PRoF Award abstract – Call 2018

HELLLP: Helping healthcare learners and supervisors to facilitate lifelong learning in practice with an e-Portfolio.

1. Research Outline

Acronym	**HELLLP**	
Project name in English	**Helping healthcare learners and supervisors to facilitate lifelong learning in practice with an e-portfolio.**	
Pitch (1 sentence)	Digitizing workplace learning, an innovative co-creation project between speech pathology and midwifery aiming at designing a competency-based e-Workplace Learning Portfolio that fosters self-regulating learning, assessment of competencies and supervision of competency development in practice.	
Executive summary (max. 10 lines)		

Context: e-Portfolios have become increasingly popular among educators but designing e-Workplace Learning Portfolios that integrate competency based learning, assessment and supervision at the workplace seems problematic.
Methods: The university College Arteveldehogeschool Ghent (Belgium) funded an innovation project (2015-2017) aiming at 'digitizing workplace learning' in the context of speech pathology and midwifery. A multidisciplinary team realized specific goals in different sub-projects, using design-based research methodology.
Results: 1) The model was digitized, piloted and implemented; 2) Delphi-studies were set up to validate the competency-based assessment criteria; 3) a quality measurement instrument was designed and implemented; 4) audio and video applications were investigated; 5) the role of personal coaches was investigated; 6) a graphic designer supported translation to practice, and 7) valorisation was stimulated.
Conclusion: The uniform designed e-Portfolio was an innovative approach that seems generalizable to other health professions and contexts.

Fig. HELLLP: A digital & lifelong workplace learning portfolio in healthcare education.

2. Cause and context of the research

Since the beginning of the 21st century (also known as the digital age), the extent and impact of competencies and competency development have constantly been increasing at most stages of undergraduate and postgraduate training in healthcare education (Rezgui et al. 2017). Although the competency concept is not universally defined, most researchers in education adopt an integrated and holistic approach to competency (Leung 2002; Van Merriënboer et al. 2002; Stoof et al. 2002; Lane 2010; Yanhua and Watson 2011; Schuwirth and van der Vleuten 2011). The integrated approach acknowledges competency as a complex combination of knowledge, attitudes, skills and personal values. The holistic approach on the other hand, takes into account the cultural and social context in which competencies are assessed, and focusses on how personal attributes are used to achieve outcomes in real life scenarios (Leung 2002).

The move towards competency-based education has created a need for effective tools that support, stimulate and assess competency development. In this context, the e-Portfolio emerged as a promising tool that helps learners collect and manage different kinds of assessment evidences linked to the program's competencies from multiple sources. The

problem is that a common and interoperable structure of e-Portfolios during the workplace learning continuum has not been devised yet (Rezgui et al. 2017).

The Belgian Minister of Health, Welfare and Sport describes in her policy statement (2014) the revision of the "Coordinated law concerning the exercise of healthcare professions". She aims to define the competencies of the healthcare professionals (CanMEDS competencies) and also to allocate tasks to those caregivers who can provide the required care in the most efficient and high-quality manner. Furthermore, she wants to introduce the portfolio to document qualifications and lifelong learning certifications. Healthcare professionals without a portfolio could lose their right to provide healthcare. Finally, she aims to better collaborate with the Regional Minister of Education, Culture and Science and with the Minister of Wellbeing in order to guarantee patient safety.

3. Innovation results achieved

The innovation achievements are the result of an inspiring co-creation project of the Artevelde University College Ghent, in collaboration with the University Hospital Ghent, The University Ghent (educational department) and the company Imengine (Belgium).

Introduction

The Artevelde University College Ghent (AUC, Belgium) funded a two years co-creation and innovation project, 'Digitizing Workplace Learning', a collaboration project between speech pathology and midwifery (2015-2017). The overarching aim of this project was to optimize and to digitize the workplace learning processes by introducing a digital workplace learning portfolio.

A multidisciplinary project team realized specific goals in eight sub-projects: 1) the model was digitized by Medbook[©], piloted at the University Hospital Ghent (midwifery and speech pathology) and implemented for all midwifery students in September 2017 (also for students doing international internships); 2) Delphi-studies with students, professionals from different disciplines (midwives, nurses, doctors, managers) and settings (schools and hospitals) were set up to validate the competency-based assessment criteria; 3) a quality measurement instrument was designed and implemented; 4) audio and video applications were investigated; 5) the role of all the stakeholders, including personal coaches to guide overarching competency development was made explicit and linked to professionalization programs; 6) a graphic designer supported the translation to practice, and 7) valorisation was stimulated. We describe the results more profoundly in the next paragraph. This project won the 'Outstanding Poster Award' during the dissemination session of all the innovation projects of the AUC (2/10/2017).

Innovation results

1. Digital portfolio

The aim of this sub-project was to design a competency-based e-Workplace Learning Portfolio to support lifelong self-directed learning during the workplace learning curriculum. The challenge was to digitize Embo's Continuous Workplace Learning Model©, a paper-based model that was designed during a doctoral research project and implemented in the midwifery department of the AUC (Embo et al. 2015; Embo 2015). This competency-based model integrates the learning-, assessment- and supervision processes in six recurrent steps: 1) competency selection, 2) formulating learning goals, 3) self-monitoring performance, 4) self-assessing competency development, 5) summative assessment of individual competencies, 6) summative assessment of professional competence (Fig. 2).
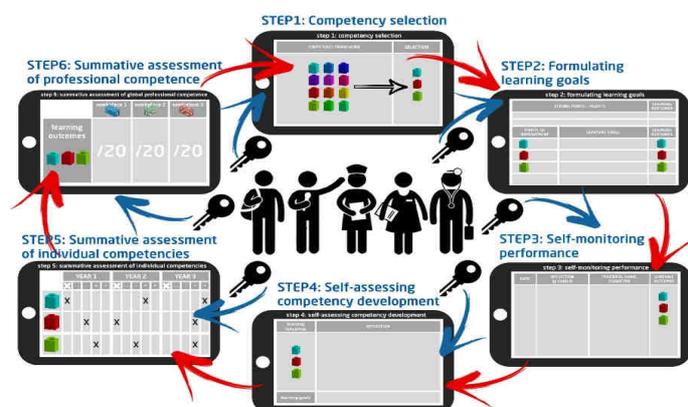

Figure 2: 6 steps of Embo's Continuous Workplace Learning Model©

The e-Workplace Learning Portfolio (Medbook©) was designed by the company Imengine, a company that had already designed and implemented portfolios for different disciplines in postgraduate medical education.

For the midwifery department, a pilot project was organized with second and third year midwifery students between November 2016 and May 2017 at the maternity and delivery ward of the University Hospital Ghent. Because of the positive results, implementation started for first year students in May 2017 for all first year students and in September 2017 for second and third year students. In January 2018, more than 300 midwifery students in more or less 100 workplaces in Belgium and abroad (Rwanda, Uganda,…) were guided and assessed with Medbook©. The midwifery e-Workplace Learning Portfolio is a powerful tool to support continuous and self-directed learning in practice. The electronic format of Embo's Continuous Workplace Learning Model© allows for built-in mechanisms that facilitate active engagement in learning, supervision and assessment. The technology offers numerous advantages such as the potential to capture experiences in several authentic situations; to collect and manage learning information according the midwifery competencies; to share information with all the stakeholders involved with workplace learning; to measure competency development over time because of validated assessment checklists with a pop-up list including competency

components; and to support continuing professional development after graduation. A short evaluative questionnaire with supervisors (n=65) during the annual meeting with midwifery supervisors (January 2018) gave the following results: 91% preferred the digital portfolio over the paper and pencil instruments, 87% said that Medbook© was user friendly, 98% asked us to recommend it to other midwifery schools and 61% felt they need a Medbook© training. The newly designed midwifery e-Workplace Learning Portfolio with its underlying competency-based workplace learning concepts, theory and pedagogy was published recently (Embo 2017).

Generalizability of the competency-based model and the e-portfolio design was investigated for speech pathology during the same project. The competency-framework of speech pathology was the basis of the e-Portfolio. Two students, two supervisors and two teachers from school started with Medbook© in a pilot project between April and June 2017, also at the University Hospital in Ghent. Medbook© users were very positive about the added value of the diary and the effect on the development and supervision of self-regulated learning. We learnt in this first generalizability study that it is important to keep in mind that Medbook© is a learning instrument and not a patient-diary. Furthermore, we learnt that it is necessary to oversee the workplace pedagogy and to investigate the willingness to change current practices into the evidence-based six-steps methodology of Embo's Continuous Workplace Learning Model©. Although the portfolio-design was preliminary to start with the pilot project, the perceptions from the pilot students and supervisors were positive, which made the speech pathology department decide to continue with the development and implementation of the Speech pathology-e-Workplace Learning Portfolio.

2. Competency-based Assessment

This sub-project was conducted in the midwifery department only. The reason that the midwifery department could set up this study was the funding received by winning the Mustela Award in 2015 (8000 Euro). This study aimed at validating a competency-based instrument to assess undergraduate midwifery students' postnatal care competencies in the maternity ward. Following three consecutive Delphi-sessions, experts from workplaces and schools scored the assessment criteria as to their relevance and feasibility, and commented on their content and formulation. A descriptive quantitative analysis, and a qualitative thematic content-analysis of the comments were carried out. A Mann-Whitney U-test helped investigate differences between expert-groups. This study resulted in validated criteria to assess postnatal care competencies in the maternity ward. The study was published in the midwifery Journal (Embo et al. 2017), and the assessment list was distributed to all midwifery schools in Flanders (Belgium) with the aim of implementing a standardized and evidence-based method to learn and assess competencies in practice.

The lessons learnt in this study were used in a follow-up study. We designed a generic assessment instrument for assessing undergraduate midwifery competencies in all midwifery domains (obstetrics, neonatology, gynaecology and fertility). Delphi-studies with students,

professionals from different disciplines (midwives, nurses, doctors, managers) and settings (schools and hospitals) were set up to validate the competency-based assessment criteria. The same methodology was used but more experts participated in the study. The validated assessment lists, which can be found in the midwifery e-Portfolio, were distributed to all midwifery schools and translated to English for the partners receiving students in Europe and abroad. Analysis of the qualitative data is in process.

3. A quality measurement instrument

Successful workplace learning depends on the quality of the learning environment and the way all the underlying educational conditions of effective workplace learning are fulfilled. Aiming for effective workplace learning means that the quality of the educational environment and processes must be measured by students. The problem is that there is a paucity of instruments designed to evaluate the multiple dimensions of the workplace as an educational environment for undergraduate medical students (Bruneel and Pouliaert 2015). Furthermore, there is also a lack of knowledge about sharing results with healthcare professionals and discussing ways to improve the quality of healthcare education in practice. The aim of this sub-project was to develop and validate an instrument to evaluate the quality of undergraduate workplace learning in healthcare education and to find a digital way to analyze and report the results to the stakeholders at the end of each year. The ultimate goal was to facilitate these processes in order to optimize systematically organized measurements and discussions about quality improvement.

Development of the instrument relied on literature review and existing instruments (Boor et al. 2008, 2011; Cocksede and Taylor 2013; Strand et al. 2013; Watson et al. 2014; Bruneel and Pouliaert 2015). A Delphi study was carried out. In two rounds, experts from speech pathology (N=42) and midwifery (N=42) were invited to score the 33 items that were clustered into 7 themes. Experts were students and professionals from the workplaces and the university college. They were invited to score the items on relevance (6-point Likert-scale), and to comment on the content and formulation, bearing in mind its use in workplace learning education. A descriptive analysis of relevance and comments was performed. The Delphi-study resulted in a validated instrument that is implemented in midwifery and speech pathology and that can be used by other disciplines. The results were presented at the EAPRIL conference in Porto in 2016.

4. Audio and Video applications

This sub-project aimed at adding media (audio and video) to the e-Portfolio. A multidisciplinary team (midwife, speech pathologist and educationalist) developed a guide and quicksheet for e-Portfolio users: "Video tagging as a tool for reflection, workplace learning and professional development". Tags are keywords or descriptive labels that users add to items to help categorize them. By applying tags or labeling moment on which students want to reflect, they

create interactive learning material from their own video material. Tagging can play a role in creating or supporting interaction between the student and supervisor and help supervisors understand which parts of students' learning needs support. The General Data Protection Regulation (GDPR) of the EU has an implication on the use of these media. The legal department of the Artevelde University College is creating a legislative framework to use these tools during workplace learning. The timing of implementing these tools depends on the implementation of the new digital learning environment.

5. <u>Competency development and lifelong learning</u>

The midwifery and speech pathology departments organize a longitudinal mentorship involving a teacher (or coach) who guides personal and professional development from individual students throughout the curriculum. These personal coaches support continuous competency development within and across in-school and out-school modules. This is important because a principal educational element in competency-based education is that the learning is fixed (outcomes) and that the time to achieve these outcomes is variable.

During this project, the personal coaches from all the healthcare programs at the AUC (nursing, audiology, oral health,…) discussed how to redesign this portfolio in order to facilitate learners' progress over time. During these meetings, the major opportunities to use this e-Portfolio to support development of lifelong learning competencies were paramount. It was generally accepted that this long-term portfolio can serve to keep track of development within and across internships and to plan future directions after graduation.

Another important element was discussed, i.e. what to do with the portfolio after graduation. Students can download information before leaving or can pay for continuous Medbook© access after graduation. This innovation fits with the policy of the Belgian Minister of Health to implement portfolios for professionals as a licence to practice. This portfolio will be conceptualized as a professional identity card of the healthcare professional and will be rewarded as a dynamic proof of competence.

6. <u>'Design thinking' and 'Design research' for innovation</u>

Today the need for innovation has become more evident than ever and the digital revolution gave the culture of the image a whole new élan. The graphic designer supported the design team in translating their innovative mindset to practice (= co-creation). As was found in the literature, creativity is the major resource of innovation. Also in this project, we perceived that the interrelations between innovation-creativity-design and healthcare education at the workplace were integral (Orlandi 2010). The outcome of this sub-project was a youtube video, telling the competency journey of the student on the basis of the six-steps competency-based workplace learning model. This movie was demonstrated at conferences, presentations,

workshops and lessons with all stakeholders involved with workplace learning: https://www.youtube.com/watch?v=gaY3KJX7YYk&rel=0

7. Valorisation

The term 'innovation' can be coupled to the term 'valorisation'. Innovation means converting new combinations (inventions) to reality, ergo applying them to a product or process. An invention alone is not considered an innovation; innovation only applies if the invention is used in practice. Valorisation was done by implementing the innovations in practice, by presenting the results at different conferences (see attachment), by publishing different articles, by stimulating collaboration resulting in different follow-up projects that are described in the next paragraph.

Follow-up projects

This innovation project 'Digitizing Workplace Learning' was the start of an inspiring and growing co-creation and innovation project between healthcare educators from different disciplines, professionals from the workplace, researchers and company directors. After finishing the project, new and follow-up projects started. They are an example of multidisciplinary education that aims to bring together different professionals to learn with, from, and about one another in order to collaborate more effectively in the delivery of high-quality care and education.

We list the most important ones:

- International & Digital Midwifery Workplace Learning Network: the first step. This is a two-years capacity buildings project (2017-2019) with the University of Rwanda, funded by VLIR/UOS.

- The midwifery school in Uganda is interested in joining this network. Recently, an Erasmus+ KA 107 proposal was written to implement Medbook© in Uganda in order to optimize the quality of supervision of incoming and outgoing students during the workplace learning curriculum.

- Vulnerable pregnant women throughout Europe: Exchanging knowledge and best practices from midwifery practices throughout Europe to improve quality of midwifery care (2018-2020). Midwives, researchers and teachers from different countries will participate in this project: the Netherlands (Rotterdam=project leader), Belgium (Antwerp & Ghent), Italy (Milan), Finland (Turku), Portugal (Lisbon) and Poland (Koszalin).

- Implementation of the midwifery e-Workplace Learning Portfolio in all the healthcare programmes of the Artevelde University College Ghent.

- Collaboration with Flemish midwifery schools to use of the validated assessment checklists in Flanders' midwifery schools + exploration e-portfolio.

- Exploration of generalizability to the nursing and midwifery school in Walloon, Namen (Belgium).

4. Link to the PRoF values

8 PRoF values

Within this paragraph, we will describe how our innovation was created according the 8 PRoF values. Nevertheless, we also want to emphasize that our innovation project is specifically a competency-based educational innovation project that *indirectly* has an impact on the quality of safe and high-quality care. Consequently, we will describe the relation to the PRoF values with learners and supervisors in our mind, instead of the patients who were indirectly involved in this project.

1. <u>Minimal comfort</u>

A key feature of this portfolio is that it is **user-friendly and not too time consuming** (see also above). The advantages of the online portfolio on learning, assessment and supervision are clear.

Some results that were presented at the AMEE conference 2017:

Positive effect on learning

▪ Students receive **more feedback**, not less

▪ "I used to write goals but nobody looked at them. Now, with Medbook©, I get feedback and I check regularly whether I have achieved myx goals." (student Midw)

▪ "Very easy to quickly capture a learning reflection. … I feel that midwives also prefer typing over writing…. Some midwives have dyslexia like me, also for them it is easier to type…. Midwives can give their feedback at a time that suits them, they are really motivated to do that." (student Midw)

▪ Stimulated **self-regulated learning**

▪ "I have more control of my learning progress because I can organize information and link this to the assessment criteria in the checklist. Furthermore, I always have my information with me. I can scroll back, ah yes, I see progress." (student Midw)

▪ "The overview of competencies and assessment criteria is helpful to see: What have I done and what do I still have to do?" (student Midw)

It facilitates **supervision**

- ▪ "Information that previously we heard from patients, we can now read firsthand from the students themselves, through their reflections in the Medbook©, e.g.things that were on their mind, in the moment. When you read it, you can pick up on it." (Mentor SpP)

- ▪ "Medbook© is useful because I can see at a glance whether the student has reflected on all the competencies. If you do this in the meantime, you can encourage the student to complete reflections during the following weeks." (Teacher Midw)

It facilitates **assessment**

- ▪ "Students reflect daily on tasks but are assessed on competencies. Now it is difficult and time-consuming to read the bundle of papers. With Medbook© it goes in one click." (teacher Midw)

- ▪ "Through Medbook©, student, mentor and teacher can complete the assessment independently. This is very valuable, as differences are immediately visible." (student and teacher Midw.)

2. Privacy

The importance of regulating and respecting the privacy is another feature of the portfolio design. We document this with keys in Figure 2. It must be very clear to students, as well as supervisors, personal coaches and teachers, who has access to what information. The ultimate goal is to facilitate lifelong learning. Therefore, we organized access to information as follows:

- the student is the portfolio owner and he/she gives access to supervisors and teachers
- the personal coach has access to all the portfolio information
- the teachers from school have access to all information so that they can make bridges between different internships.
- Supervisors from one internship have only access to information of this internship.

As mentioned above, the legal department of the Artevelde University College is creating a legislative framework to use these tools during workplace learning.

Imengine has a policy document that must be read and accepted by learners at the start.

3. Security

There is an interrelationship between security and safety in that the goal of each is to prevent human suffering and avoid costs to the organization. Because this workplace learning innovation project crosses two key policy domains, healthcare and education, we discuss the topic of security from the perspective of patients and students.

From a patients perspective, we relate security to entrustable and safe patient care

Although the movement towards competency-based education ultimately serves to increase the trust of society in the competence of healthcare professionals we found no studies

measuring the effect of e-Portfolios on patient outcomes. As patient safety comes to the forefront of thinking about quality in healthcare, we emphasize the need to do further research on this topic.

Nevertheless, our integrated and competency-based workplace learning e-Portfolio, providing a one-stop tool for learners and supervisors, seems potentially valuable to improve the quality of education and consequently also the quality and safety of patient care. The current six-steps model (Embo et al. 2015) in the portfolio is a pedagogical method helping residents in their competency development while guaranteeing the safety of patients receiving students' care. An important component of the portfolio is the diary with daily reflections and feedback from observing supervisors. This is a strength of a portfolio because reflection is a process that enables students to determine their own actions, critically review these actions and act on the outcome in the best interest of the client or patient (Friedman Ben David 2001).

Another important component is the way this portfolio helps the assessment process (formative and summative assessment). Assessment provides a safe opportunity to explore errors in students' practice and strategies to avoid future errors. These sensitive matters can be discussed within the outcome of an aptitude for personal and professional development (Friedman Ben David 2001). To finish with, the portfolio encompasses a logbook with professional activities or essential tasks that students must perform during their workplace learning curriculum. For midwives, these tasks are described in the European Directives (2013/55/EC) but any profession has its own legislation. Current literature defines the goal of medical education as readiness for unsupervised practice and ten Cate et al. (2016) recommend that the outcome of assessment in the workplace be measured in terms of the level of supervision to be provided. The entrustment of clinical tasks to healthcare students is a seemingly easy process that occurs multiple times every day in almost every clinical setting where students are trained. Yet, when analyzed, many factors appear to determine how, when, and whether learners are granted responsibilities under indirect or distant supervision. Deliberate entrustment decisions take these factors into account and aim to reconcile the educational need to push learners to stretch their scope of performance with the need for safe, high-quality patient care. Making entrustment decisions *explicit* can help to change the status quo (ten Cate et al., 2016).

Our portfolio has an assessment design that provides the evidence to make the optimum entrustment. By integrating different components in one tool, supervisors have information about the quantity of performances (logbook) as well as about the quality of the performances (diary). Furthermore, validated assessment lists supports self-assessment and assessment from different supervisors. Finally, the portfolio aims to support continuous learning within and across internships. Learners and supervisors have insight in the evidence from former internships.

From a students' perspective, we relate security also to the costs bounded to the hardware devices.

The basic idea of security and safety is protecting assets from hazards/threats creating safe/secure conditions. We tried to provide 'Medbook©-computers' on the wards as was made possible in the first pilot project. Nevertheless, we couldn't find funding so that we had to ask

students to bring their personal device to the workplace. Students had to ask where they could securely store their device.

4. Anti-loneliness

An important feature of this portfolio is the reflective learning portfolio. Students can reflect on interesting, but also on difficult learning experiences and they can ask observing supervisors, teachers or personal coaches to give feedback on these reflections. It is important to mention that an e-Portfolio is an instrument that can't replace a dialogue between students and their supervisors. The information collected in the portfolio must facilitate learning and supervision. Another important effect is that supervisors can follow their students from a distance. Even students who are doing internships abroad can be followed daily. Students who don't reflect regularly can receive a message from the teacher.

The e-Portfolio also includes opportunities to optimize peer-learning, but this sub-project has not started yet.

5. Non-stigmatizing solutions

The e-porfolio design is based on the paper-based method. A point of concern was the cost price for students. They need a device and they have to pay for an annual Medbook© account subscription. The University College Arteveldehogeschool has a student facilities service where students with financial problems can receive support.

6. Inter-generational

The concept of this e-Portfolio is based on a workplace learning model integrating all components of workplace learning and all stakeholders involved in workplace learning. This means that learners of different ages and professionals (from different generations) observing these learners use the same portfolio.

Furthermore, this portfolio is a lifelong portfolio that can be used from day 1 of the study until the end of the professional career.

7. Respect

The workplace model and the e-Portfolio integrates learning and assessment. This means that there is a tension between the continuous collection of written information for learning purposes on the one hand, and the use of this information for assessment purposes on the other. To overcome this tension, it was argued that learning and assessment should be embedded in a relationship of trust between the learner and supervisors/assessors.

8. Flexibility

This e-Portfolio provides new and flexible perspectives on continuous workplace learning in the context of a discontinuous workplace learning environment. The online forum provides an easy access for students and supervisors. The time of sending documents by mail is history, observers can write feedback after shifts, international students can be followed from home,…

As the portfolio can easily switch from Dutch into English, students can be supervised with the same portfolio. Students continue their reflections in English, which gives them an extra training in the English language. There are many advantages of a portfolio but the flexibility created by the online instrument will reach its fullest potential when combined with face-to-face dialogues and meetings with students, peers and professionals. Medbook© also facilitates dialogues with international partners. Student, mentor and teacher have international Skype meetings, based on the information that was collected during the internship. Also the assessment criteria are translated in English. This makes it possible to strengthen the roles of supervisors in the foreign countries.

Innovation is created based upon interdisciplinary collaboration and inter-university/ school collaboration

Interdisciplinary collaboration

The strength of this innovation project is the collaboration of two healthcare professions with major differences (speech pathology versus midwifery). The results of this interdisciplinary project are an example of the power of investing in interdisciplinary education.

This innovation project involved many disciplines. To begin with, the project team consisted of many members from different disciplines and departments. Furthermore, the Delphi studies that were set up during the project included students, professionals, teachers, managers from schools and hospitals from different disciplines and from different contexts in Flanders. Finally, the follow-up projects involve many new disciplines because the main goal of this project is to design a digital an lifelong learning portfolio that can be used by all healthcare professionals. It is our belief that a more standardized workplace learning portfolio will enhance interdisciplinary education but also interdisciplinary care. It is well known that effective interdisciplinary care will enhance the quality and safety of care but will also reduce the healthcare cost for patients and government.

Inter-university/school collaboration

This co-creation project was funded by the Artevelde University College but many professionals from university colleges, universities, and hospitals participated voluntarily because of their belief in the added value to their own practice. One quote from a participating nurse is exemplary for the importance and undervaluation of this work: "I was quickly impressed by your quality approach! (…) I am convinced that this will generate significant added value in the landscape of lifelong learning within the healthcare sector". Collaboration with Prof. Valcke from the Educational department Ghent was important to guarantee qualitative design-based research in this innovation project. One of the Delphi studies was set up with the University of Antwerp. This collaborative practice-based research was effective for dissemination of the project. Additionally, the collaboration between the company Imengine and the other partners was unique and essential to design a user-friendly and effective e-Portfolio. Imengine supported implementation with a helpdesk function during the pilot phase for speech pathology and midwifery and during the implementation phase in midwifery.

Impact on healthcare system

Workplace learning crosses two key policy domains: healthcare and education. Legislation in the field of healthcare affects education and vice versa. When scrutinising competency-based education, their mutual influence becomes all the more apparent. At the same time, however, it becomes clear that both worlds sometimes function in completely different ways.

This project contributes to the realisation of the policy goals of Minister De Block (2014), the Belgian Minister of Health, Welfare and Sport. An evidence-based and competency-based model for continuous learning in healthcare education was digitized and implemented in order to prepare graduates for the challenges they will face in the healthcare system. The resulting e-Portfolio needs further improvement and research but the first results are promising. Promoting continuous competency development requires an integration of competencies, learning (reflection and feedback on performances and on competency development), assessment (self-, formative and summative) and supervision (observers, learning guides and personal coaches). Creating a collaborative workplace culture with e-Portfolio where all the stakeholders share the responsibility for the quality of complex but inseparable workplace learning, assessment and supervision processes can optimize competency-based education and high-quality care in clinical practice. The project members hope that this innovation project will contribute to the competence future in clinical healthcare and education.

Sustainable societal and/or business aspects

We believe in the sustainability of this e-Portfolio because it is a user-friendly instrument that facilitates learning, assessment and supervision in practice. Nevertheless, it will be important to continue research and innovation cycles to adapt the design to the continuously evolving needs and wishes of the portfolio users and highly demanding legislation and accreditation systems. Much depend on the flexibility and capacity of Imengine to invest in this tool. The challenge will be to keep a balance between the cost for students and investment in the tool. In addition to business investment, it will be important that policymakers and managers in healthcare and education become aware of the importance of investing in this practice-based research in workplace learning. Experiences from the last hard working years have shown that it is time to call attention to this problem.

5. Applicable IPR rules

This innovation project was funded by the Artevelde University College Arteveldehogeschool and by the Mustela foundation.

6. Information on the partners

Artevelde University College Ghent

- Tomas Legrand, General Manager

- Imran Uddin, Director of Education and Student Policies director

- Hilde Van Puyenbroeck, Head Office Educational Development and Internationalisation, Project Manager Educational Innovation Projects Artevelde University College

- Jeroen Martens, Dean of the Bachelor of Speech and Language Therapy

- Patricia Claessens, Dean of the Bachelors of Midwifery and Nursing

- Mieke Embo, Head of Bachelor of Midwifery and project leader

- Lieve De Witte, Head of Bachelor of Speech Pathology

- Wouter Boudry, Nick Sabbe: Members of Office IT

- Tom Neuttiens, Frederic Raes, Dries Vanacker, Mark Verbeke: members of the Office of Educational Development and Internationalisation

- Luc Faes, Office Legal Service

- Kristine De Smet, Nathalie Cromheecke, Louis Huybrechts: Office communication

- Kathy Holvoet, An Lippens, Nancy Verliefde: members of the Bachelor of Speech Pathology

- Kristof Cleymans, Hilde De Grave, Liza Delforche, Kaat Helsloot, Annelies Huysentruyt, Lisa Van der Jeught, Tania Van den Hove, Nadia Vanderstraeten: members of the Bachelor of Midwifery

University Hospital Ghent

Midwifery
Anne Huygevelt and Marijke Trog (Maternity and delivery ward)

Speech Pathology
Carolien Goessens (Neurological rehabilitation)
Tim De Jaeger (Child and Adolescent Psychiatry Inpatient Service)

University Ghent

Dr. M. Embo, post-doctoral researcher, Department of Educational Studies, Faculty of Psychology and Educational Sciences, Ghent University, Belgium.

Prof. dr. M. Valcke, Professor in education and instructional sciences. Department of Educational Studies, Faculty of Psychology and Educational Sciences, Ghent University, Belgium.

Imengine

Dhr. K. Verbert, company director and designer Medbook[©]

Other

- Respondents in the Delphi-studies

- Students and supervisors in practice (In Flanders and in all countries were midwifery students are doing internships: Estland, Ethiopië, Finland, Frankrijk, Kenia, Malawi, Nederland, Oostenrijk, Portugal, Rwanda, Uganda, Vietnam, Zweden en Zwitserland).

Note:

If your project is selected as laureate for the Award Symposium, a powerpoint presentation that reflects the project as suggested will be required (in advance), including a future plan how the funding will be used.

If your project is selected as the winner of the Award, you will be invited to present the results achieved thanks to the award during the Award Symposium of the next year.

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Research presentations and publications during this project

Title	5th World Congress on Nursing & Healthcare. Pivotal Role of Nursing in Leading and Advancing Healthcare. A Competency-based e-Workplace Learning Portfolio that fosters continuous and self-regulated learning in healthcare education.
Presenter	M. Embo
Location	Toronto, Canada
Date	12-14/11/2018

Title	COHEHRE conference: 'Continuous workplace learning in healthcare education: a co-creation and innovation project in Ghent (Belgium).
Presenter	M. Embo
Location	Ghent, Belgium
Date	16-20/4/2018

Title	Practices on e-Portfolio: 'Dynamic competence assessment process – new perspectives for university-business collaboration': coaching and supervision. Continuous workplace learning in healthcare education: a co-creation and innovation project in Ghent (Belgium).
Staff	M. Embo
Location	UCLL – KUL, Leuven
Date	20,21/02/2018

Title	Improving student midwives' workplace learning by moving from self- to co-regulated learning! *(in review)*.
Author	Embo M, Valcke M
Date	2017

Title	Midwifery education: factors affecting quality of workplace learning (*in review*).
Authors	Bharj K, Embo M
Date	2017

Title	A Competency-Based Midwifery E-Workplace Learning Portfolio: Concept, Theory and Pedagogy
Author	M. Embo

Journal	Global Journal of Health Science & Nursing (Volume 1, Issue 1 G J Health Science Nurs 2017; 1:109 | Page 2 of 4)
Link	http://gslpublishers.org/journals/current-issue.php?title=global-journal-of-health-science-and-nursing

Title	A Delphi study to develop and validate a competency-based instrument to assess undergraduate midwifery students' competencies in the maternity ward.
Authors	K. Helsloot, M. Embo, N. Michels, M. Valcke
Journal	Midwifery, 53:1-8
Accepted	04/07/2017

Title	Education Standing Committee Workshop: Education in clinical practice
Presenters	M. Embo, K.K. Bharj, A. Stiefel, M. Butler, S. Simon, E. Bekker
Conference	International Confederation of Midwives, ICM
Place	Toronto, Canada
Date	18-22/06/2017

Title	How to organize continuous workplace learning in midwifery education? Results of an innovation project in Flanders (Belgium)
Presenter	M. Embo
Conference	International Confederation of Midwives, ICM
Place	Toronto, Canada
Date	18-22/06/2017

Title	Workplace Learning: an integrated model to support continuous and self-regulated competency development in practice [Werkplekleren: een geïntegreerd model om continue en zelfregulerende competentiegroei op de werkplek te stimuleren].
Author	M. Embo
Journal	Research and education [OVO, Onderzoek van Onderwijs]
Jaar	Jaargang 46, mei 2017

Title	A Delphi study to develop and validate a competency-based instrument to assess undergraduate midwifery students' competencies in the maternity ward.
Authors	K. Helsloot, M. Embo, N. Michels, M. Valcke
Presenter	K. Helsloot
Conference	Care 4
Place	Antwerpen, België
Date	8-10/02/2017

Title	A Delphi study to develop and validate a competency-based instrument to assess undergraduate midwifery students' competencies in the maternity ward.
Authors	Helsloot, K., Embo, M.*, Michels, N., Valcke, M
Presenter	M. Embo
Conference	Nursing Science 2016
Place	Abu Dhabi, Saudi Arabië
Date	28-30/11/2016

Title	Embo's continuous workplace learning model: integrating learning, assessment and supervision in health care education
Authors	M. Embo*, E. Driessen, M. Valcke, C. Van der Vleuten
Presenter	M. Embo
Conference	Nursing Science 2016
Place	Abu Dhabi, Saudi Arabië
Date	28-30/11/2016

Title	Development and validation of a digital instrument to measure the quality of workplace learning education: an interdisciplinary innovation project between undergraduate midwifery education and speech pathology education.
Authors	M. Embo, K. Holvoet, L. Van der Jeught
Presenter	K. Holvoet, L. Van der Jeught
Conference	EAPRIL
Place	Porto, Portugal
Date	22-25/11/2016

Title	Reflectie op continue professionele ontwikkeling: percepties van verloskundigen net voor diplomering
Authors	M. Embo, M. Valcke
Presenter	M. Embo
Conference	NVMO, Nederlandse Vereniging voor Medisch Onderwijs
Place	Egmond aan Zee, Nederland
Date	17-18/11/2016

Title	A Delphi study to develop and validate a competency-based instrument to assess undergraduate midwifery students' competencies in the maternity ward.
Authors	K. Helsloot, M. Embo
Presenter	K. Helsloot
Conference	Internationale week Universitair Centrum Verpleegkunde en Vroedkunde
Place	UZ Gent
Date	10-14/10/2016

Title	Workplace learning in health care education
Presenters	M. Embo, K.K. Bharj
Conference	Internationale week Universitair Centrum Verpleegkunde en Vroedkunde
Place	UZ Gent
Date	10-14/10/2016

E-Portfolio Presentations during this project

Initiative	Presentations at all the Flemish workplaces were midwifery students did internships (N=+/- 100)
Medewerkers	All the teachers from school: S. Accou, A. Coppens, B. Crabbe, E. De Coene, A. De Craecker, V. De Frène, H. De Grave, A. Decordier, L. Delforche, N. Huyghe, M.

Huysman, V. Laureys, K. Lauwaert, K. Loyens, T. Van den Hove, L. Van der Jeught, E. Wierckx, K. Willems, C. Wyffels

Plaats	Flanders: hospitals, independent midwives, practices in the first echelon,..
Datum	2015-2017

Initiatief	VLIR/UOS projectweek Rwanda: work package 1
Medewerkers	H. De Grave, M. Embo
Plaats	Rwanda University, Kigali
Datum	25-30/3/2018

Initiatief	Buitenlands bezoek Bern – Portfolio
Medewerkers	A De Craecker en M Embo
Plaats	Bern
Datum	21-23/3/2018

Initiatief	Good practice: demonstratie Medbook© buitenlandse partner Talinn
Medewerkers	A.De Craecker, L. Delforche
Plaats	Talinn, Estland
Datum	8-10/2/2018

Initiatief	Good practice: Demonstratie Medbook© op scholenoverleg in het UZ Gent
Medewerker	L. Van der Jeught
Plaats	UZ Gent
Datum	19/01/2018

Initiatief	Nieuwjaarsontbijt mentoren
Medewerkers	L. Van der Jeught, A. Decordier, M. Embo, M. Huysman, J. Vande Moortel
Plaats	Campus Kantienberg
Datum	18/01/2018

Initiatief	Good practice: beoordelingslijsten stage aan Karel de Grote Hogeschool (vraag van Wendy Schoters)
Medewerkers	K. Helsloot, L. Van der Jeught
Plaats	Arteveldehogeschool, campus Kantienberg
Datum	23/11/2017 (10-12u)

Initiatief	Skype demonstratie Medbook© aan An Ackaert en collega (Berner Fachhochschule / Bern University of Applied Sciences. Fachbereich Gesundheit / Health Division. Disziplin Geburtshilfe / Studiengang Hebamme BSc
Medewerker	M. Embo
Plaats	Skype
Datum	22/11/2017

Initiatief	Demonstratie Medbook© aan team verloskamer en kraamafdeling ZH Oostende
Medewerker	L. Van der Jeught
Plaats	Oostende, AZ Damiaan
Datum	09/11/2017

Initiatief	Workshop Hogeschoolcongres Karel de Grote Hogeschool. Stage in de gezondheidszorg: een geïntegreerd model om continue competentiegroei te stimuleren.
Medewerker	M. Embo
Plaats	Antwerpen
Datum	08/11/2017

Initiatief	Voordracht op teamvergadering Medbook© UZ Gent, kraamafdeling en verlosafdeling (op vraag van A. Huygevelt)
Medewerker	M. Embo
Plaats	UZ Gent
Datum	06/11/2017

Initiatief	Good practice: doorgeven van kwaliteitsbevraging stage en Delphi studie beoordeling (OIT digitaliseren werkplekleren) aan Leernetwerk Arteveldehogeschool (vraag van Lore Demedts en Dieter Probst)
Medewerker	M. Embo
Plaats	per mail
Datum	25/10/2017

Initiatief	Good practice: doorgeven beoordeling stage aan opleiding podologie, vraag Greet Lauwers
Medewerker	M. Embo
Plaats	mail
Datum	23/10/2017

Initiatief	Good practice: 'portfolio – groeien naar professionele bekwaamheid' doorgeven aan J. Descamps, opleiding ergotherapie
Medewerker	M. Embo en N. Vanderstraeten
Plaats	Arteveldehogeschool, campus Kantienberg (mail)
Datum	04/10/2017
Initiatief	Stakeholdersdialoog Stagementoren logopedie – kwaliteitsvragenlijst werkplekleren.
Medewerkers	K. Holvoet, A. Lippens
Plaats	Arteveldehogeschool, campus Kantienberg
Datum	06/07/2017

Initiatief	Good practice: Demonstratie Medbook© aan collega's mondzorg, in opleidingsvergadering
Medewerker	M. Embo
Plaats	Arteveldehogeschool, campus Hoogpoort
Datum	03/07/2017

Initiatief	Good practice: doorgeven gevalideerde beoordelingsinstrumenten 4 domeinen verloskunde (resultaat onderwijsinnovatietraject digitaliseren werkplekleren) aan andere opleidingen bachelor in vroedkunde in Vlaanderen. Effectief gebruik 1718: Karel De Grotehogeschool, PXL Hasselt, Tomas Moore Turnhout en Lier.
Medewerker	M. Embo, K. Helsloot
Plaats	per mail

Datum	30/06/2017
Initiatief	Interne vorming voor stagebegeleiders rond beoordelen van werkplekleren (in het kader van de methodiek Mieke Embo) in samenwerking met de dienst OEI (deel 2).
Medewerkers	A. Lippens
Plaats	Arteveldehogeschool, campus Kantienberg
Datum	29/06/2017
Initiatief	Good practice: Demonstratie Medbook© aan collega's creatieve therapie
Medewerker	M. Embo
Plaats	Arteveldehogeschool, campus Hoogpoort
Datum	23/06/2017
Initiatief	Demonstratie Medbook© aan 2 Duitse collega vroedvrouwen (Deutsche Angestellten-Akademie DAA Lahr & Akademie für Gesundheitsberufe Rheine)
Medewerker	M. Embo
Plaats	ICM 2017, congres Toronto
Datum	21/06/2017
Initiatief	Good practice: vraag van Mieke Clement (UCLL) naar methodiek werkplekleren en expertise OIT digitaliseren werkplekleren logopedie en vroedkunde voor de UCLL opleidingen gezondheidszorg, sociaal werk, orthopedagogiek en SRW
Medewerker	M. Embo
Plaats	Mail
Datum	24/05/2017
Initiatief	Good practice 'kwaliteitsbevraging stageplaatsen', opgemaakt in OIT doorgegeven aan opleiding vpk.
Medewerkers	K. Holvoet, L. Van der Jeught
Plaats	Arteveldehogeschool, campus Kantienberg (per mail)
Datum	19/05/2017
Initiatief	Good practice: demonstratie Medbook© dienst professionalisering (L. Casier en B. Van Baarle)
Medewerker	M. Embo
Plaats	Arteveldehogeschool, Hoogpoort
Datum	17/05/2017
Initiatief	Presentatie methodiek werkplekleren Audiologie (opleidingscoördinator en verles).
Medewerkers	A. Lippens
Plaats	Arteveldehogeschool, campus Kantienberg
Datum	02/05/2017, 06/06/2017
Initiatief	Onderwijsinnovatietraject 'digitaliseren werkplekleren' opleidingen logopedie en vroedkunde: les in SLO gezondheidswetenschappen
Medewerker	M. Embo
Plaats	UZ Gent

Datum	26/04/2017
Initiatief	NVKVV - Week van de verpleegkunde, werkgroep begeleidingsverpleegkunde
	Voormiddag: Stage in de gezondheidszorg: een geïntegreerd model om continue competentiegroei te stimuleren.
	Namiddag: Embo's stagemodel gedigitaliseerd: demonstratie en resultaten van het onderwijsinnovatieproject Arteveldehogeschool, UZ Gent en Medbook© .
Medewerkers	M. Embo
Plaats	Oostende
Datum	21/03/2017
Initiatief	NVKVV - Week van de verpleegkunde, werkgroep begeleidingsverpleegkunde
	Namiddag: Talenten als wegwijzers in een leertraject – Methodiek, tips & tricks
Medewerkers	N. Vanderstraeten
Plaats	Oostende
Datum	21/03/2017
Initiatief	Vorming werken met Medbook©, stagediensten logopedie
Medewerkers	M. Embo, L. Van der jeught, A. Lippens
Plaats	UZ, Gent
Datum	16/03/2017
Initiatief	Presentatie methodiek werkplekleren in opleidingsvergadering logopedie.
Medewerkers	A. Lippens
Plaats	Arteveldehogeschool, campus Kantienberg
Datum	16/02/2017
Initiatief	Presentatie methodiek werkplekleren in CCT logopedie en audiologie.
Medewerkers	A. Lippens
Plaats	Arteveldehogeschool, campus Kantienberg
Datum	13/02/2017
Initiatief	Good practice: demonstratie digitaal werkplekportfolio op teamdagen ergotherapie
Medewerker	M. Embo in naam van OIT digitaliseren werkplekleren Logo/Vrk
Plaats	Arteveldehogeschool, campus Kantienberg
Datum	07/02/2017
Initiatief	Good practice: demonstratie digitaal werkplekportfolio directie en praktijklectoren IVV Sint Vincentius Gent
Medewerker	M. Embo in naam van OIT digitaliseren werkplekleren Logo/Vrk
Plaats	Arteveldehogeschool, campus Kantienberg
Datum	03/02/2017
Initiatief	Good practice: demonstratie e-werkplekportfolio OIT digitaliseren werkplekleren bachelor in vroedkunde en logopedie aan opleiding podologie
Medewerker	L. Van der Jeught in naam van OIT digitaliseren werkplekleren Logo/Vrk
Locatie	Arteveldehogeschool, campus Kantienberg
Datum	03/02/2017

Initiatief	Interne vorming voor stagebegeleiders rond beoordelen van werkplekleren (in het kader van de methodiek Mieke Embo) in samenwerking met de dienst OEI (deel 1).
Medewerkers	A. Lippens
Plaats	Arteveldehogeschool, campus Kantienberg
Datum	02/02/2017

Initiatief	Nieuwjaarsontbijt stagepartners
Medewerkers	P. Claessens, M. Embo, L. Van der Jeught, stagebegeleiders
Plaats	Arteveldehogeschool, Kantienberg
Datum	26/01/2017

Initiatief	Good practice: demonstratie e-werkplekportfolio OIT digitaliseren werkplekleren bachelor in vroedkunde en logopedie aan opleidingsadviesraad Mondzorg Arteveldehogeschool en KULL
Medewerker	M. Embo
Locatie	Leuven
Datum	16/01/2017

Initiatief	Good practice: demonstratie e-werkplekportfolio OIT digitaliseren werkplekleren bachelor in vroedkunde en logopedie aan collega's HBO5 Roeselare (An Ghesquiere, Jonas Bulekens, Sofie Candaele)
Medewerker	M. Embo
Plaats	Arteveldehogeschool, campus Kantienberg
Datum	15/12/2016

Initiatief	Good practice: demonstratie e-werkplekportfolio OIT digitaliseren werkplekleren bachelor in vroedkunde en logopedie in opleidingsvergadering bachelor in audiologie
Medewerker	L. Van der Jeught
Plaats	Arteveldehogeschool, campus Kantienberg
Datum	08/12/2016

Initiatief	Good practice: demonstratie e-werkplekportfolio OIT digitaliseren werkplekleren bachelor in vroedkunde en logopedie in opleidingsvergadering bachelor in verpleegkunde
Medewerker	L. Van der Jeught
Plaats	Arteveldehogeschool, campus Kantienberg
Datum	06/12/2016

Initiatief	Presentatie OIT digitaliseren werkplekleren logopedie en vroedkunde in de opleidingsadviesraad logopedie.
Medewerkers	A. Lippens
Plaats	Arteveldehogeschool, campus Kantienberg
Datum	21/11/2016

Initiatief	Demonstratie e-vroedvrouwportfolio, evaluatie pilootproject UZ Gent – Medbook©– OIT digitaliseren werkplekleren logopedie en vroedkunde
Medewerkers	L. Delforche, M. Embo, L. Van der Jeught en 2 studenten 3VRK

Plaats	UZ Gent, atrium P3-4
Datum	27/10/2016

Initiatief	Presentatie OIT digitaliseren werkplekleren logopedie en vroedkunde in opleidingsvergadering logopedie.
Medewerkers	A. Lippens
Plaats	Arteveldehogeschool, campus Kantienberg
Datum	03/10/2016

Addendum: Contact information

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