Proposal
Symposium
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ePortfolio's voor het ondersteunen van werkplekleren in opleidingen in de gezondheidszorg

1. Symposium information

Symposium title

EPortfolios, an innovative future ahead - Optimizing workplace learning in healthcare education

Point of contact

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Abstract

The integrated use of digital technologies in higher education has been a game-changer. Different advantages have been put forward, such as improving communication, collaboration, and content sharing. Digital portfolios or ePortfolios take advantage of these technology affordances. They are considered an appropriate tool to support competency-based pedagogical approaches and promote lifelong learning in the 21ste century. EPortfolios are frequently used, especially in the context of healthcare education. However, despite an "e-Portfolio boom", effective ePortfolio use remains difficult. During this symposium, we will take an interdisciplinary look at ePortfolios. We will outline available evidence, explore perspectives of ePortfolio users in high-, middle- and low-income countries, and provide recommendations addressing the perceived difficulties.

Session Summary

During this symposium, researchers will present recent ePortfolio research in healthcare education conducted during the first two years of a four-year

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interdisciplinary research project SCAFFOLD (www.sbo-scaffold.com). This ePortfolio research group aims at becoming an expert group supporting individuals and organizations in healthcare education and practice to develop evidence-based educational designs and ePortfolio tools supporting continuous competency development in practice. The ambition is to contribute to the need to improve the quality of healthcare education because it is well-known that high-quality education results in better patient outcomes.

The presenting researchers have varying backgrounds ranging from communication sciences and pedagogy to midwifery and medicine. This allows us to look at ePortfolios in a multidimensional way, which generates critical insights for the wider ePortfolio community. Therefore, the objective of this session is to share these insights and recommendations for ePortfolio design, development, implementation and sustainable usage. Throughout the presentations theoretical and empirical views are provided. Furthermore, the presenters will use interactive ways to share their insights with the audience in order to initiate interaction and discussion.

The symposium consists of 6 presentations and will **start** with an introduction providing an overview of ePortfolio definitions, underlying educational theories and pedagogy. During the **second** presentation, we will present the results of a review, investigating how ePortfolios are used in the context of healthcare education. Different platforms and their benefits, challenges and recommendations for future ePortfolio designs will be presented. One of the main recommendations of this review was to involve users in the design of ePortfolios. This brings us to the **third** presentation where the results of a concrete user-centered design trajectory will be discussed. Different functional requirements for an ePortfolio fitting the needs of different ePortfolio user profiles (i.e., students, workplace mentors, and teachers) will be presented. The users described many needs to be addressed in an ePortfolio design. We selected for this symposium two emerging needs: direct observation and training. During the **fourth** presentation, the potential of ePortfolio technology to respond to the lack of direct observation will be discussed. Current examples of video use and its advantages and disadvantages will be outlined. The **fifth** presentation will address the lack of training and support for the usage of ePortfolios. The currently available evidence on ePortfolio user training will be presented and recommendations for the design and development of user training will be shared. The **final** presentation will broaden the view and present the results of a project between Rwanda and

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Belgium, investigating the generalizability of an ePortfolio (Medbook) to support workplace learning in low-income countries. After the presentations, there will be time for questions and discussion

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3. Presentations

3.1 Introduction (presentation 1)

The paper title

Not seeing the wood for the trees: Unravelling the variety of ePortfolio definitions

Authors in order of authorship, indicating presenting author(s):

Sofie Van Ostaeyen (presenting author), dr. Anissa All, Vasiliki Andreou, dr. Mieke Embo, Oona Janssens, Marieke Robbrecht, Helena Demey, Clara Wasiak

Presentation summary

Objectives or purposes

The objective of this introduction presentation is to dive into the wide variety of ePortfolio definitions and shed light on how the ePortfolio concept is described. Based on an in-depth analysis of different definitions, insights are provided in recurring elements and frequently used concepts, independent of existing ePortfolio classification types.

Perspective(s) or theoretical framework

In literature, the term 'ePortfolio' is described in various ways and the amount of definitions is numerous. From this large number of definitions, we can deduce that ePortfolios are used in many different ways (Farrell, 2020). EPortfolios can be seen as chameleons that change depending on their purpose and pedagogical design (Granberg, 2010). This might explain why there is no universal definition (Hallam & Creagh, 2010). Several initiatives have been taken to use classification systems to categorise this multiplicity of ePortfolios, but these systems are not all-encompassing as some ePortfolios fit into more than one category or even fall outside the suggested categories.

Methods, techniques, or modes of inquiry

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A variety of definitions found in the literature was brought together by the researchers. These definitions were unravelled using thematic analysis (Braun & Clarke, 2006). After familiarizing with the data, codes were generated inductively.

Data sources, evidence, objects, materials or the equivalent for theoretical or methodological papers/presentations

The researchers collected 37 definitions found in research articles published between 1996 and 2017.

Results and/or substantiated conclusions or warrants for arguments/point of view

Many definitions use a metaphor to describe the ePortfolio. This metaphor is often complemented by an adjective that gives further meaning to the chosen metaphor. In addition, definitions often describe the components of an ePortfolio, and some even name the format in which these components are expressed (e.g. text, images, videos). The most common recurring concepts include learning, reflecting and evidence.

Scientific or scholarly significance of the study or work

This analysis overcomes the wide variety of ePortfolio definitions available in the literature by showing that recurring elements and concepts can be found in these definitions. These elements and concepts can be a source of inspiration for those who want to design and develop their own ePortfolio and describe it.

References

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Farrell, O. (2020). From portafoglio to Eportfolio : The evolution of portfolio in higher education. *Journal of Interactive Media in Education*, *1*(19), 1–14.

Granberg, C. (2010). E-portfolios in teacher education 2002-2009: The social construction of discourse, design and dissemination. *European Journal of Teacher Education*, *33*(3), 309–322. https://doi.org/10.1080/02619761003767882

Hallam, G., & Creagh, T. (2010). ePortfolio use by university students in Australia: A review of the Australian ePortfolio project. *Higher Education Research and Development*, *29*(2), 179–193.

3.2 Presentation 2

The paper title

The benefits, challenges, and recommendations regarding ePortfolio use in healthcare education

Authors in order of authorship, indicating presenting author(s)

Oona Janssens, (presenting author), Prof. dr. Leen Haerens, Prof. dr. Martin Valcke, dr. Mieke Embo

Presentation summary

Objectives or purposes

This presentation aims to introduce the benefits, challenges, and recommendations of current ePortfolio use in healthcare education by providing an easy-to-use overview, in order to optimize future ePortfolio practices.

Perspective(s) or theoretical framework

EPortfolios have obtained an established position in healthcare education as they might solve the paper-burden associated with earlier portfolios, optimize competency development, foster communication, optimize collaboration between different stakeholders, and support Continuous Professional Development (CPD) (Andre, 2010; Cordier et al., 2016; Dening et al., 2018; Duncan-Pitt & Sutherland, 2006; Garrett et al., 2013; Hall et al., 2012; Jones et al., 2007; Karsten, 2012; Karsten et al., 2015; Rezgui et al., 2018; Sidebotham et al., 2018). Although an ePortfolio might be a promising tool, several challenges still exist as ePortfolios often lack user training and usage procedures, are not well integrated in the wider curriculum, and contain weak proofs of competence mastery (Driessen, 2017; Pearson et al., 2018).

Currently, there is no overview of the benefits and challenges, and corresponding recommendations, in relation to current ePortfolio use. In order to fill this void, the aim of this study was two-fold: (1) to explore the benefits and challenges of current ePortfolio use and (2) to provide an easy-to-use handle, composed of practical recommendations.

Methods, techniques, or modes of inquiry

A scoping review was conducted in order to capture the full scope of evidence (Arksey, Hilary; O'Malley, 2005). Journal articles or conference papers were included if they explored ePortfolio use in audiology, dental hygiene, occupational therapy, nursing (associate degree and bachelor), midwifery, podiatry, or speech therapy.

Data sources, evidence, objects, materials or the equivalent for theoretical or methodological papers/presentations

After searching 8 databases, 36 articles were included, meeting all inclusion criteria. Most of the studies were conducted in Australia (n=10/36), and involved a student population (n=25/36).

Results and/or substantiated conclusions or warrants for arguments/point of view

A large amount of ePortfolio-platforms could be distinguished. Analysis revealed that 2 types could be differentiated: (1) the 'store and communicate' ePortfolios, focusing on uploading and storing pieces of evidence of learning, and (2) the 'work and learn' ePortfolios, providing more structure to the users by building on a fixed format and offering a range of features such as uploading multimedia.

The multiplicity of ePortfolio-platforms is also reflected in the variety of benefits and challenges, allocated to 1 of the 5 inductively constructed themes: technology, collaboration, competency development, employment, and quality of patient care.

A large amount of recommendations, derived from literature, was allocated to the 5 themes, supplemented by 8 sub-themes. Some important technological recommendations are: to engage ePortfolio-users during ePorfolio

design (Foucault et al., 2018; Kardos et al., 2009; Pincombe et al., 2010), to provide simple navigation within the tool (Garrett et al., 2013), to take a sufficient time frame for implementation (Mather, 2012; Stewart, 2013), to implement the tool gradually (Andrews & Cole, 2015), to educate about the pedagogical aspect of ePortfolio use (Wassef et al., 2012), to offer ongoing support (Stewart, 2013; Wassef et al., 2012), to scaffold the digital literacy needs of ePortfolio-users (Stewart, 2013; Wassef et al., 2012), and to make clear what parts will be shared and what parts will stay private (Andrews & Cole, 2015). Recommendations in relation to competency development are: to not only provide summative feedback but also formative feedback (Andrews & Cole, 2015), to provide an open format for reflection (Garrett & Jackson, 2006), and to use ePortfolios not only for assessment but also to support CPD (Andrews & Cole, 2015).

Scientific or scholarly significance of the study or work

EPortfolio usage supports learning processes, necessary in providing high-quality healthcare education (Dening et al., 2018; Duncan-Pitt & Sutherland, 2006; Hall et al., 2012; Jones et al., 2007; Karsten, 2012). The recommendation of engaging ePortfolio-users during ePortfolio design could optimize ePortfolio practices for example, by improving the controversial ease of use. This review might be a lead to plan future research in order to optimize ePortfolio practices scaffolding healthcare education and multidisciplinary collaboration through the independence of location, time or discipline.

References

Andre, K. (2010). E-Portfolios for the aspiring professional. *Collegian, 17*(3), 119–124. https://doi.org/10.1016/j.colegn.2009.10.005

Andrews, T., & Cole, C. (2015). Two steps forward, one step back: The intricacies of engaging with eportfolios in nursing undergraduate education. *Nurse Education Today, 35*(4), 568–572. https://doi.org/10.1016/j.nedt.2014.12.011

Arksey, Hilary; O'Malley, L. (2005). Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology: Theory & Practice, 8*(1), 19–32.

Cordier, R., McAuliffe, T., Wilson, N. J., Totino, R., Dender, A., Smith, C., & Stephens, M. (2016). The appropriateness and feasibility of an online e-Portfolio for assessment of undergraduate allied health students. *Australian Occupational Therapy Journal, 63*(3), 154–163. https://doi.org/10.1111/1440-1630.12226

Dening, K. H., Holmes, D., & Pepper, A. (2018). Implementation of e-portfolios for the professional development of Admiral Nurses. *Nursing Standard, 32*(22), 46–52. https://doi.org/10.7748/ns.2018.e10825

Driessen, E. (2017). Do portfolios have a future? *Advances in Health Sciences Education, 22*(1), 221–228. https://doi.org/10.1007/s10459-016-9679-4

Duncan-Pitt, L., & Sutherland, S. (2006). An introduction to the use of eportfolios in professional practice. *Journal of Radiotherapy in Practice, 5*, 69–75. https://doi.org/10.1017/S1460396906000100

Foucault, M. L., Vachon, B., Thomas, A., Rochette, A., & Giguère, C. É. (2018). Utilisation of an electronic portfolio to engage rehabilitation professionals in continuing professional development: results of a provincial survey. *Disability and Rehabilitation, 40*(13), 1591–1599. https://doi.org/10.1080/09638288.2017.1300335

Garrett, B. M., & Jackson, C. (2006). A mobile clinical e-portfolio for nursing and medical students, using wireless personal digital assistants (PDAs*). Nurse Education Today, 26*(8), 647–654. https://doi.org/10.1016/j.nedt.2006.07.020

Garrett, B. M., MacPhee, M., & Jackson, C. (2013). Evaluation of an eportfolio for the assessment of clinical competence in a baccalaureate nursing program. *Nurse Education Today, 33*(10), 1207–1213. https://doi.org/10.1016/j.nedt.2012.06.015

Hall, P., Byszewski, A., Sutherland, S., & Stodel, E. J. (2012). Developing a sustainable electronic portfolio (ePortfolio) program that fosters reflective practice and incorporates CanMEDS competencies into the undergraduate medical curriculum. *Academic Medicine, 87*(6), 744–751. https://doi.org/10.1097/ACM.0b013e318253dacd

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Jones, J. M., Sackett, K., Erdley, W. S., & Blyth, J. B. (2007). ePortfolios in nursing education: Not your mother's resume. *Annual Review of Nursing Education, 5*, 245–258.

Kardos, R. L., Cook, J. M., Butson, R. J., & Kardos, T. B. (2009). The development of an ePortfolio for life-long reflective learning and auditable professional certification. *European Journal of Dental Education, 13*(3), 135–141. https://doi.org/10.1111/j.1600-0579.2008.00551.x

Karsten, K. (2012). Using ePortfolio to demonstrate competence in associate degree nursing students. *Teaching and Learning in Nursing, 7*(1), 23–26. https://doi.org/10.1016/j.teln.2011.09.004

Karsten, K., McMillan Coddington, D., Lehman, R., Pierce, C., Tom, M., & Gallo-Silver, L. (2015). Facilitating Interprofessional Collaboration through ePortfolio: A Pilot Study. *International Journal of EPortfolio, 5*(2), 181–188. https://search.proquest.com/eric/docview/1826541743/8DF07622B89140C6PQ/1?accountid=11077

Mather, C. (2012). EMBEDDING AN E-PORTFOLIO INTO A WORK INTEGRATED LEARNING ENVIRONMENT: EVALUATION OF AN UNDERGRADUATE NURSING STUDENT EXPERIENCE. *Edulearn12: 4th International Conference on Education and New Learning Technologies*, 4959–4968.

Pearson, A. G., Harris-Reeves, B. E., Mitchell, L. J., & Vanderlelie, J. J. (2018). Use of E-Portfolios in Health Professions Education. In *Emerging Technologies and Work-Integrated Learning Experiences in Allied Health Education* (p. 26).

Pincombe, J., McKellar, L., Weise, M., Grinter, E., & Beresford, G. (2010). ePortfolio in Midwifery practice: "The way of the future." *Women and Birth, 23*(3), 94–102. https://doi.org/10.1016/j.wombi.2009.05.001

Rezgui, K., Mhiri, H., & Ghédira, K. (2018). Towards a common and semantic representation of e-portfolios. *Data Technologies and Applications, 52*(4), 520–538. https://doi.org/10.1108/DTA-01-2018-0008

Sidebotham, M., Baird, K., Walters, C., & Gamble, J. (2018). Preparing student midwives for professional practice: Evaluation of a student e-portfolio assessment

item. *Nurse Education in Practice, 32*, 84–89. https://doi.org/10.1016/j.nepr.2018.07.008

Stewart, S. M. (2013). Making practice transparent through e-portfolio. In *Women and Birth* (Vol. 26, Issue 4). https://doi.org/10.1016/j.wombi.2013.02.005

Wassef, M. E., Riza, L., Maclag, T., Worden, C., & Delaney, A. (2012). Implementing a competency-based electronic portfolio in a graduate nursing program. *CIN - Computers Informatics Nursing, 30*(5), 242–248. https://doi.org/10.1097/NXN.0b013e31824af6d4

3.3 Presentation 3

The paper title

User-centered design of ePortfolios in healthcare

Authors in order of authorship, indicating presenting author(s):

Dr. Anissa All (presenting author), Prof. dr. Lieven De Marez

Presentation summary

Objectives or purposes

The goal of this study was to define functional requirements for an ePortfolio that fits the needs of different user profiles (i.e., students, workplace supervisor and University/College supervisors).

Perspective(s) or theoretical framework

This study uses a user-centered design approach treating end-users as partners, implementing a design thinking strategy. In design thinking, several phases are defined for including the user. More specifically, researchers need to empathize (phase 1) with the end-user, understand who they are and what their points-of-pain and needs are. After this step, certain problems are defined ('define') and solutions are formulated ('ideate') resulting in several concepts. Based on these concepts, a

prototype is developed and evaluated ('test') by end-users in order to further optimize the technology.

Methods, techniques, or modes of inquiry

Focus groups with different user profiles from different educational programs (i.e., general healthcare, general practitioner and specialist medicine) to firstly define certain problems and best practices that currently occur during internships. These have resulted in certain user requirements. In a second stage we have conducted 6 co-creation sessions where concrete solutions (i.e., functional requirements) were defined for the user requirement that come forward from stage 1.

Data sources, evidence, objects, materials or the equivalent for theoretical or methodological papers/presentations

The focus groups were transcribed and analyzed in NVIVO 12. The co-creation sessions resulted a list of possible solutions that were rated by the participants. Mock-ups were then made by smaller groups of participants, based on the highest ranked solutions.

Results and/or substantiated conclusions or warrants for arguments/point of view

The main problem in workplace learning related to ePortfolios is lack of time: time for writing out feedback, time to document evidence for learning and time to make reflections. Considering that current portfolios require textual input, this requires a significant time effort after the work day. This often results in less qualitative feedback and superficial reflections. Moreover, by focusing on textual input, a lot of information during the work day gets lost. The solution brought forward by co-creation sessions is a system consisting of 2 components: a wearable to capture a) spoken feedback that is automatically transcribed (speech-to-text) and b) learning moments with a camera and ePortfolio software that can be consulted with a computer/smartphone. In the ePortfolio, the student can find the feedback transcripts and audiovisual content that is captured during the workday. An feedback interpretation (student) and validation (supervisor) process needs be integrated in the system, to stimulate the student to actively work with the feedback. The audiovisual content can be used to create learning artefacts,

providing evidence for competency development. A learning artefact should minimally contain a reflection and should be linked to a certain competency.

Scientific or scholarly significance of the study or work

Current ePortfolio literature mainly focusses on evaluation of existing ePortfolios and to lesser extent on design recommendations. In studies that discuss design, involvement of end-users in the design process is limited. This study contributes to the field by extensively discussing user needs and possible solutions.

3.4 Presentation 4

The paper title

When learning takes place outside of the classroom: usage of video recording during workplace learning.

Authors in order of authorship, indicating presenting author(s):

Marieke Robbrecht, MD (presenting author), dr. Mieke Embo, prof. dr. Koen Norga, prof. dr. Myriam Van Winckel

Presentation summary

Objectives or purposes

The study within the research group focuses on the effect of video usage on intrinsic and extrinsic feedback in postgraduate medical education during workplace learning. For the symposium, we would like to zoom in on existing literature of video usage, advantages and pitfalls of implementation of video during workplace learning, and recommendations for future study designs using video recordings of students as educational tools.

Perspective(s) or theoretical framework

Evidence of learning is needed within an ePortfolio, both for certification as well as to improve the learning process of students. This is specifically necessary when learning takes place outside the classroom. This is the case in postgraduate

medical education: the main source of learning consists mainly of workplace learning, which is indeed unstructured and needs different didactics than a classroom (Groener et al., 2015; Hu et al., 2012). During workplace learning, there is a need for regular observation and specific feedback to foster learning in this situation, which is unfortunately often complicated by many logistical and situational issues (Sainsbury et al., 2017; Tate et al., 1999). Therefore, the implementation of video recordings of students might be helpful during internships to guide and structure the learning process. Implementation of video usage in an ePortfolio could facilitate and support the learning process even more.

Methods, techniques, or modes of inquiry

A literature review has been performed, describing current evidence of video usage in both undergraduate and postgraduate medical and health science education. When the symposium takes place, the preliminary results of a study in which residents (postgraduate medical education trainees) will be recording themselves in authentic patient situations will be incorporated in the presentation.

Data sources, evidence, objects, materials or the equivalent for theoretical or methodological papers/presentations

Video recording of students has been described in both undergraduate and postgraduate medical education, and undergraduate health care education, with more than 200 references found. Many evidence of recording workplace learning is focused on one single (set) of competencies, and most of it takes place in simulation settings. Although many lessons can be learned from the existing literature, there is a growing need for evidence of video usage adapted to unpredictable day-to-day practice to scaffold workplace learning (Aggarwal et al., 2008; Cassata et al., 1977; Groener et al., 2015; Jain et al., 2017). We will mainly focus on video usage in postgraduate medical education, as self-directed learning is an important process in this educational stage, in which one can benefit in various ways from video usage. However, we will also discuss lessons learned from other contexts that can be transferred to the needs of postgraduate learners.

Results and/or substantiated conclusions or warrants for arguments/point of view

Within the presentation, many good practices of video usage will be discussed. Main topics are preparation, learning climate, practical issues, timing, and usage of (peer) feedback.

Scientific or scholarly significance of the study or work

Current literature focuses mainly on video recordings during simulation, and on very specific competencies being recorded without acknowledging the unpredictability of cases and learning opportunities in clinical practice. By expanding video usage to multiple facets of daily workplace learning, several advantages can be obtained that foster professional development.

References

Aggarwal, R., Grantcharov, T., Moorthy, K., Milland, T., & Darzi, A. (2008). Toward feasible, valid, and reliable video-based assessments of technical surgical skills in the operating room. *Annals of Surgery, 247*(2), 372–379. https://doi.org/10.1097/SLA.0b013e318160b371

Cassata, D. M., Conroe, R. M., & Clements, P. W. (1977). A program for enhancing medical interviewing using video-tape feedback in the family practice residency. *Journal of Family Practice, 4*(4), 673–677.

Groener, J., Bugaj, T., Scarpone, R., Koechel, A., Stiepak, J., Branchereau, S., Krautter, M., Herzog, W., & Nikendei, C. (2015). Video-based on-ward supervision for final year medical students. *BMC Medical Education, 15*(1), 1–10. https://doi.org/10.1186/s12909-015-0430-2

Hu, Y. Y., Peyre, S. E., Arriaga, A. F., Osteen, R. T., Corso, K. A., Weiser, T. G., Swanson, R. S., Ashley, S. W., Raut, C. P., Zinner, M. J., Gawande, A. A., & Greenberg, C. C. (2012). Postgame analysis: Using video-based coaching for continuous professional development. *Journal of the American College of Surgeons, 214*(1), 115–124. https://doi.org/10.1016/j.jamcollsurg.2011.10.009

Jain, N. S., Schwarzkopf, R., & Scolaro, J. A. (2017). Video Review as a Tool to Improve Orthopedic Residents' Performance of Closed Manipulative Reductions. *Journal of Surgical Education, 74*(4), 663–667. https://doi.org/10.1016/j.jsurg.2017.01.003

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Sainsbury, J. E., Telgarsky, B., Parotto, M., Niazi, A., Wong, D. T., & Cooper, R. M. (2017). The effect of verbal and video feedback on learning direct laryngoscopy among novice laryngoscopists: a randomized pilot study. *Canadian Journal of Anesthesia/Journal Canadien d'anesthésie, 64*(3), 252–259. https://doi.org/10.1007/s12630-016-0792-x

Tate, P., Foulkes, J., Neighbour, R., Campion, P., & Field, S. (1999). Assessing physicians' interpersonal skills via videotaped encounters: A new approach for the Royal College of General Practitioners Membership examination. *Journal of Health Communication, 4*(2), 143–152. https://doi.org/10.1080/108107399127011

3.5 Presentation 5

The paper title

Training to support ePortfolio users: an overview of training initiatives and their outcomes

Authors in order of authorship, indicating presenting author(s):

Sofie Van Ostaeyen (presenting author), dr. Mieke Embo, prof. dr. Tammy Schellens, prof. dr. Martin Valcke

Presentation summary

Objectives or purposes

The objective of this presentation is to present an overview of ePortfolio user training initiatives and their outcomes described in the currently available literature. Based on the outcomes of these user training initiatives, recommendations are made for the design and development of ePortfolio user training.

Perspective(s) or theoretical framework

In order to use ePortfolios to their full potential, a proper implementation is crucial (Blevins & Brill, 2017). During the implementation phase, barriers should be addressed that may reduce the positive effects of ePortfolio use or limit teachers'

and students' willingness to use the tool. These barriers are usually related to (1) the ability of users to use the tool and (2) the support and technological skills required to use the ePortfolio (Torre, 2019). One of the critical factors for a successful ePortfolio implementation that responds to these barriers is user training (Balaban, 2020). Educational programs adopting ePortfolios recognize the need for user training and include it as part of the implementation phase (Karthikeyan & Pulimoottil, 2019; Walton et al., 2016). However, clarity about the training design of such an ePortfolio user training seems to be absent.

Methods, techniques, or modes of inquiry

A scoping review was conducted guided by the five-stage framework of Arksey and O'Malley (2005). The focus was on studies conducted in the context of higher healthcare education, and more specifically on studies adequately describing the given ePortfolio user training and its evaluation.

Data sources, evidence, objects, materials or the equivalent for theoretical or methodological papers/presentations

Searches in electronic databases resulted in a set of 1180 records. After applying the inclusion and exclusion criteria, 16 studies were included in the review. Most studies were carried out in educational programs in medicine and nursing with the majority being on undergraduate level.

Results and/or substantiated conclusions or warrants for arguments/point of view

The results pointed out that the research aim of the included studies never focused on user training specifically. However, different kinds of user training could be identified throughout the studies. The outcomes of these initiatives varied: general approaches were found to be less positive (e.g. face-to-face training, online materials and manuals) than personal and ongoing approaches (e.g. feedback from supervisors and near peer teaching supervision).

Scientific or scholarly significance of the study or work

Despite the inclusion of user training in the list of critical success factors for ePortfolio implementation (Balaban, 2020), little attention has been paid to

ePortfolio user training in research. Therefore, this review adds to the literature by consolidating the currently available evidence from studies that describe user training initiatives and their outcomes, for the implementation of ePortfolios that support competence development during clinical placements in higher healthcare education.

References

Arksey, Hilary; O'Malley, L. (2005). Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology: Theory & Practice, 8*(1), 19–32.

Balaban, I. (2020). An Empirical Evaluation of E-Portfolio Critical Success Factors. *International Journal of Emerging Technologies in Learning (IJET), 15*(4), 37–52. https://doi.org/10.3991/ijet.v15i04.11757

Blevins, S., & Brill, J. (2017). Enabling systemic change: Creating an ePortfolio implementation framework through design and development research for use by higher education professionals. *International Journal of Teaching and Learning in Higher Education, 29*(2), 216–232. http://www.isetl.org/ijtlhe/

Karthikeyan, P., & Pulimoottil, D. T. (2019). Design and implementation of competency based postgraduate medical education in otorhinolaryngology: the pilot experience in India. *Indian Journal of Otolaryngology and Head & Neck Surgery, 71*(1), 671–678. https://doi.org/10.1007/s12070-018-1474-5

Torre, E. (2019). Training University Teachers on the Use of the ePortfolio in Teaching and Assessment. *International Journal of EPortfolio, 9*(2), 97–110.

Walton, J. N., Gardner, K., & Aleksejuniene, J. (2016). Student ePortfolios to develop reflective skills and demonstrate competency development: Evaluation of a curriculum pilot project. *European Journal of Dental Education, 20*(2), 120–128. https://doi.org/10.1111/eje.12154

3.6 Presentation 6

The paper title

Can ePortfolios scaffold competency-based workplace learning in low-income countries? Lessons learned from a qualitative pilot study in midwifery education in Rwanda.

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Presentation summary

Objectives or purposes

This study explored midwifery students', mentors' and supervisors' perceptions about the generalizability of an ePortfolio design built on an evidence-based Continuous Workplace Learning Competency Framework (M Embo et al., 2015).

Perspective(s) or theoretical framework

Global disparities in quantity, distribution and skills of health workers pose a threat to attainment of the Sustainable Development Goals by 2030. Rwanda and other middle- and low-income countries face a critical shortage of health professionals, such as midwives. Competency-based (midwifery) education holds the best promise of developing competencies and improving patient outcomes. However, challenges arise when developing and implementing competency-based frameworks and digital tools, such as ePortfolio tools, in developing countries.

Methods, techniques, or modes of inquiry

Using a qualitative descriptive design, in depth-individual interviews were carried out with sixteen midwifery students, two mentors from hospitals in Kigali and two supervisors from the University of Rwanda. All interviews were audio-taped, transcribed verbatim and thematically analysed using NVIVO12 software.

Data sources, evidence, objects, materials or the equivalent for theoretical or methodological papers/presentations.

The results are based on a three-year project (2018-2020) aimed at contributing to the government plans to increase capacity by improving the quality of midwifery clinical education. The project was funded by VLIR/UOS, a Flemish organisation supporting universities and university colleges, in Flanders (Belgium) and in partner countries, that are searching for answers to global and local challenges. The University of Rwanda, the University of Ghent and the Artevelde University of Applied Sciences in Ghent, Belgium conducted two qualitative studies (Mieke Embo et al., 2021; Mukamana et al., 2020) to explore if the competency-based continuous workplace learning model (Embo et al., 2015) and the ePortfolio tool were feasible for clinical education in Rwanda.

Results and/or substantiated conclusions or warrants for arguments/point of view

All participants preferred ePortfolio over paper-based portfolio because of the continuous online accessibility of information. This accessibility encouraged collaboration between stakeholders, facilitated self-monitoring of performance, enhanced IT competency, reduced time and costs of handling portfolios and improved, in some cases, feedback. Nevertheless, the success of implementing a competency-based ePortfolio was strongly dependent on the extent to which essential conditions were reached: devices, internet connectivity, time and training. The ePortfolio was not used in its full potential because of lack of knowledge of different categories of the Competency Framework.

Scientific or scholarly significance of the study or work

The results of this pilot study suggest that ePortfolios are the future to support workplace learning. An important lesson learnt was that developing countries must first implement the principles of competency based education in programme and curriculum designs, focusing on competency-based training and assessment in clinical practice. The success of implementing ePortfolios will depend on the quality of the underlying educational model. The title of this project was "The international and digital (Midwifery) workplace learning network: the first step". We

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hope that we can inspire educators and professionals during this conference to join our network and to put forward the second step.

References

Embo, M, Driessen, E., Valcke, M., & van der Vleuten, C. P. M. (2015). Integrating learning assessment and supervision in a competency framework for clinical workplace education. *Nurse Education Today, 35*(2), 341–346. https://doi.org/10.1016/j.nedt.2014.11.022

Embo, Mieke, Grave, H. De, Stighelen, S. Van Der, Valcke, M., Alice, T., Josephine, M., Jean, M., Ndayisenga, P., & Mukamana, D. (2021). Can ePortfolios Scaffold Competency-based Workplace Learning in Low-income Countries? Lessons Learnt from a Qualitative Pilot Study in Midwifery Education in Rwanda. 567(*Icme*), 219–230.

Mukamana, D., Embo, M., Tengera, O., Muhayimana, A., Murekezi, J., Degrave, H., Ndayisenga, J. P., & Valcke, M. (2020). Perceptions of midwifery students, mentors, and supervisors on the use of clinical teaching portfolio in Rwanda. *Journal of Nursing Education and Practice, 10*(10), 52–60. https://doi.org/10.5430/jnep.v10n10p52