of Reading aims to integrate the results of WATCHME in future research projects, funded nationally or by the European Commission's H2020 programme, including projects on eLearning, but also in domains where probabilistic modelling and natural language processing are of interest. Finally, the Research Evaluation Exercise 2020 (REF2020) period for UK universities has just started. This takes into account the research output, quality and impact and is used to allocate government funding. High quality publications are therefore of utmost importance and we envisage this avenue to be of significant importance for UoR.

In the technical aspect of the exploitation, University of Reading is planning to integrate the results of WATCHME with the developments of the EU FP7 project



Workplace-based e-Assessment Technology for Competency-based Higher Multi-professional Education INTUITEL, which produced an Open Source extension to Learning Management Systems to provide personalised recommendations. A learning analytics engine such as the Student Model developed by University of Reading would provide a stronger impact not only on the learner but also on the teacher and education institution by providing better insights into the performance of students and potential bottlenecks in online course environments. This could be provided to interested education institutions, including University of Reading itself.

Furthermore, throughout the coming reporting period the technical partners will work on reviewing and if necessary adapting the original business plan which was originally presented in the project application.

4.3 Market Analysis

A detailed market study forms the basis for the Exploitation Strategy in WATCHME and was already part of the WATCHME proposal application. The market study describes the benefits of the WATCHME e-portfolio, the marked potential for tertiary education in Health, Veterinary and Teacher training in Europe, the training years in each field and the market potential projection over the longer term for demographic, societal and in particular sectorial developments.

Further, WATCHME is guided by the fact that: 1) work in many professions is increasingly driven by reflection, feedback and collaboration; 2) the increasing use of mobile devices, especially the use of tablets and smart phones for assessment in the workplace and; 3) the recent growth in the use of portfolio systems and workplace-based assessment. The WATCHME business model is based on offering assessment tools tailored to individual training needs on a relatively modest institutional license annual fee. The initial market study will be updated and extended in the third year of the WATCHME project.

Annual update

Since 2010, the responsibility for exploiting the EPASS system has been shared by Maastricht University and Mateum. Based on completed feedback questionnaires which are currently handed out to existing and potential users, Mateum will further target the market analysis for the enhanced EPASS product. This task will be carried out in May 2016. After the end of the project, Mateum and Maastricht University will be able to run a pilot with interested customers in order to further improve the developed LA tools. In addition, partners at Maastricht University will continue to promote the LA-enhanced version of EPASS through the academic channels as they have done thus far for the current EPASS portfolio.

5. Conclusion

This report (Del 7.3) details the dissemination & exploitation achievements and changes made between the reporting period (month 6-18) for the FP7 project ICT—2013-11. The project aims to improve workplace-based feedback and assessment and professional development by means of learning analytics. It is based on the further development and testing of an electronic, online portfolio system and the development



Workplace-based e-Assessment Technology for Competency-based Higher Multi-professional Education and implementation of Entrustable Professional Activities (EPAs) or core practices in Health, Veterinary and Teacher training.

This annual update highlights the strong scientific output by the educational partners, the improvements made to the online platforms and the successful collaborations with partner projects and resulting products. It further describes changes made to the original D&E plan (Del 7.2), mainly by expanding earlier goals and focusing on areas where goals were not yet fully met. The changes to the original plan will steer and guide the dissemination and exploitation activities of the consortium throughout the next reporting period. Throughout the following reporting period, the main focus will be on developing concrete plans for the exploitation and marketing of WATCHME and on the increased dissemination activity on the technical results of the project.

6. History of the document

6.1 Document history

Version	Author(s)	Date	Changes
1	Anna Renz	23.08.2015	First draft
2	Harm Peters	24.8.2015	Changes in text, spelling and layout
3	Anna Renz	25.8.2015	Revision of draft
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6.2 Internal review history

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Marieke van der Schaaf	27.8.2015	Review of whole document, changes and addition of text
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