

Introducing an ePortfolio into a Nurse Education Program: A Case Study

Authors: Maria Cassar, Ph.D., Barbara Nicolls, Corinne Scicluna, & Sharon Martinelli
Review Editor: Russel Stolins

Introduction

The Joint Information Systems Committee (JISC, 2019) describes the ePortfolio as a 21st-century tool for supporting learning, teaching, and assessment. ePortfolios enable and capture guided reflection, which is recognized as a hallmark of good education and training in health care capacity building. ePortfolios allow for independent learning while providing self-development opportunities (Barrett, 2007; Bass, 2014; Cavaller, 2011; Chesney & Marcangelo 2010; Eynon et al., 2014).

“In view of the continually evolving nature of the role of the nurse and the function of a nursing care delivery, the need for continual professional development and growth of nursing students and its formal documentation was determined as a priority.”

The Department of Nursing in the University of Malta (UM) sought to transform the students' portfolios from a collection of achievements to a method of learning. In essence, the introduction of the ePortfolio amongst pre-registration nursing students comprised the introduction of a “learning” portfolio, which documents a student's learning over time

(Butler, 2006). This initiative echoed the implementation of ePortfolios across universities in different countries spanning various professions (Anderson et al., 2009; Lopez et al., 2011; Pincombe et al., 2010; Ruiz et al., 2009; Vernazza et al., 2011). Specifically, this case study describes the integration of the Google Sites Practice ePortfolio (GSPep) into the pre-registration nursing curriculum as a pedagogical environment for enhancing learning outcomes through the design of the placement-based teaching and learning activities. This is supported by Joyes, Grey, and Hartnell-Young (2010) who contend that the ePortfolio can effectively be used as a pedagogic tool through its inclusion in teaching and learning activities.

The Process of Introducing an ePortfolio into a Nurse Education Program

A project team was established at the Department of Nursing, UM, in 2019 to design and implement an ePortfolio for the 2019 cohort of pre-registration SNs (Student Nurses). Against a backdrop of increased digital literacy across the SN population (Farrell, 2018), not doing so appeared to be wasting an opportunity for an enhanced learning experience. In addition, in view of the continually evolving nature of the role of the nurse and the function of nursing care delivery, the need for continual professional development and growth of nursing students and its formal documentation (evidence) was determined as a priority (Collins & Crawley, 2016). The purpose of the portfolio was to correct the former

and to address the latter (Haggerty & Thompson, 2017). It was a high-level decision to move forward with an ePortfolio implementation with clear senior management buy-in. After a literature search, the department's management identified B Nicolls, a UK-based academic, as the project lead; her credentials involved extensive evidence of successful ePortfolio facilitation employing open source Web 2.0 ePortfolios in HE focusing on the pedagogy rather than the technology. B Nicolls agreed to collaborate on the initiative initially, virtually sharing her experiences. The team adopted Barrett's (2011) suggested format, and, therefore, a readiness checklist was conducted amongst the stakeholders. This readiness exercise explored stakeholders' expectations of the GSPep and what might be barriers to their effective use.

The Readiness Survey

The "ePortfolio readiness survey" conducted in January 2020 revealed critical support to the Department of Nursing's vision that embedding and implementing the GSPep in the pre-registration curriculum will empower the nursing graduates to become active participants in their own personalized nurse education. Through reflection, technology, and collaboration, SNs and their educators will develop the 21st-century skills that will lead them to achieve their lifelong goals.

Building on the Paper Portfolio

The introduction of the ePortfolio entailed the enhancement of and adding value to the existing paper-based Pre-registration Practice Portfolio for Nursing Students (PPP) (University of Malta, 2019). The digital learning space the ePortfolio introduced served as a supported virtual environment which drew upon the dialogic potential of the Google system. In a novel and unique manner, the ePortfolio enabled students to consolidate the experiences and learning across all facets of the program. The learning taking place in clinical practice, the learning in simulation teaching laboratories, and the theoretical components of the program meet across the ePortfolio. However, the GSPep maintained the format and the contents of PPP. Such format, in comprising a competency framework, ensures compliance

with the requirements of the national regulatory body of the profession and fulfills the requirements of the European Union Directive pertaining to nurse education.

As a result of the ePortfolio, upon the successful completion of the pre-registration nursing program, SNs now exit a program at the UM as owners of a digital showcase portfolio of artifacts which evidence nursing competency achievements. Some of the contents are co-owned by the SNs and the Department of Nursing (e.g. the assessed coursework) and others are owned by the UM with the SNs having some rights over it (e.g. transcripts setting out their achievement) (JISC, 2006).

The following is the guiding definition of the GSPep, adapted from the JISC's definition (JISC, 2008): "The learning GSPep is the product, created, developed, and maintained by the SNs over a period of three years containing a collection of specific digital artifacts articulating experiences, achievements, and practice placement learning. Behind the product or presentation lie rich and complex processes of planning, synthesizing, sharing, discussing, reflecting, giving, receiving, and responding to feedback."

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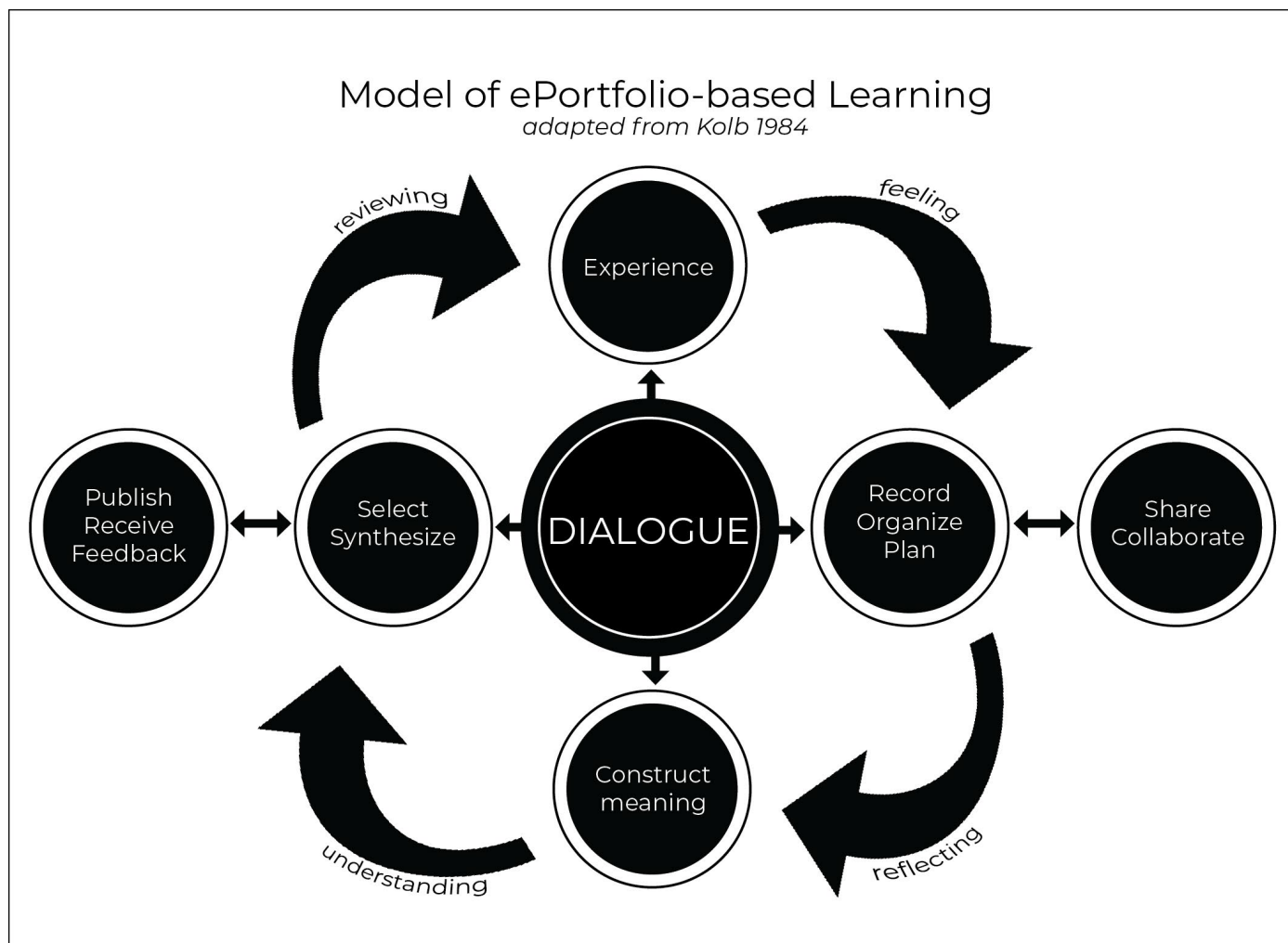


Figure 1: GSPep-based Learning

Figure 1 illustrates how a learner-centered approach using continuous dialogue in a digital environment can support the SNs as they engage with practice placements.

Theoretical Framework

The creation and development of the GSPep is underpinned by the social constructivist theory of learning (Vygotsky, 1978). Pedagogies comprising reflective and evaluative approaches to learning (Lin, 2008), self-regulation of professional learning through competency-based assessment (Blackburn & Hakel, 2006; Ring & Foti, 2006), and social learning (Bass, 2014; Baxter, 2014) are drawn upon. Throughout the process, learning is constructed through dialogue, guidance, feedback, and social interactions between the SNs and nurse educators. The SNs are therefore posited as active participants in the creation of their

learning (Green et al., 2014), shifting from knowledge recall to evidencing achievement that aligns with real-world scenarios.

GSPep System

The GSPep system comprises Google Drive and the new Google Sites. Google Drive is a cloud-based storage where SNs create a Folder of Evidence (FoE) to securely upload, save files, edit them online, and access them anywhere from any smartphone, tablet, or computer.

The purpose of the FoE is for the students to collect evidence of placement experience in addition to attendance logs and other documentation pertaining to practice placements and experiences. The important element of the FoE goes beyond compiling the evidence. The importance is focused on

reflecting on the evidence, and, therefore, the compiled evidence is shared with link lecturers, who in turn monitor and guide the growth demonstrated through the FoE which the SN produce. The new Google Sites is a free drag-and-drop website builder and hosting service which enables the SNs to create

need for small planned steps, strong commitment from senior management, and clarity of purpose to boost the confidence of all the stakeholders and contribute to the sustainability of the initiative. The explicit online training sessions mirrored the step-by-step guides which focussed on process, purpose,

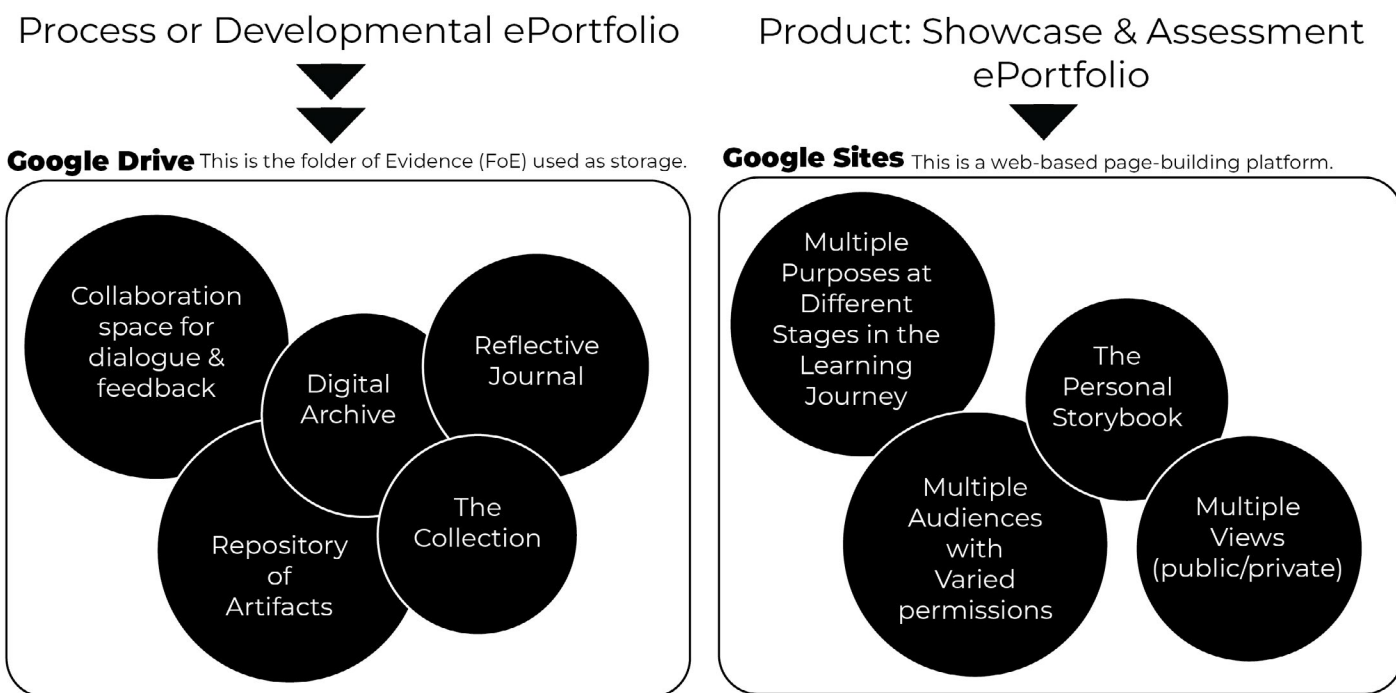


Figure 2: The GSPep System

their own website as a platform for presenting the achievements. Figure 2 illustrates the GSPep system.

The project team designed a GS ePortfolio system supported by the UM’s G Suite for Education, based on a set of nursing competencies, which are determined by the European Union Directive pertaining to nurse education. The use of Google Sites was extended to all students and staff in the nursing program for the purposes of the GSPep and endorsed as the product of the UM. Additionally, the project lead designed and developed customized ePortfolio development resources (Figure 4) in the form of an eBook, “Developing Google ePortfolio for Nursing Students: A Survival Guide.”

Alongside this eBook, online sessions were delivered to all users. Wetzel and Strudler (2005) identified the need for sufficient training and support, the

structure, and content and were recorded to benefit late arrivals and non-attendees. During the online sessions in early February 2020, the ePortfolio facilitator guided the SNs through the process of creating the FoE in Google Drive. Follow-up support sessions were organized by the local facilitators, if and when these were indicated following the online sessions.

Following planning, design, and development of the prototype, the GSPep initiative was implemented in February 2020. At the end of each placement, the SNs were asked to select the best evidence from the FoE, reflect on it, and set future goals. The evidence was to be organized thematically in the Google Sites ePortfolio as per the competencies identified in the European Directive for nurse education. The FoE is to be presented annually at the progression Board of Examination. The GSPep is to serve both an academic product demonstrating their competencies as SNs in

relation to the Clinical Placement Competencies, as well as a way for them to demonstrate their skill sets to potential employers.

Planned Evaluation

Evaluation is a process through which data are attained to conclude if there is a need to make changes or eliminations or to accept something in the curriculum. The project team planned to evaluate the introduction of the use of ePortfolio by purposefully, systematically, and continuously collecting and analyzing information using Kirkpatrick's 41 Four Levels of Learning Evaluation Model, which is extensively employed to evaluate the effectiveness of educational programs.

“The introduction of the ePortfolio was weighted by the fact that this was a novel initiative, and none of the educators or students had a clear idea of what was expected. Everything was new.”

Although Kirkpatrick's model comprising Reaction, Learning, Behaviour, Results is a comprehensive model that incorporates the desires and needs of the stakeholders, the project team believed that to make improvements, they would need to examine result-related questions to contribute to continuous improvement by comparing intentions with results.

Hence, reaction has been amended to include input, which covers the training materials such as digital resources that are used to support the training and process. This examines the actual delivery of the GSPep learning experience to see the extent to which they enhance the SNs' learning and progression.

Ethical approval was sought and granted by the respective UM ethics review and clearance body. Data collection is currently in progress, and it will be reported and disseminated internally. It will also be shared with the wider interested audience at a later stage once the planned evaluation exercise is fully concluded.

Strengths of the GSPep

A survey amongst nursing students in February 2020, prior to the orientation and training sessions, revealed that none of the nursing students had ever created an ePortfolio nor did they have the know-how nor the technical skills to do so. However, 93.7% believed creating and developing an ePortfolio had potential for their personal and professional development. These figures highlight the valued strength of the ePortfolio in enhancing the preparedness of nursing students for joining the workforce in the contemporary era wherein ePortfolio is increasingly becoming a tool used in recruitment, retention, and promotion mechanisms.

However, the greater strength of these initiatives stood with the fact that its introduction entailed the creation of a learning environment that promotes active learning, critical thinking, collaborative learning, and knowledge construction. The curriculum team note Ehrmann's (2006) caution that despite the perceived benefit and impact of embarking on this endeavor, the GSPep will not, by itself, create any magical kind of improvement in education, but by altering the teaching/learning activities, the effectiveness and efficiency of an education program may be favorably influenced.

Weaknesses of the GSPep

The introduction of the ePortfolio was weighted by the fact that this was a novel initiative, and, therefore, none of the educators or students had a clear idea of what was expected. Everything was new. The time required from both educators and students to engage in the use of an ePortfolio cannot be underestimated. In the same vein, the training and support entailed in developing it should not be overlooked. These pose significant weaknesses to the process of introducing an ePortfolio in nurse education.

Familiarity with the technology is an advantage for all the stakeholders as the focus is then on the pedagogy of ePortfolio learning rather than the technology. This was not entirely the case with the Department of Nursing at the UM, wherein limited digital skills amongst a few students and educators jeopardized the speed and quality of the initiative's outcome and impact. In view of this, securing adequate digital

literacy at the point of entry or admission into nurse education may be advantageous in this regard. Eligibility of nurse education may consist of a digital literacy level which enables the full engagement of a student with the development of an ePortfolio.

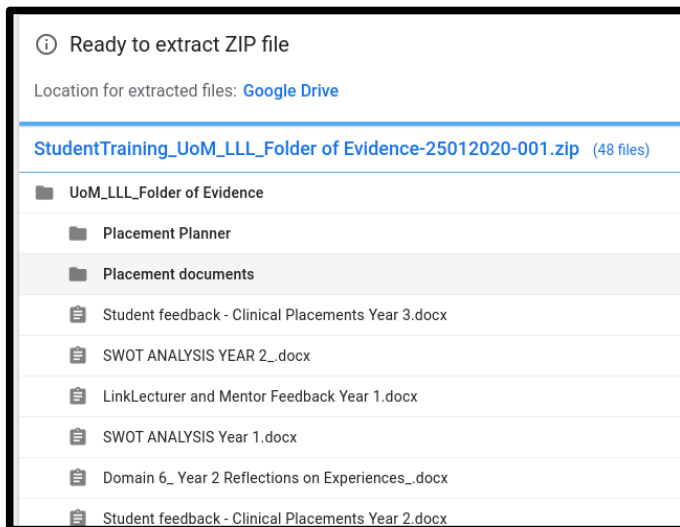


Figure 3a: Zipped FoE for SNs to Download/Adapt

Also, the extent of the reflection with regard to the FoE fell short of expectation. A review of the processes towards enabling the reflection of SNs with link lecturers upon the compiled evidence is indicated. During training, students were explained the importance of reflection, but possible gaps in explaining this adequately to the link lecturers led to unsatisfactory outcomes in this regard. The contents of the FoE were made explicit via the spreadsheet which specifies the files required.

Opportunity

Joyes, Gray, and Hartnell (2010) explain that integrating the GSPep in curriculum also supports distance learners, and learners who are work-based. This became evident during the COVID-19 pandemic when all face-to-face teaching and learning was delivered online and nursing students, through the GSPep, had the opportunity to remain engaged in collaborative guided reflection and dialogue with designated educators.

A suggestion would be to have specific dedicated lectures (with a small number of students hence divided in groups), where students and lecturers spend some time developing the portfolio at that time. Hence,

issues that arise are addressed immediately and a smoother adoption of the ePortfolio would ensue. Hallam and Creagh (2010) contend that the ePortfolio development process allows opportunity for learners to move beyond what they have learned to consider how they have learned and to understand the connections inherent in the creative process of learning through enhanced educator-student interaction.

The interaction which characterizes this paradigm of learning (Andersen & Watkins, 2018) was enabled through the student-academic (Nurse Educator) dyad which the ePortfolio design obliged and supported (Thomas et al., 2014). Against this backdrop and the observed engagement of the nursing students with educators through the GSPep, the curriculum team will consider making the GSPep element credit-based to prevent it from being viewed less as an added task and more as an opportunity to enhance the quantity and quality of learning. The opportunity to map the students nurses' theoretical assignments to the nursing competencies development sought through practice placements has been unleashed through the GSPep's design and introduction.

Threats

Moreover, the GSPep development is underpinned by connectivism (Siemens, 2005), which acknowledges that learning is significantly influenced by technology and that the learning process is a connection with information sources, including link lecturers, mentors, policies, and professional guidelines in a discursive space. Limited or gaps in connectivism thus prevail as a significant threat. Measures to contain or management of such a threat are indicated but also not readily determined nor resourced.

Individual users were required to declare that the use of Google Sites is, exclusively, for academic scope and purpose. Consequently, every SN was required to insert a disclaimer at the bottom of their GSPep and be responsible for ensuring that IT protocols were adhered to during their time at the UM.

Although this could be a limiting factor and a threat for SNs' lifelong ownership, the institution-owned GSPep could be downloaded or copied into a personal Google account after graduation, enabling

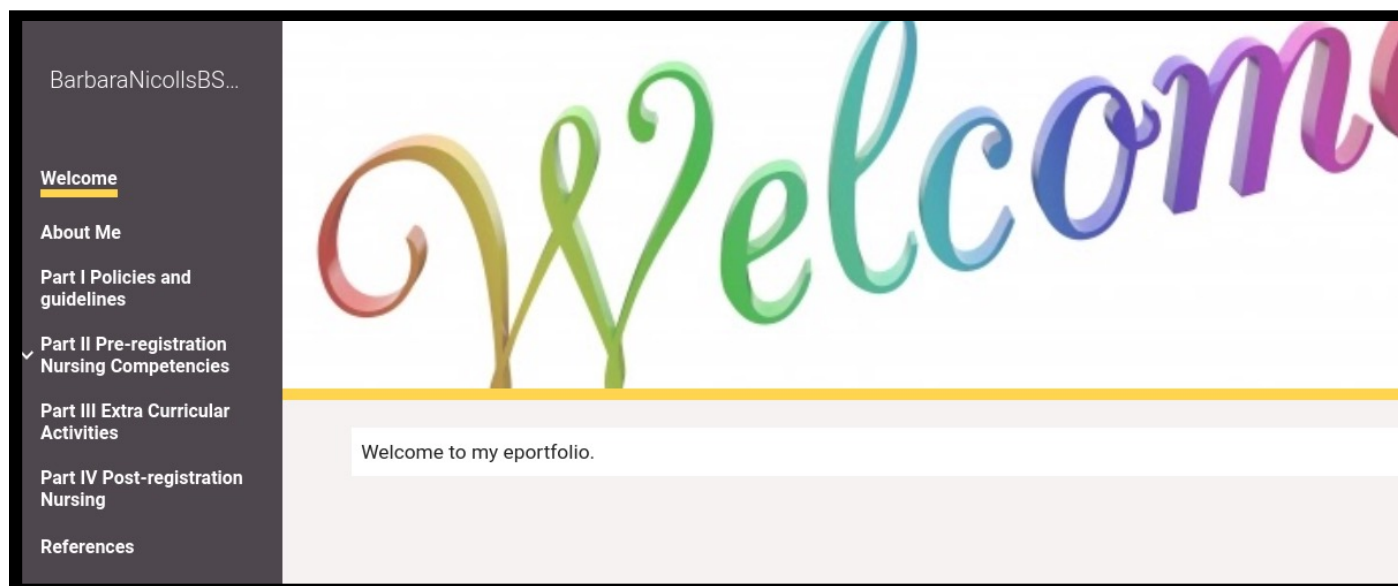


Figure 3b: Prototype of the GSPep

life-long ownership. Therefore, this threat, despite being prevalent, was easily harnessed.

Concerns regarding accessibility, security, privacy, and confidentiality of the contents of the shared FoE and the presentation portfolio present considerable threat to the take-up and compliance with the adoption of the GSPep. These were recognised by the team, and, therefore, efforts to comfort and instill support and reassurance had to be planned and employed at all times. Moreover, the educators' insecurities and fears are also potential threats. Hence, educators were encouraged to attempt the development of their own GSPeps. This enabled them to be ahead of their students; they would have traveled the journey and would thus be confident to support their students through the ePortfolio journey, not solely technically, but also pedagogically.

Conclusion

In summary, to date the GSPep implementation has demonstrated that the initiative has potential for sustainability. The strengths, weaknesses, threats, and opportunities which were identified and discussed will determine much of how it will evolve and its impact. It is hoped that the solid foundation that it was built upon, the visionary and supportive senior management, the talented and committed technical and curriculum teams, the tried and tested technology for the GSPep, and the

array of resources to support the stakeholders will lend themselves towards the desired impact and the significant longevity and relevance of the initiative to nurse education. The Department of Nursing aspires to integrate the GSPep learning activities to include explicit mapping of practice learning to campus-based academic and theoretical learning in the coming years. Building upon the current design and structure, which supports the purpose of the ePortfolio to produce reflective nurses, the strategy to develop such a more comprehensive approach can be a more valid reflection of the student development journey through a nurse education program.

It is hoped that this case study presents a critical representation of the introduction of ePortfolio in nurse education at the UM. Moreover, it is hoped that this Strengths, Weaknesses, Opportunities, and Threats (SWOT) presentation translates into opportunity to plan or actuate the introduction of similar initiatives elsewhere in view of the potential that ePortfolios are associated with, in relation to workforce development in the health and social care arena.

Acknowledgements

The IT Services Department of the University of Malta, namely Dr. James Cilia and Ms. Naomi Mifsud, have guided and supported the authors extensively in the implementation of the project reported in this paper. Academic staff and students in the

Department of Nursing collaborated and cooperated fully in the use of the GSPep. Dr. Michelle Camilleri developed, introduced, and steered the use of the paper portfolio at the Department of Nursing at the UM.

About the Authors



Dr. Maria Cassar is a nurse educator at the University of Malta. She received her nurse training in Malta and later completed masters and doctoral studies at King's College, University of London, and the University of Aberdeen, Scotland.

She pursued training in online education at University of Illinois, in the US. She has worked as a clinician and nurse educator in various continents. Her main areas of professional interest and research are curriculum development and evaluation, internationalization of higher education, and the use of technology and simulation in teaching and learning, nurse registration, student and nurse mobility. She has participated in a number of transnational projects related to nurse education, including the TUNING-MEDA project (nursing care), the CALOHEE project (nursing care), and the ongoing NNE and SG4NS projects. Maria led the Erasmus + ISPAD project (budget award 334730 €), and is currently leading the following awarded Erasmus + projects: DigiT and TOViD. In 2019 she was elected to the executive committee of FINE.



Barbara Nicolls is a Senior Lecturer in the Student Learning and Achievement team as well as an Apprentice Partnership Manager at Buckinghamshire New University (UK). Barbara received the MSc in technology-enhanced learning

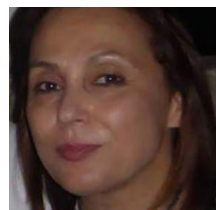
with the dissertation on the role of academic staff in the learning eportfolio development in 2010. She has led Web 1.0 and Web 2.0 eportfolio use and implementation at BNU mainly within health care and education courses by collaborating with discipline-specific academic staff designing customised templates delivering conceptual and technical workshops contributing to their CPD. Her advocacy for social constructivism is seen at Staff Development events and international eportfolio conferences where a concerted effort is made to showcase the contributions made by her collaborators for the

success of their students' learning through eportfolios. Additionally, Barbara delivers and evaluates student eportfolio workshops which focus on pedagogy rather than the technology. Barbara was awarded the Bucks Fellowship Award 2015 for exceptional impact on learning and teaching across the university especially for her creativity in applying technology-enhanced learning approaches for student engagement with their academic development. She is a Senior Fellow of the HEA demonstrating her sustained engagement with the UK Professional Standards Framework (UKPSF) highlighting a thorough understanding of effective approaches to learning and teaching. Her excellence in designing learning activities, delivering them with inclusivity in mind with high impact on student outcomes earned her the National Teaching Fellowship in 2018.



Dr. Corinne Scicluna is presently a lecturer at the Nursing Department in the University of Malta. She was the first Tissue Viability Specialist Nurse who led this service in Malta. She is president of the Maltese Association of Skin and Wound Care, and is the

former president of the International Skin Care Nursing Group. She also represents Malta on the International Diabetic Foot Group, the teacher's network in the European Wound Management Association and is a European member of the World Union of Wound Healing Societies and the Commonwealth alliance of wounds. She is also an honorary visiting lecturer at Cardiff University, UK and a member of the Task Force for Nurses in the European Association of Dermatology and Venerology (EADV). Corinne is a proud alumni of the International Council of Nurses, Global Nursing Leadership Institute.



Sharon Martinelli is an Assistant Lecturer at the Department of Nursing, Faculty of Sciences, at the University of Malta. Sharon is a Senior Registered Nurse (BSc Hons. Nursing) and a warranted Counsellor

(MA Couns). She has worked across different sectors in the community including management. She steered the development of a number of projects in community care services both the public arena, and in the private sector and also led development and also coordinated the degree programme in nurse education in community.

She has supported individuals and their families in their most vulnerable times of their lives in Community and Primary Care settings. She is currently finalizing her doctoral studies with the Department of Counselling, Faculty of Social Wellbeing at the University of Malta. Her current research focuses on Women living with Chronic autoimmune invisible illnesses in Malta.

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