Technology Enhanced Assessment Initiative - E-Portfolio Report
The Hong Kong Institute of Education, Hong Kong, June, 2012

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Executive Summary

The report provides an account of the progress made against the approach to the technology-enhanced assessment of learning outcomes initiative which was approved by University Grants Committee (UGC) in May 2009. This complemented the broader outcome-based learning (OBL) approaches in student learning initiative funded by UGC in 2007. The past year three years have been characterized by significant and ongoing achievement to develop, refine and adopt outcome-based learning as we move into the new 334/5 curriculum. Students are expected to develop both their subject knowledge and their generic skills and to broaden their learning experiences.

To complement self-assessment of students' generic skills, an e-portfolio project aims to showcase students' intended learning outcomes. Selection of the courses to implement e-portfolios depends on whether using the e-portfolio as a tool to enable students and faculty to carry out activities that would demonstrate optimal student learning and enhance the intended learning outcomes. E-portfolio is used for a variety of purposes, such as for assessment, for career planning, for documenting learning and growth over time. It has the potential to change the nature of learning environments and the ways in which student learning is promoted through different modes of learning. The initiative of an institute-wide e-portfolio implementation is to demonstrate the 21st century learning approach which is technology-rich and reflective. The overall aim of this initiative was to develop and evaluate an integrated web-based model of assessment. Specifically, the objectives were:

1. Identify and examine approaches to digital portfolios that are user friendly, accessible and cost-effective for the Institute;
2. Examine the extent to which this assessment technology can be applicable to all students in all programmes and modules;
3. Strengthen student-student and student-teacher collaboration;
4. Create institutional change in preparing students and future teachers to use the assessment technology for OBL and professional development;
5. Facilitate multi-modes of communication that support synchronous and asynchronous dialogues through the utilization of web-based assessment technology;
6. Build a repository of exemplars and showcase for good practices in developing digital portfolios that will facilitate the development of critical outcomes;
7. Determine the scalability of the approach that is adopted in this initiative.

This report sets out the progress made towards these objectives and provides an evidence-base of indicators, benchmarks and results which further informs and provides strategic guidance in reaching the targets against the indicators identified in the report. HKIEd continues to advance through a series of milestones,' marking significant developments in effectively developing and evaluating an integrated web-based model of assessment.

Introduction

Proposed e-Portfolio Framework at HKIEd

An institute-wide student learning e-portfolio initiative has been proposed for the academic year 2012/13. At the broadest level, student e-portfolios would be aggregated into an institutional e-portfolio containing a wide variety of digitized representations that provide evidence for achievement of the generic learning outcomes. The intent would be to combine multiple components into a framework and apply them to one model by mapping the 4 key pillars (Student Affairs Office (SAO), Centre for Language in Education (CLE), School Partnership and Field Experience Office (SPFEO) and General Education Office (GEO)) with the generic learning outcomes (Gilds) and programme intended learning outcomes (PILOs). The intent of an institute-wide e-portfolio implementation is to demonstrate the 21st century learning approach which is technology-rich and reflective. The e-portfolio aims to display the advancement and development of students' competencies/skills, individual and collaborative growth, achievement, and learning during their undergraduate study at the Institute. Demonstration of competencies is achieved through a collection of electronic evidence assembled and managed by the learner.

Creating the e-portfolio not only provide students the avenue to demonstrate their subject knowledge but also their information communication technologies (ICT) capacities. Their ICT abilities can be illustrated through selected and self-made images, multimedia, blog entries, and hyperlinks related to their learning experiences. The online discussion functions also provide simple and convenient opportunities for single or multiple users to discuss asynchronously (at a different time) or synchronously (at the same time) so that learners from different backgrounds and diverse locations can share their opinions and to extend learning outside of classrooms (Ng, 2010). Furthermore, these artifacts should also include student's reflections on their learning and experiences as well as course lecturers, tutors and peers' comments on what students have submitted.

The implications of an institute-wide e-portfolio initiative emphasize the importance of an embedded curriculum and active participation of stakeholders within the Institute to support individual learning, learning assessment and institutional accountability for successful e-portfolio development. These types of assessments are associated with the institutional function to measure student learning outcomes against prescribed psychometric standards of validity, reliability, fairness, and absence of bias(Herman & Gearhart, 1993; Wilkerson & Lang, 2003). This type of alternative means of assessment may also provide a closer look at student learning by ensuring the compatibility of assessment tools and approaches in the assessment of learning outcomes at the Institute, programme and course level, with the ultimate goal of assessing the quality of student learning and performance. Therefore, the e-portfolio would be implemented not only to make individual student learning visible, but also to help the Institute identify areas that need improvement, to demonstrate the achievement of the generic learning outcomes (GILOs) and to conceptualize ways in which e-learning technologies can be used in assessment to support the learning process.

Units	Year	Programme	e-portfolio Assessment Component
SAO	Year 1	4-year full-time BA/BSocSci Programmes 5-year full-time BEd programmes	Require students to design, create & maintain e-portfolio to support & enhance career development.
CLE	Year 1	4-year full-time BA/BSocSci Programmes 5-year full-time BEd programmes	Require students to design, create & maintain e-portfolio to reflect the student-centered activities.
SPFEO	Year 3/4	Selected full-time undergraduate programmes	Require student-teachers to select, show case and reflect their teaching/internship experiences.
GEO	Year 3/4	4-year full-time BA/BSocSci Programmes 5-year full-time BEd programmes	The e-portfolio will comprise of students' synthesis and communication of their own ideas, attitudes and values in their learning journey.

Table 1: 4 Key pillars

It is proposed that the e-portfolio implementation will identify core courses from SPFEO, and SAO and CLE and GEO. It expected that every student under 334 new scheme will take 3rd or 4th year GE Consolidation Course (3 credit points) as an institutional requirement. The selected courses should be able to reflect how and what students have attained the programme intended learning outcomes. By focusing initially on the courses in the four pillars, students would be supported to develop their own learning e-portfolio to monitor and manage their learning in the Institute. They would be able to monitor whether they have achieved the intended learning outcomes and plan on possible courses of actions, together with their tutors or academic advisors, to address some of their learning gaps.

E-Portfolio Pilot Objectives

The objectives of the e-portfolio pilot are to:

i. Conduct initial small-scale pilots with implications for a full-scale implementation within the Institute and the school community at large.

ii. Enable students to develop individual learning capacities *(process)*. The use of e-portfolio seeks to promote active engagement of student and peers, in the self-reflection process of student growth and development. This type of collaboration not only enables students to better reflect on their learning through ongoing feedback and constructive criticism, but also assists them in assessing the effectiveness of their critical thinking, analytic and communication skills and techniques (i.e., generic outcomes). Ideally, e-portfolio aims to provide students with more opportunities for reflection, which is critical to their development.

iii. Enable students to demonstrate the advancement and development of their

competencies/skills, individual and collaborative growth, achievement, and learning over a period of time *(product)*. This type of development portfolio is considered works-in-progress, that is, a record of what the student has done over a period of time, and that is directly tied to the generic learning outcomes, within the context of their course;

iv. Identify and utilize features of the Mahara e-portfolio system to enable students and faculty to carry out activities that demonstrate optimal student learning and enhance the intended learning outcomes;

v. To test, investigate and evaluate the feasibility and challenges from interoperability and pedagogical perspectives. Any evaluation of the use of e-portfolio should begin with: 1) Practical viability from a technical perspective; 2). Pedagogical viability from an educational perspective; 3). Overall viability. From a practical viability standpoint, the e-portfolio should provide a clear pathway for students to progress and eventually attain the graduating competencies for their respective discipline. Finally, it is the introduction of good-practice, on-going support and feedback and functionalities of student reflection facilitation than powerful technology that are the most crucial factors.

Background

E-Portfolios

Recently, e-Portfolios have emerged in post-secondary institutions as a means for assessing and promoting student's skills and competencies (Cambridge, 2010). The electronic portfolio is a digitized, flexible, owner-centric evidenced-based tool that encourages students to take ownership and responsibility for their learning. By making explicit the process of using an e-Portfolio tool that encourages students in a process of continuous reflection, students are able to select, categorize and document their achievements and accomplishments for review and assessment related to their professional development (Gaide, 2006). This process not only helps to provide direction to a student's personal and professional life but also provides students an opportunity to display their learning electronically in an organized format. Moreover, this process enables students to create intellectual order and generate new mental pathways that define the way they think and learn, thereby authoring their own intellectual identities (Barrett & Town, 2006).

A portfolio's support for reflective thinking is its most defining pedagogical feature (Ellsworth, 2002). Research has shown that the process of constructing an e-portfolio stimulates students to engage in reflective thinking and subsequently self evaluate and consider their learning (Cambridge, 2010; Wade, Abrami, & Sclater, 2005; Wang, 2009). The e-Portfolio can also be a powerful tool to 1) promote learning (including learning from the process of assembling the portfolio); 2) improve critical thinking and content areas; 3)

record accomplishments in an educational context held by the students for their own use; 4) assess long term, ongoing, authentic evaluation, and self-evaluation and self reflection, and 5) provide evidence of continuous development (Orland-Barak, 2005; Pelliccione & Raison, 2009).

E-Portfolios may also address challenges in educational processes. Herremans and Murch (2003) identified two difficulties learners encounter in a professional degree programme: firstly, taking their experiences and determining what they have learned from those experiences; and secondly, taking responsibility for their own learning. E-Portfolio development may address these difficulties by allowing the learner to take control of and reflect on course content and work product (Stefani, Mason, & Pegler, 2007). The learner evaluates their work, explicitly reflects on that work and potentially articulates a meta-dialog on the evaluative process (Mansvelder-Longayroux, Beijaard, & Verloop, 2007). Hence, reflective thinking is a defining pedagogical feature. E-Portfolios extend the diversity for work product and reflection by increasing the breadth of materials that may be included, and the potential for dynamic ongoing interaction and reflection (Wickersham & Chambers, 2006).

Bauer and Dunn (2003) further discussed the importance on the value of the portfolio process by stating, "The real strength of the e-Portfolios is the activities in which the students are engaged. Through continuous reflection, accumulation and selection of artifacts, and receipt of feedback, students are developing valuable skills that will serve them as professional educators" (17). Berg and Lind (2003) also emphasized the value of the experiences students encountered while developing their e-Portfolios and found evidence to suggest that constructing e-Portfolios not only facilitated reflective practice but led students to assess their own learning. Gatlin and Jacob (2002) describe e-Portfolios as providing a "richer snapshot" of students' achievement and expertise as well as being a documentation of their technological skills (35). Because students are able to provide a more complete picture of their abilities using a variety of sources in e-Portfolios, they are better able to demonstrate their ownership of learning (Shroff, Deneen, & Lim, 2012; Stefani, Mason, & Pegler, 2007). Similarly, e-Portfolios may provide an authentic means to embed technology standards into the assessment process; students can demonstrate ownership of their learning while creating portfolios that document their ability to meet all of the required standards (Armitage, Wilson, & Sharp, 2004).

Why e-portfolio is used

E-portfolio is used for a variety of purposes, such as for assessment, for career planning, for documenting learning and growth over time. It has the potential to change the nature of learning environments and the ways in which student learning is promoted through different modes of learning (Ayala, 2006). On the pedagogical aspect, e-portfolio could provide:

i. feedback on student progress throughout the programme (formative assessment);
ii. evidence that the generic intended learning outcomes have been achieved (summative assessment); and

iii. a record that students could use in a post graduation context.

At the technical side, e-portfolios serve the following purposes:

i. to provide a repository of work on which to base subsequent evaluation of students' knowledge, skills, and dispositions relative to their academic programme;
ii. to provide a selection of specific artifacts from which evaluation or assessment of specific outcomes may take place;
iii. to offer a medium for students to engage in and document evidence of reflective practice and learning;
iv. to demonstrate student achievements at any time and any place such as during an interview or to secure a position.

Once evidence of learner progress and achievements is captured and recorded, then the next step would be to determine how that information can effectively support the learning process. This means that the evidence used for personalizing the learning experience would be used to assess a learner's relevant knowledge and skills for a particular course or programme. This kind of recorded information could help learners understand how they learn and to share this information with faculty members and teaching staff. Potentially the e-portfolio could capture and record different aspects of the learning process for reflection and/or continuous assessment. As well as presenting evidence from a single course or programme, individual students can also use the evidence of their learning held in their e-portfolio to present a wide range of their achievements. Evidence collected in a portfolio may also give a much richer picture of learners' strengths and achievements – this is achieved through the creation of grading rubrics that measure the degree to which students have met specific generic intended learning outcomes. However, it is necessary to determine whether an e-portfolio represents an official record of student work, and if so, how an assessment system would also be able to validate portfolio content.

E-Portfolio Design Considerations

Steps taken to address the pilot goals included: a) understanding pedagogical needs b) e-portfolio course development and faculty training (c) e-portfolio implementation, faculty and student support, and student training and (d) e-portfolio and course-embedded assessment.

Understanding the pedagogical needs

The most significant step before considering implementation was to establish the purpose, the context and the content to be included in the e-portfolio. The following questions will help to lay the foundation: i.) What is the purpose of implementing e-portfolio? ii.) What are the learning outcomes to be achieved in alignment with the Institute's vision and goals? iii.) Who is the primary audience of the e-portfolio? iv.) Which type of e-portfolio (i.e., will be considered? v.) What is the role of students in the creation of the e-portfolio? vi.) What is the scope of e-portfolio implementation?; and vii.) How is the e-portfolio going to be assessed?

E-portfolio course development, faculty training

The e-portfolio pilot involved focusing on putting forward the ideas, identifying and connecting coordinators, and providing faculty and student support. The e-portfolio activities conducted during the pilot were positioned in the context of how the implementation supported both institutional assessment as well as assessment of student learning. The involvement and support in the planning of the e-portfolio pilot was essential. By providing individual consultation, we were will be able to identify e-portfolio objectives and create a customized e-portfolio for each course area. It was recommended that pilot testing begin with faculty overview followed by a pilot implementation.

E-portfolio and course-embedded assessment

The OBL Unit proposed to implement an assessment portfolio for both formative and summative assessment.

i. Formative Assessment e-Portfolio - the formative assessment e-portfolio allows students to capture the process and growth of performances related to learning that has occurred. The formative assessment e-portfolio will focus on students' ownership of the e-portfolio, thereby allowing students to archive artifacts, reflect on his/her learning experience, evaluate the progress of his/her own learning over time, and plan to improve the learning processes. One of the most important processes in the development of an e-portfolio is reflection. Instructors will support students by developing questions to guide them in this process of reflection. Instructors will also provide feedback to students and suggest ways to improve knowledge and skills and improve on learning strategies.

ii. Summative Assessment e-Portfolio – the summative assessment e-portfolio was used for self-assessment of students' achievement. Instructors were required to clearly specify the learning outcomes to be assessed, why these outcomes are assessed and how they will be scored using rubrics. Using rubrics contextualized to e-portfolio allowed students to monitor and evaluate their growth and development in the learning process.

Technology Implications using Mahara Platform

The "Mahara" e-Portfolio system was chosen to supplement the e-portfolio pilots for two reasons. Firstly, the software is an existing available resource acquired by HKIEd. Secondly, Mahara is a fully featured open source electronic portfolio system designed to provide users with the tools to create a personal and professional, learning, development and showcasing environment. The system allows users to customize the e-Portfolio and user interface to reflect their individual style and preference. The students serve as portfolio owners who have control over the material, design, and membership of their portfolio. Users create portfolios entries that showcase a collection of their accomplishments, evaluations, and reflections in a web-based environment. Due consideration priorities of selecting the Mahara system were:

- Technical issues about the reliability, security and effective transfer of

information

- User-friendly interfaces of the system for faculty and students – distinctive features include user-friendly portfolio pages in which users should be able to edit, add, delete or move content blocks of the portfolio and a dashboard that supports portfolio management.
- Usability and customization
- Assessment
- Integration Interfaces – the system should also be able to integrate with other educational systems and web applications.
- Templates - from a design perspective, the Mahara system should allow users to customize portfolio templates.

i. Students were trained by the instructors to in the use of the Mahara system. One-on-one consultations were conducted by the OBL Unit – instructors were introduced to the portfolio process, expectations, templates, rubrics, and Mahara tools through a series of meetings and workshops guidelines and instructional materials were provided.

ii. Workshop training of the Mahara e-portfolio system for staff and students was conducted by OBL Unit staff. This included providing portfolio content development training for instructors – engaging instructors in the process and encouraging them to comment on students' reflective writing. E-portfolio instructor and student training comprised of demonstration of the Mahara e-portfolio functionality, offering examples/templates of e-portfolio uses and organizing training workshops conducted by OBL Unit;

E-Portfolio Implementation Considerations

Identification of Scope and Purpose

A key implementation issue comprised of determining the scope and purpose(s) of the e-portfolio. The following questions helped to determine the specific purpose(s) of the e-portfolio for this initiative i.) Will the e-portfolio be in a form of value added assessment that demonstrates student growth overtime? ii.) Will the e-portfolio be utilized for course based assignments or as an assessment measure that indicates performance or used as a means of professional development for the students?

Determination and Assessment

Selecting the features in the Mahara e-portfolio system to be adopted, assessing the current technology structure that will support e-portfolio adoption and determining the type(s) of portfolio to be adopted were key issues for consideration. When selecting the Mahara e-portfolio system, it was necessary to identify the following features that fit the long term needs of the Institute: i.) Types of artifacts supported. ii.) Types of assessment supported. iii.) Communication and collaboration capabilities. iv.) Reflections (i.e., supported/unsupported and types/formats). v.) Sharing (i.e. who can be invited to view

and/or assess student portfolios). The Mahara ePortfolio system not only allows students to collect and organize artifacts of various forms of media (such as text, images, video, audio) in a digital environment, but also allows students to organize the artifacts in a number of ways to demonstrate learning over time, to share competencies and to demonstrate mastery of course content.

Development and Implementation

An important component of e-portfolio implementation involved the establishment of resources, building the portfolio across the four pillars. The intent would be to combine multiple components into a framework and apply them to one model by mapping the 4 key pillars (Student Affairs Office (SAO), Centre for Language in Education (CLE), School Partnership and Field Experience Office (SPFEO) and General Education Office (GEO)) with the generic learning outcomes (GILOs) and programme intended learning outcomes (PILOs). Implementation issues involved preparing students for the pilot(s) and beginning the cycle of ongoing assessment and improvement. This also involved a process of longitudinal growth and continuous improvement with the intent to conduct a series of pilots before considering full deployment.

Possible Learning Outcomes

The e-portfolio implementation has the potential to change the nature of learning environments and the ways in student learning is promoted through different modes of learning:

- *Self-regulated learning:* A web-based infrastructure would not only support student reflection but it would also play a pivotal role in supporting student learning.

- *Interactive engagement:* The use of assessment technology seeks to promote active engagement of student and peers, in the self-reflection process of student growth and development. This type of collaboration not only enables students to better reflect on their learning through ongoing feedback and constructive criticism, but also assists them in assessing the effectiveness of their critical thinking, analytic and communication skills and techniques. Ideally, an electronic assessment tool aims to provide students with more opportunities for reflection, which is critical to their development.

- *Peer-assisted learning:* A web-based assessment infrastructure would serve several functions: it would allow student to better critique and evaluate their own work through blogs, wikis, podcasts and other powerful system tools. It would permit students to maintain involvement and facilitate communication and the exchange of ideas among peers though electronic collaboration tools. Through a superior and sharper understanding of web-based assessment platforms such as an e-portfolio system, educators can subsequently begin to implement teaching methods, materials and learning environments, which support and foster student learning.

The implications the pilots that have thus far been conducted, emphasize the importance of an embedded curriculum and active participation of stakeholders within the Institute to support individual learning, learning assessment and institutional accountability for successful e-portfolio implementation. It is important that faculty scaffold their students to effectively build their e-portfolios to achieve personal, academic and institutional objectives.

E-Portfolio at HKIEd

Framework

The framework below presents a structure for assessment of the generic learning outcomes (GILOs) by subsequently mapping onto the Programme Intended Learning Outcomes (PILOs), to facilitate the development of electronic portfolios in which students would present evidence of their knowledge, skills, and dispositions by showcasing their accomplishments. At the broadest level, student e-portfolios can be aggregated into an institutional e-portfolio containing a wide variety of digitized representations that provide evidence for achievement of the generic learning outcomes. The objective is to build a repository of exemplars and showcase for good practices of developing e-portfolio that facilitate the development of critical outcomes. The intent would be to combine multiple components into a framework and apply them to one model. Figure 1 below shows how the 4 key pillars are mapped with GILOs and PILOs:

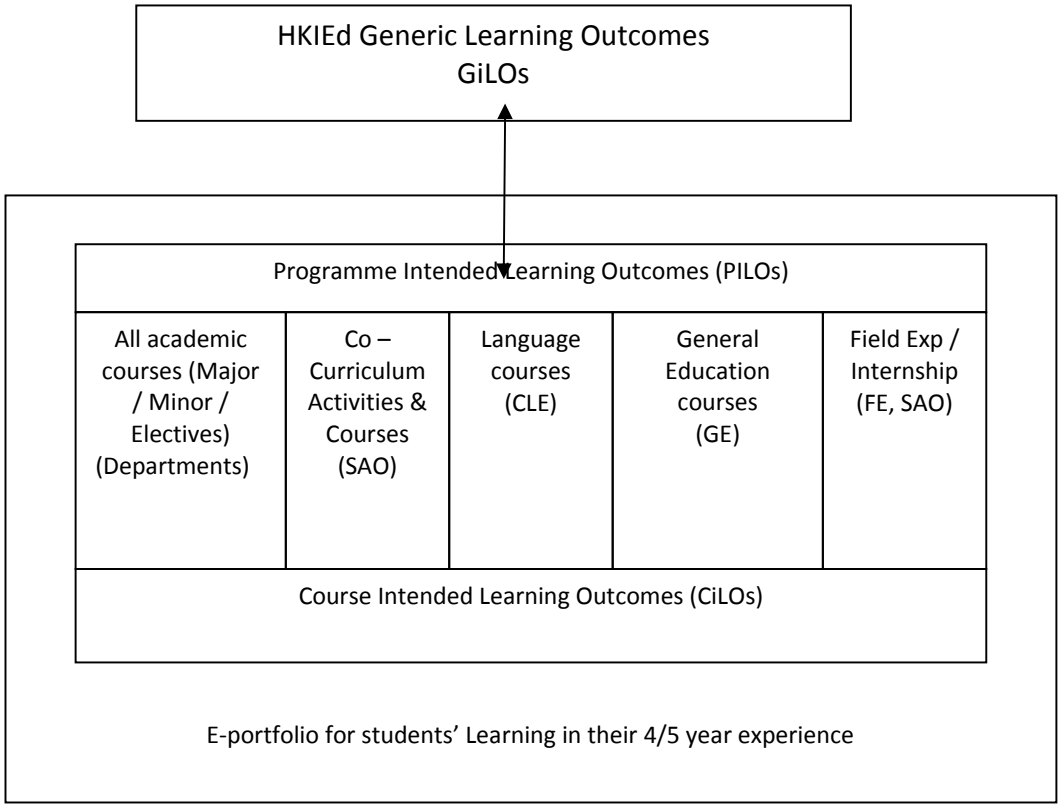

Figure 1: E-portfolio Framework

Content

One of the most important processes in the development of an e-portfolio is reflection. Course lecturers will support students by developing questions to guide them in this process of reflection and also provide feedback to students and suggest ways to improve knowledge and skills and improve on learning strategies. The content has the potential to change the nature of learning environments and the ways in which student learning is promoted:

i. An integral part of a student's participation in portfolio development includes evidence to demonstrate the generic outcomes, whereby students will take control of their learning while being able to track their development and progress. Students will be able explain, defend and reflect on the importance of their assignment(s), in order to make sense of and map out their academic and professional goals, experiences, and outcomes, that is, they must understand the generic outcomes and believe the work created to produce evidence of achieving the learning outcomes is worth doing. Feedback will be a part of the instruction whereby the course lecturer and students are active participants, explaining and reflecting on the work contained in the portfolio.

ii. Students will upload their work together with written reflections as evidence of their learning that best represents a specific generic outcome. The written reflections are seen as a critical component of the portfolio process, thereby strengthening students' metacognitive abilities as they think about their own learning and, ideally, identify strengths and areas for growth (See Figure 2).

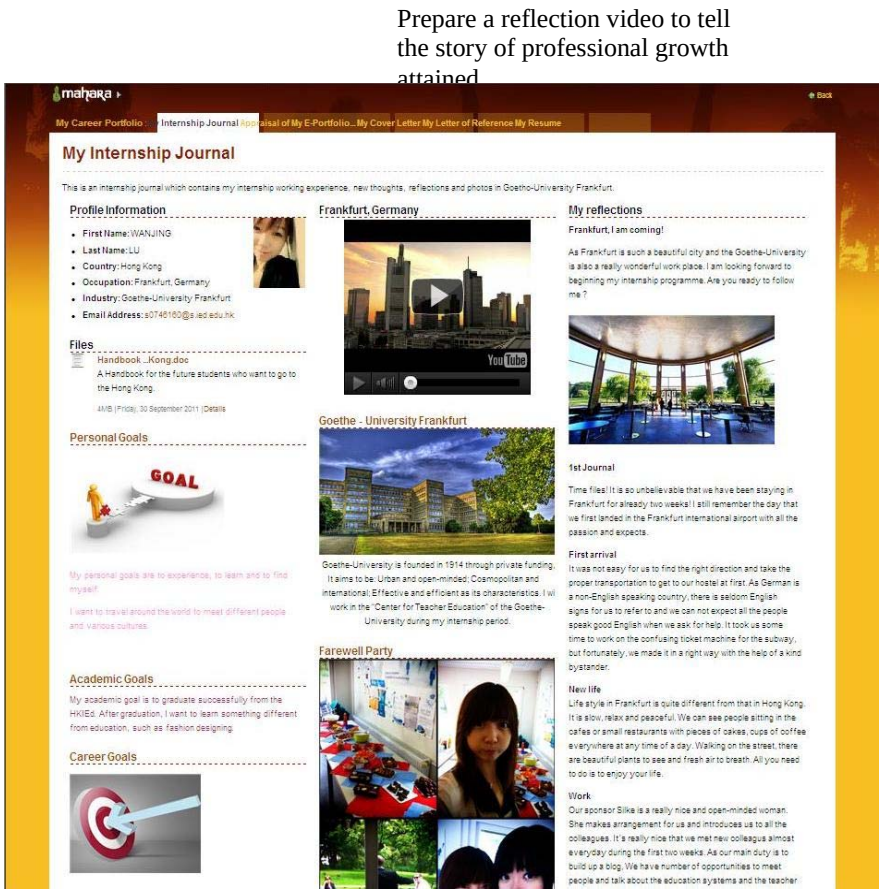

Figure 2: Sample of E-Portfolio with Reflection

iii. To facilitate reflection, we propose to introduce a framework — "retelling, relating and reflecting" (Schwartz & Bone, 1995, p. 26) — that provides prompts and questions to promote students' higher order thinking in their portfolio entries. For example, together with their submitted work that represents a specific generic outcome, students will be prompted to retell ("What is your entry about?"), relate ("Why did you choose this as an entry?), and reflect ("What did you learn? How did you grow?") (Rolheiser et al., 2000, p. 154). These types of commentaries will enable students to demonstrate their ability to master the major content of the course, provide evidence of how the work on an assignment evolved, and select

which assignment best demonstrates growth and understanding toward a specific generic outcome;

The pilot studies were conducted in 2009/10 and 2010/11 to determine if students were likely to adopt the newly-implemented technology and similar studies are currently in progress to determine the scalability. Courses for SAO and Centre for Language in Education were to examine the feasibility of creating institutional change in preparing students to use the assessment technology for OBL and professional development and to enhance collaboration and communication between student-student and student-teacher collaboration. Details of the studies are:

Faculty/ Office	**Course Title**	**Time / period**	**Number of Student / Staff**
FAS (MIT)	IT Supported Learning Environment	Sem 2 2009/10	36 students, 1 staff
FES (ECE)	Critical Issues in Education (ECE1039)	Sem 2 2009/10	33 students, 1 staff
FLAN (EL)	Secondary ELT Methods I: Developing Oracy Skills (ENG2257)	Sem 2 2009/10	68 students, 1 staff
FAS (CCA)	Music Education Methods and Strategies (MUS1178)	Sem 2 2009/10	32 students, 1 staff
FE	BEd (ENG) - Practicum	Sem 2 2010/11 Sem 2 2011/12	76 students, 15 staff 84 Students, 9 staff
	BEd (GS) - Practicum	Sem 2 2011/12	74 students, 13 staff
	BEd (LS) - Practicum	Sem 2 2011/12	16 students, 5 staff
CL (SAO)	Mainland & Overseas Summer Internship Challenge Programme	Sem 2 2010/11 Sem 2 2011/12	51 students, 2 staff Just open for enrollment
	Developing your Personal and Career Pathways using e-Portfolio	Sem 2 2010/11 Sem 2 2011/12	51 students, 2 staff Just open for enrollment
	Campus Learning Tutor	Sem 2 2010/11 Sem 2 2011/12	6 students, 1 staff 6 students, 1 staff

LE (CLE)	Access Advanced English (CLE2128)	Sem 2 2011/12	32 students, 1 staff
	English for General Academic Purpose (CLE1169)	Sem 2 2011/12	26 students, 1 staff
	Intermediate Putonghua (CLE2106)	Sem 2 2011/12	30 students, 1 staff

Key activities

The implementation divided into two phases. The first phase was implemented in 2011/12 by the OBL Unit. They are:

i. Identify core courses from FE, and SAO and probably CLE. Engage students' in the construction of a development portfolio to record what the student has done for the key components of the entire programme and that is directly tied to the generic learning outcomes, within the context of their courses.

ii. Identify portfolio assessment tasks in each of the core courses that would be determined by mainly by the key stakeholders (e.g., course/programme coordinators, FE supervisors) or by a joint discussion between the key stakeholders and the OBL staff.

iii. Incorporate a team of faculty members to work with the OBL Unit in phases of planning, development, training, implementation and evaluation;

iv. Utilize features of the Mahara e-portfolio system to enable students to carry out activities that demonstrate optimal student learning and provide evidence of attainment of the generic learning outcomes.

v. Develop a reflection guide to support students to write reflections. The aim of the guide is to help students with their reflective learning during the course. It provides information about the reflective process and sets out some strategies for students do develop their reflective writing.

The second phase will be a full implemented for students who will be enrolled in 2012/13. The LTTC (Centre for Learning, teaching and technology) will take the role to lead the implementation and communicate with different departments and offices from Fall 2012. Apart from coordinating with units in the first phase, it will involve collaboration with GE to provide training to all the 3rd or 4th year students under 334 new scheme through the GE Consolidation Course tutorials. A specific goal of the Consolidation course is to provide students with an opportunity to synthesize their life experiences – in GE, in their majors, in co-curricular activities, and even beyond the walls of HKIEd – into a meaningful whole. Here, the construction and maintenance of an Institute-wide and centrally located e-portfolio provides the most suitable means and sphere for students to reflect on and

evaluate their total learning experience, and to imagine their own futures. It expected that every student under 334 new scheme will take 3rd or 4th year GE Consolidation Course (3 units) as an institutional requirement. It is also suggested to include courses from major and minor subjects. The selected courses should be able to reflect how and what students have attained the programme intended learning outcomes. The steps will be the same as the first phase. The core components and the selected courses that are uploaded Mahara will not only enable students to share the rich experiences and activities that were carried during the course of study but also to demonstrate how and what they have achieved in terms of course intended learning outcomes (CiLOs), programme intended learning outcomes (PILOs) and generic learning outcomes (GILOs) (See Table 2).

Course Name	Year	Programme	e-portfolio Assessment Component
SAO	Year 1	4-year full-time BA/BSocSci Programmes 5-year full-time BEd programmes	Require students to design, create & maintain e-portfolio to support & enhance career development.
CLE	Year 1	4-year full-time BA/BSocSci Programmes 5-year full-time BEd programmes	Require students to design, create & maintain e-portfolio to reflect the student-centered activities.
FE/Internship	Year 3/4	Selected full-time undergraduate programmes	Require student-teachers to select, show case and reflect their teaching/internship experiences.
GE Consolidation	Year 3/4	4-year full-time BA/BSocSci Programmes 5-year full-time BEd programmes	The e-portfolio will comprise of students' synthesis and communication of their own ideas, attitudes and values in their learning journey.

Table 2: Key pillars for the second phase (2012/13)

Platforms

Mahara is a fully featured open source electronic portfolio system designed to provide users with the tools to create a personal and professional, learning, development and showcasing environment. Mahara allows users to customize the e-portfolio and user interface to reflect their individual style and preference. It also has a function which allows users to create multiple views with different combinations of evidence and artifacts from their portfolio and gives them control over who can access those views (See Figure 3). This process not only encourages reflection through sharing of content but also encourages learners to consider the content and purpose of their mini portfolio. Using the Mahara platform, learners will be able to monitor the progress of their work in response to feedback from course lecturers and peers.

Publishing of different e-Portfolio views

Publishing different e-Portfolio artifacts

Figure 3: Multiple Views

Resources Required

Technology

At present ITS is maintaining the platform (http://mahara.ied.edu.hk). ITS covers the maintenance of the hardware and the Mahara software is free. The system can cater all students and staff with 50Mbytes per account. All students are provided Google App accounts which has 2GB storage in Google Doc. Students could also put their multimedia artefact in Google Doc and put the link in Mahara e.g. video and large photos etc. If the disk quota is upgraded from 50MB to 100MB, it will costs HK$120K each, $120*6000 students=$720,000 in total. This upgrade is desirable but not necessary.

Subscription of Mahara account upon graduate costs US$3.85/account/month. For example, to support graduates for another 3 years (assuming 2000 x 3 = 6000 graduates), the annual cost will be HK$2.162M per year (http://www.tmdhosting.com/mahara-hosting.html). Therefore, it is recommended that the graduates bear the subscription cost.

Apart from storage issue, there is performance issue which is difficult to estimate at this stage. There would be a need to add more servers and spread the loading as time goes by so that Maraha can be sustainable in a long run.

Human

i.) Faculty and Student Inclination

The institutional context can compel e-portfolio usage to an extent, but it is ultimately the individual student who decides whether the experience is worth their time and effort, and on that basis, to continue using it or not. Integrating both course design and e-portfolio functionality more closely enable better understanding by students of the potential of an e-portfolio to assist learning and evidence of their progress. If use of an e-portfolio can be seen by students as an integral part of engaging with the course, then its benefits will be apparent in terms of what it can enable students to do more effectively or more enjoyably. The encouragement of use of, and ultimately design of, an e-portfolio must focus on the benefits to the user, for example by facilitating individual reflection, peer to peer communication on a group task, as well as on more explicit learning advantages.

However, the uptake of e-portfolios by teaching staff will be impacted by their confidence and skill in using e-portfolios and their awareness about how e-portfolios can assist in teaching and learning. Faculty members and teaching are very busy with their required obligations for teaching and research and not every faculty member will have the time nor interest or inclination to embrace the idea of using a new tool and offering a new learning outcome in his or her courses. We believe the offering of seminars and training workshops for faculty would enable them to discover the long-term benefits of the e-portfolio system whereby they would likely learn to appreciate its features and require a class to use the system with students to follow in that discovery. On the other hand, a number of colleagues have secured teaching development grants funds to carry out ongoing inquiries into their own and their peers' teaching and learning practices. For example, one TDG projects consist of a chair professor and professor together with 9 other co-supervisors and 16 members. The supervisors and some members have taken a course in September on using the Mahara, conducted by OBL Unit. They were also provided with a template to build their own teaching portfolio. In addition, the establishment of a faculty development and incentive program would play an important role in the buy-in, adoption and success of e-portfolio implementation at HKIEd.

ii.) Training and Support

Support and guidance will be required to build student confidence with the portfolio content and use of the software. Training and support needs to focus on individual student needs to minimize non-use. Hence, the support to students is crucial in terms of instructing them on the process, guiding them through collection, reflection and development of the artifacts and providing them with some latitude with the tools and structure so that the e-portfolio is perceived as their own, personal learning strategy. Guiding and coaching of the students seems to be crucial in all cases.

The skills and competencies of the teaching staff in terms of ICT and pedagogical process must also be acknowledged so that the e-portfolio development is time effective. Hence,

the role of teaching staff is pivotal for the whole process of e-portfolio development - as much time and resources should be devoted to training staff to utilize the e-portfolio themselves to enable them to explain the advantages of maintaining an evidenced-based learning portfolio to their students. Guidelines for teaching staff, comprehensive user guides and support is required to assist students and staff to effectively engage with e-portfolios.

Similarly, we believe that courses for first year students could include e-portfolio appreciation and awareness, offering new students a basic understanding of and appreciation for the e-portfolio system. This initiative could mandate refinements of courses to include early training on collection for, reflection on, selection of, and presentation of a student learning e-portfolio. There will be about 1300 student intake for University Grants Committee supported programmes for 2012/13. It is estimated that about 50 general workshops are required to be conducted in a group of 25. Furthermore, some academics might require tailored-made workshops.

Manpower

Two educational technologists and two technical staff would be required to conduct training for both academic and teaching staff and students, developing appropriate instructional process design guidelines and preparation of manuscripts, abstracts, presentations, and annual progress reports, and providing “help desk” facilities.

Possible Challenges

An institute-wide e-portfolio represents a sizable commitment, one that requires foresight as well as a thoughtful strategy. The challenges presented below is purposed to assist in the e-portfolio adoption process.

i. Course lecturers/OBL Unit will be required to help students understand why they should create an e-portfolio and scaffold them by providing timely support and feedback, building a sense of individual identity and interest and ensuring that guidelines for the development, compilation and submission of the portfolios are clearly stated (this will include providing guidance on how the portfolio should be organized, dating of work, reflection on the process and final product);
ii. Students will need to be clear on the assessment as well as the portfolio content criteria that need to be demonstrated. Items within the mini portfolios should be able to demonstrate outcomes and competencies expected from the course lecturer;
iii. Course lecturers will be required to monitor the portfolio content in both terms of quality and appropriateness. Careful monitoring of shared content and clear guidance on the quality of content will allows students to reflect and review on their development;
iv. The Mahara system might also experience low performances during the end of a semester when many students are expected to uploaded their artifacts;

v. The OBL Unit is likely to encounter great demand for support for students and course lecturers at the end of a semester when students are expected to upload their artifacts and course lecturers to grade and to give comments to their students.

Overall Findings from the FE and SAO Pilot –Fall 2011

The e-Portfolio Field Experience (FE) and SAO co-curricular pilots of Fall 2011 provided a sense of value to students; showcasing the electronic media (i.e. text-based, graphic, or multi-media elements) in the e-portfolio entries allowed the students to demonstrate a more meaningful understanding of their course and hopefully benefit their achievement in future courses. Students were also able to experience a degree of control over their e-portfolio, providing them with flexibility and discretion over the e-portfolio content, and thus allowing them to showcase their work in a digitized format. For example, students could choose what artifacts to showcase in their e-portfolio and subsequently exercise choice in how they customized their e-portfolio entries. Moreover, we felt that the use of e-portfolio encouraged the construction of knowledge through reflection. Students were also able to experience a degree of responsibility by being provided with the appropriate training and subsequently assuming responsibility for construction of their e-portfolio entries. We felt that having some degree of freedom allowed students to explore beyond the norm and take more responsibility for their own learning. We also found that participants were sensitive to both the means of manipulating the e-portfolio and the results of their efforts doing so. Integrating both course design and e-portfolio functionality enabled students to have a better understanding of the potential of an e-portfolio to assist learning and evidence of their progress.

<u>Overall Feedback from Students on e-Portfolio – Fall 2011</u>

1. Feedback from Students on Training Content/ Design/ Mode

- Too many sessions which can be trimmed down a bit by having less exercise time during class;
- The materials and the courses are useful, and the training content was delivered clearly;
- Not very necessary to have the training on e-portfolio as it is easy to handle;
- Too many assignments and regulations on attendance;
- The e-portfolio is somehow complicated and time consuming but I have better control over it after a series of workshops and thanks to Ronnie's help;
- I felt a sense of ownership and designed the layout with my own style.

2. Student Feedback on Usefulness

- Students were glad to receive feedback from the supervisors on the e-portfolio, but were a bit puzzled on how to reply to comments made by the supervisor;
- The ePortfolio helping them students to list out their achievements and relevant information;
- The e-portfolio requires far too much manpower and time to master it. However, it is quite rewarding;
- The e-portfolio encourages me to organize my experience in a better way;
- To a large extent, the e-portfolio has improved my reflection skills as we need to reflect on our experiences every two weeks;
- Creating my portfolio provided me a fantastic opportunity to learn something more about today's technology and the way to advertise myself;
- To a large extent, I love the fact that I could add my own videos and other online resources to my portfolio;
- I had great ownership in creating my e-portfolio entries. However, I think I would have a stronger sense of ownership if I was given the chance to decorate my e-portfolio in terms of background and template.

3. Suggestion from Students for future e-Portfolio Courses

- Better to arrange workshops before students start their FE block or internship abroad;
- More indication in e-mail for class arrangement is needed;
- Guidelines or instructions provided online or in an e-learning format will allow more flexibility to students;
- Use blogs to supplement the Mahara system, like Yahoo & Bing;
- Shorten the training sessions and duration.

<u>Overall Feedback from FE Supervisors on e-Portfolio – Fall 2011</u>

1. Feedback from FE Supervisors on Training Content/ Design/ Mode

- Satisfied with the training;
- No difficulties were found as marking e-portfolio is rather straight forward;
- No suggestions for more training.

2. Feedback from FE Supervisors on the usefulness of e-portfolio for students

- Help students to compile all lesson plans, photos, video clips in one file, which could be a showcase at anytime to everybody, like to principals, supporting teachers and peers;
- Not much differences and the only difference between e-portfolio and traditional portfolio is the transforming format, from hard copy to soft copy;
- Uploading and management of their e-portfolio requires critical thinking.

3. Suggestion from FE Supervisors for future implementation

- Ask students to submit their artifacts by stages;

- Might ask their peers to comment on each other's work but it would be very time consuming.

E-Portfolio Spring 2012 Pilot

The assessment component of the field experience at HKIEd is the development of a portfolio. The portfolio illustrates student-teachers' ongoing professional development in the relevant domains of teaching. It provides sources of evidence, in addition to observation of teaching and learning, pre-lesson and post-lesson conferences, on the basis of which the supervisor can make informed judgments about the student-teachers level of competence in teaching. The portfolio is a focused and organized documentation of student-teachers' professional development. The construction of the portfolio is a way to facilitate the participant's ongoing reflection about one's professional development in the teacher education programme. Moreover, the focus of the portfolio is to provide a collection of reflections and evidence of continual professional growth of participants. Hence, the portfolio allows student-teachers to provide evidence of good practice that might not have been apparent in the observed.

<u>E-Portfolio ENG Field Experience Pilot - Spring 2012</u>

- The third e-portfolio Field Experience pilot project commenced in Spring 2012 involving a cohort of 84 3rd year student-teachers enrolled in the Bachelor of Education English Language Programme and approximately 20 Field Experience (FE) instructors/supervisors;
- The OBL Unit has been working closely together with the Department of English to design and implement the FE e-portfolio for all the FE students involved in Spring 2012 pilot;
- The e-portfolio pilots and preparatory work conducted thus far has helped to highlight a number of key issues that have required resolution before the proposed full implementation in Fall 2012;
- More comprehensive Mahara training sessions featuring step-by-step instructions from logging in, completing activities and submitting a view for assessment through Mahara were conducted on the 9 March 2012, 9:30am and 11:30am, in the computer lab B1-LP-01 (42 students in each workshop) (see Appendix);
- Training workshops were made compulsory for all students and we closely monitored students during the workshops to ensure they felt comfortable and competent in constructing their FE e-portfolio view;
- All students attended the workshops. Students were also instructed to send their Mahara links to Ms. Ivy Ngai of the English Department (GO) during the workshops so that all the links could be consolidated and then sent out to the respective FE supervisors;
- A check-list was also designed for students, to make sure they complete all the steps before submitting their final work;
- Students were also instructed to change the settings of the Google docs and Mahara, to English when they submit their final work;

- Additional refinements were made to the FE Mahara template - students are also be able to copy the view of the template to work on it, which would subsequently make it easier for the students to follow the prescribed steps.

E-Portfolio GS and LS Field Experience Pilot - Spring 2012

- The OBL Unit has been working closely together with the Strategic Partnership and Field Experience Office (SPFEO) to conduct an FE pilot the with FE students from General Studies (GS) and Liberal Studies (LS);
- A Field Experience pilot project commenced in Spring 2012 involving a cohort of GS and LS student-teachers and approximately 20 Field Experience (FE) instructors/supervisors;
- Based on the Spring 2012 pilot findings, SPFEO plan to implement the FE e-portfolio Institute wide across all programmes beginning September 2012.
- Numerous meetings, an orientation session and three training workshops for 16 LS and 74 GS students have been conducted on 07 and 08 March, 2012 in the use of the Mahara platform and delivery of assessment tasks;
- A host of FE resources as well as support facilities have been provided by the OBL Unit to promote the Field Experience e-portfolio adoption for FE GS and LS students;
- An e-portfolio FE guidebook with screen-shots and step-by-step guided instructions has also been designed for students to enable them to construct their FE portfolios and guide them through the process of using the Mahara platform, the method of delivery and content;
- A Field Experience Template in Mahara was also created to provide a consistent structure for students to follow through in the construction and design of their e-portfolios;
- A check-list was also designed for students, to make sure they complete all the steps before submitting their final work;
- Students were sent an e-mail to advise them not to directly upload the FE Supervision Forms onto their e-portfolio without prior consent from their FE supervisors.
- A document addressing the e-portfolio ethical and privacy issues was provided to SPFEO and sent to students by e-mail, to remind them of the importance of abiding by these guidelines;
- A reflective writing guide was also provided to SPFEO and sent to students by e-mail, to help students with their reflective learning, setting out strategies for them to develop their reflective writing skills and abilities;

E-Portfolio Career Development Course for Campus Life Tutors - Joint Collaboration OBL Unit and Student Affairs Office - Spring 2012

- The OBL Unit has been working in collaboration with Student Affairs Office (SAO) to pilot a co-curricular course on electronic portfolio career assessment;
- A non-academic career development course was created under the auspices of the HKIEd Student Affairs Office (SAO). This course emerged from an existing structure

surrounding the Campus Life Tutor Programme, a programme administered by SAO in which third and fourth-year undergraduate students function as Campus Life Tutors (CLTs) for other students. CLTs are charged with guiding and providing experiential learning opportunities to enhance students' university experience and transition to employment.

- The 3rd co-curricular e-portfolio pilot course for Campus Life Tutors is currently being conducted once a week for a total of 12 hours to enable students to design, create, and maintain an electronic portfolio to support and enhance their career development. The purpose of this e-portfolio assessment is to assist Campus Life Tutors and interns in adopting approaches to planning their HKIEd educational experience and to keep track of their work for developing their professional and personal goals;
- Features of the Mahara platform are currently being utilized by Campus Life Tutors to enable them to carry out a series of activities that have been proposed in the course outline. Assessment tasks involve specific entries to the e-portfolio whereby students are required to map their e-portfolio entries to the course's predefined learning outcomes.
- The OBL Unit, in collaboration with SAO, plans to scale-up two courses based on feedback from the Campus Life Tutors from the Spring 2012 pilot,
- It is proposed that the two courses will cater to approximately 20 Campus Life Tutors and intern students and will be conducted within the 8-week period beginning Fall 2012.

<u>E-Portfolio Centre for Language in Education Course Pilot - Spring 2012</u>

- e-Portfolio and Career Development Course for Campus Life Tutors - Spring 2012 - Joint Collaboration OBL Unit and Student Affairs Office
- The OBL Unit has been working in collaboration with CLE to pilot three CLE courses in Spring 2012, two English courses and one Putonghua course;
- Preparatory work included identifying suitable courses and the assessment methods of the course framework for e-portfolio integration;
- The suggested assessment tasks as well as the portfolio content criteria were determined through a joint discussion between the CLE course instructors and the OBL Unit;
- Students were required to create entries in the 'My View' function of Mahara for each course (e.g., CLE 1108) and the assessment tasks within the course framework allowed students to design and construct their e-portfolios;
- 33 students are currently using e-portfolio for posting and commenting on independent learning assessment tasks for the Access Advanced English (EAP) course;
- 30 students are currently using the e-portfolio for critiquing and reflecting on two media print advertisements for the English Enhancement (Liberal Studies) course;
- 27 students are using e-portfolio to comment on selected contemporary Putonghua and to find out the origins of them for the Intermediate Putonghua course.

Proposed Key Activities for Fall 2012

E-Portfolio for Field Experience

Based on the pilot findings from Spring 2012, the OBL Unit and SPFEO have planned a path for deeper/broader implementation of the e-portfolio with a plan to implement the FE e-portfolio Institute wide across selected programmes beginning Fall 2012. The construction of the e-portfolio is a way to facilitate the student's ongoing reflection in regards to their professional development in their teacher education programme. The focus of the e-portfolio is to provide a collection of reflections and evidence of continual professional growth of participants. The systematic guidelines will be developed to facilitate students to effectively monitor and reflect on their own performances throughout the FE process. The LTTC will take the role to provide training and consultation services to both students and FE supervisors for the e-portfolio pilot project. Moreover, the assessment rubrics is to be reconstructed for assessing students FE e-portfolios. Students will be required to participate in a 2-hour compulsory workshop on using e-portfolio to document, monitor and manage their learning from the Field Experience Courses before their FE block practices. Student will also be provided with a set of comprehensive instructions to guide them in the construction of their e-portfolio and guide them in the process of reflection.

E-Portfolio for Centre for Language in Education (CLE)

The OBL Unit has discussed with three CLE representatives form three language teams to incorporate the e-Portfolio into the Chinese (CHI), ENG, Putonghua (PTH) courses. The OBL Unit has been working together with participating instructors from CLE to identify assessment tasks that are a good fit to e-portfolio and then constructing e-portfolio views as examples for students. Students taking ENG and PTH courses will be using Mahara to facilitate some student-centered activities whilst students for the selected CHI course can choose to upload their assignments in Mahara for Spring 2012. Students might be required to create entries in the *'My View'* function of Mahara for each course or activity that they want to set up as a portfolio. The LTTC will provide training to participating instructors and students. The workshops will guide students through the process of constructing their e-portfolios in Mahara as well as issues related to e-portfolio content, technicalities, interfacing with other media such as blogs.

For the proposed e-portfolio Fall 2012 implementation, it is suggested that:

- CLE courses that embed e-portfolio in the course assessment should be launched as early as possible, preferably for Year 1 students in Semester 2;
- A introductory e-portfolio workshop should be conducted for both staff and students instead of conducting workshops that are e-portfolio course specific;
- The value of e-portfolio should be made explicit to students so that they recognize the potential benefit of e-portfolio, as a way to show case their learning journey as opposed to being an assignment/assessment requirement. Student buy-in is key to successful e-portfolio adoption.

For the teaching method, it is suggested that:

- Peer-monitoring and feedback should be encouraged so as to reduce instructor-led guidance and support. For example, instructors could pair up 2 students to write reflect on each others' work and provide feedback;

For the assessment, it is suggested that:

- E-portfolio will not be required for every assessment task. Hence, it would be more appropriate for instructors to grade the overall reflective assignment on content, organization and structure.
- Google Docs can be used as an alternative platform for specific marking if necessary.

E-Portfolio for Student Affairs Office (SAO)

The OBL Unit, in collaboration with SAO, suggested to scale-up the courses to commence in Spring and Summer 2012. It is proposed that the two courses will be conducted within the 8-week period in Spring and Summer 2012. The career development course for Campus Life Tutors (CLTs) and student interns requires participants to design, create, and maintain an electronic portfolio to support and enhance their career development. Course outcomes consisted of: 1) identifying through an electronic portfolio, educational goals that align with personal and career goals; 2) demonstrating the ability to produce and assemble a personal career/academic electronic portfolio including a descriptive summary, resumes, letters of reference, work samples, certificates/awards, and other examples of accomplishments.; 3) identifying, selecting, documenting, and linking knowledge and skills across educational, professional, and personal experiences, reflecting on goal setting, prior learning and/or professional development; 4) demonstrating basic skills for integrative learning, appreciative inquiry, giving and receiving professional feedback, and self-reflection on prior learning and/or professional development. Participants will also be required to share their e-portfolio entries with others to facilitate a diversity of ideas and feedback. Learning interactions will be facilitated by SAO career counselors.

E-Portfolio for General Education (GE)

The OBL Unit has discussed with GE to provide training to all the 3rd and/or 4th year students under the 334 new scheme through the GE Consolidation Course tutorials. A specific goal of the Consolidation course is to provide students with an opportunity to synthesize their life experiences. Potentially the e-portfolio will be able to capture and record different aspects of the learning process for reflection and/or continuous assessment. As well as presenting evidence from a single course or programme, students will also provide reflections of their international experience as part of exchange programme or overseas internship. Moreover, students will use the evidence of their learning held in their e-portfolio to present a wide range of their achievements. Through continuous reflection, accumulation and selection of artifacts, and receipt of feedback, students will be able to develop the skills that will serve them as professional educators - constructing the e-portfolio will not only facilitate reflective practice but also allow students to assess their own learning. It expected that every student under 334 new scheme will take 3rd or 4th year GE Consolidation Course (3 credit points) as an

institutional requirement. Further discussion with the GE programme leaders is needed to identify some courses from major and minor subjects. Steps will be taken to address the pedagogical needs, e-portfolio GE course development and faculty training, faculty and student support, and student training and e-portfolio and course-embedded assessment for GE consolidated courses.

Strategies to Overcome Potential Challenges

An institute-wide e-portfolio represents a sizable commitment, one that requires foresight as well as a thoughtful strategy. The challenges presented below is purposed to assist in the e-portfolio adoption process.

General Strategies

- Course lecturers will be required to help students understand why they should create an e-portfolio and scaffold them by providing timely support and feedback, building a sense of individual identity and interest and ensuring that guidelines for the development, compilation and submission of the portfolios are clearly stated (this will include providing guidance on how the portfolio should be organized, dating of work, reflection on the process and final product);
- Students will need to be clear on the assessment as well as the portfolio content criteria that need to be demonstrated. Items within the mini portfolios should be able to demonstrate outcomes and competencies expected from the course lecturer;
- Course lecturers will be required to monitor the portfolio content in both terms of quality and appropriateness. Careful monitoring of shared content and clear guidance on the quality of content will allows students to reflect and review on their development;

Specific Strategies – Field Experience (FE)

- Need to make e-portfolio for FE mandatory in order to overcome resistance from students and faculty;
- Need to address the issue of faculty time and inclination to review and assess the artifacts within the FE portfolios;
- Need to develop assessment rubrics contextualized to the field experience and construction of the FE portfolios - assessments may need to change so that data collected is useful for the FE programme and necessary for programme improvements;
- Need to conduct a course/workshop to teach students how to reflect effectively - clear assessment rubrics and scaffolding for students on *how* to reflect is vital so that students internalize the benefits of reflective practice required for FE.

Specific Strategies – Student Affairs Office (SAO)

- To provide more examples of using Mahara's capability to demonstrate to students;
- Need to make sure assignments have milestones and due dates and timely feedback should be provided instructors;

- Need to address the issue of developing authentic assessment tasks to provide meaningful feedback to Campus Life Tutors and student interns.

Specific Strategies – General Education (GE)

- Need to determine exactly how the e-portfolio in the GE programme will align with the GE curricula and student learning outcomes;
- Need to address whether GE will use the Mahara system for mandated portfolio assessment of course unit requirements;
- Need to clarify the purpose of the e-portfolio for the GE consolidated course(s);
- Need to provide direction for the selection and inclusion of artifacts in the e-portfolio for GE consolidation courses and specific assessment criteria;
- Need to provide clear guidelines about how the e-portfolios will be assessed;
- Need to determine how the e-portfolio can be used by students to demonstrate evidence of their learning and also in determining whether they have met the course learning outcomes.

Specific Strategies – Centre for Language in Education (CLE)

- Need to address buy-in challenges in building instructor and student buy-in by providing a good first impression as to e-portfolio logic and usefulness thereby increasing the likelihood that instructors and students will return to the application because they find it appealing;
- Need to address instructor time and inclination. Not every instructor may have the time and/or the inclination to embrace the idea of using a new tool and offering a new learning objective in his or her CLE courses especially some of them are working part-time. CLE Once instructors discover the long-term benefits of the e-Portfolio Mahara system;
- To provide more examples of using Mahara's capability to demonstrate to students where they can (1) see the benefits and (2) see the “what is in it for me?”

Recommendations

The e-Portfolio pilots conducted thus far have highlighted a number of issues that require resolution before it can be used on a wider scale. The pilots revealed the following:

i. Instructors need to define and set up their respective courses with accompanying materials and activities to direct, guide and monitor student progress through the portfolio. Students also need to be clear on the assessment as well as the portfolio content criteria that need to be demonstrated. Items within the portfolio should have the potential to demonstrate certain competencies.

ii. Instructors should be required to monitor the portfolio content in both terms of quality and appropriateness. Careful monitoring of shared content and clear guidance on the quality of content will allow students to reflect and review on their personal development.

iii. Instructors need to help students understand why they should create an e-portfolio and scaffold them by providing support and feedback, building a sense of individual identity and interest and ensuring that guidelines for the development, compilation and submission of portfolios are clearly stated (this will include providing guidance on how the portfolio should be organized, dating of work, reflection on the process and final product).

iv. Instructor support and guidance is required to build student confidence with the portfolio content and use of the software.

v. Instructors and students require support to learn how to use the software - effective solutions need to be developed that will require minimal instructor and student support.

Six factors influencing use/non-use can be extracted from the Spring pilot project, namely: i) ease of use; ii) faculty and student inclination; iii) time availability; iv) training and support; v) support for assessment; and vi) support for the process of learning. The six factors attempt to suggest characterizations based upon a mix of individual and contextual elements. The following strategies for minimizing non-use assume that every effort has been made to optimize any underlying technology and interface issues for use of e-Portfolios:

i) Ease of Use

In terms of ease of use, the software environment must offer an attractive and simple interface with minimal or no training required. Hence, the Blackboard Course Management System (CMS) may not gain full acceptance by students and faculty until it becomes easy to use with an expectation for an easy and fast-to-navigate software environment. We feel students will have a better response to an e-Portfolio system that provides an impression of ease of use and appeal. To encourage users to try new tools within the e-Portfolio, it is necessary to demonstrate advanced features that are considered attractive, unique, flexible, and interactive. For example, students could map examples of their academic accomplishments along with their grades and incorporate the learning map into their personal e-Portfolio page – this could be achieved by uploading artifacts that have been created by the student and then mapped with the course learning outcomes.

ii.) Faculty and Student Inclination

Integrating both course design and e-Portfolio functionality more closely enable better understanding by students of the potential of an e-Portfolio to assist learning and evidence of their progress. If use of an e-Portfolio can be seen by students as an integral part of engaging with the course, then its benefits will be apparent in terms of what it can enable students to do more effectively or more enjoyably. Any closer integration of course design and e-Portfolio function would benefit from support and training of students and teaching

staff. In terms of student buy-in, we believe that courses for first year students could include ePortfolio appreciation and awareness, offering new students a basic understanding of and appreciation for the e-Portfolio system. This initiative could mandate refinements of courses to include early training on collection for, reflection on, selection of, and presentation of a student learning e-Portfolio. Hence, the uptake of e-portfolios by teaching staff will be impacted by their confidence and skill in using e-portfolios and their awareness about how e-portfolios can assist in teaching and learning.

Additionally, the establishment of a faculty development and incentive program would play an important role in the buy-in, adoption and success of e-Portfolio implementation at HKIEd. Faculty members and teaching are very busy with their required obligations for teaching and research and not every faculty member will have the time nor interest or inclination to embrace the idea of using a new tool and offering a new learning objective in his or her courses. We believe the offering of seminars and training workshops for faculty would enable them to discover the long-term benefits of the ePortfolio system whereby they would likely learn to appreciate its features and require a class to use the system with students to follow in that discovery.

iii.) Time Availability

The institutional context can compel e-Portfolio usage to an extent, but it is ultimately the individual student who decides whether the experience is worth their time and effort, and on that basis, to continue using it or not. The encouragement of use of, and ultimately design of, an e-Portfolio must focus on the benefits to the user, for example by facilitating individual reflection, peer to peer communication on a group task, as well as on more explicit learning advantages. Similarly, the skills and competencies of the teaching staff in terms of ICT and pedagogical process must be acknowledged so that the e-portfolio development is time effective. Staff development time is considered necessary – teaching staff would need to spend a significant amount of time “practicing”, after initial training, before they can feel confident using the e-Portfolio with their students. Hence, the role of teaching staff is pivotal for the whole process of e-Portfolio development - as much time and resources should be devoted to training staff to utilize the e-Portfolio themselves to enable them to explain the advantages of maintaining an evidenced-based learning portfolio to their students.

iv.) Training and Support

Training and support also needs to focus on individual student needs to minimize non-use. An important aspect is giving students the tools necessary to customize the e-Portfolio and user interface to reflect their individual style and preference. Hence, the support to students is crucial in terms of instructing them on the process, guiding them through collection, reflection and development of the artifacts and providing them with some latitude with the tools and structure so that the e-Portfolio is perceived as their own, personal learning strategy. Guiding and coaching of the students seems to be crucial in all cases.

Similarly, guidelines for teaching staff, comprehensive user guides and support is also required to assist students to effectively engage with e-portfolios. In some instances, users including both teaching staff and students, will have no, or limited, experience using an e-portfolio – hence, minimum standards for user guides (e.g., FAQ's, virtual tours) and help desk facilities provided by the LTTC would be required to promote the successful e-Portfolio adoption at HKIEd.

v.) Support for Assessment

Evidence collected in a portfolio may give a much richer picture of learners' strengths and achievements – this is achieved through the creation of grading rubrics that measure the degree to which students have met specific learning outcomes. Evidence can be collated, presented and assessed and feedback given within the same user environment. For example, the Spring Pilot allowed for different kinds of evidence to be recorded for assessment, for example, capturing video and audio files, selecting artifacts which reflect on students' individual learning outcomes and assessment tasks soliciting self, peers' and tutors' feedback and evaluation. The emphasis is on efficiency, providing flexibility to learners, building a rich picture of learners' achievements as well as emphasis on learner's reflection and personal development processes.

vi.) Support for the Process of Learning

E-portfolios should be used as a way to tailor learning to a learner's current skills, knowledge, needs and preferences, to allow students to demonstrate competencies and reflect upon experiences. Demonstration of competencies is achieved through a collection of electronic evidence assembled and managed by the learner. Such electronic evidence would include inputted text, electronic files, images, multimedia, blog entries, and hyperlinks. These artifacts can include student's reflections on their learning and experiences as well as instructors, tutors and peers' comments on what students have submitted.

Once evidence of learner progress and achievements is captured and recorded, then the next step would be to determine how that information can effectively support the learning process. This means that the evidence used for personalizing the learning experience would be used to assess a learner's relevant knowledge and skills for a particular course or programme. This kind of recorded information could help learners understand how they learn and to share this information with faculty members and teaching staff. Potentially the e-Portfolio could capture and record every aspect of the learning process for reflection and/or continuous assessment. As well as presenting evidence from a single course or programme, individual students can also use the evidence of their learning held in their e-portfolio to present a wide range of their achievements, for example for a job application or professional development review.

Achievement/Results and Deliverables

Using e-portfolios to demonstrate student learning outcomes were examined through their e-portfolio submissions, responses to questionnaires and comments gathered from focus group meetings.

a. Have created institutional change in preparing students and future teachers to use the assessment technology for OBL and professional development. Over 600 students and 50 teaching staff from different faculties have participated in the e-portfolio implementation.
b. The comments from teaching staff gathered from a focus group meeting in 2010 suggested that that the e-portfolio features of Blackboard were rather restrictive. As a result, Mahara, an open source platform, is adopted for subsequent implementations.
c. Responses gathered from subsequent questionnaire responses and focus group meetings indicated that:
   ♦ Using e-portfolio for FE, SAO and CLE courses are feasible and the implementation could be extended to all students in all programmes and courses
   ♦ E-portfolio could strengthen student-student and student-teacher collaboration via multi-modes of communication. The findings concluded that the initiative is scalable.

Evaluation of Effectiveness

E-portfolio not only demonstrates students' learning progress towards graduating professional competences but also promote student reflection. The e-portfolios that students submitted indicated that a variety of electronic entries such as inputted text, electronic files, images, videos and hyperlinks were included. Depending of the requirements, these artifacts might also include student's reflections on their learning and experiences as well as teaching staff, tutors and peers' comments.

Course programme coordinators and teaching staff have contributed substantially to the initial pilot implementation efforts such as by attending seminars, workshops, and meetings. It is necessary to plan and discuss with teaching staff a few months ahead of the implementation so that e-portfolio implementation can enhance teaching and learning activities rather than as an add-on tool.

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Appendix – Lists of workshops Conducted Spring 2012

Date	Time	Workshops	Targets	Departments (Contacts)	Leader	Venue
20th January (Fri)	11:30 - 1:20pm	e-portfolio workshop	BEd Year 1 students in CLE2128-01E (32 Students)	Dr Jessie Choi (#7312)	Frankie	Library e-learning studio
7th February (Tue)	12:30-1:20pm	e-portfolio workshop	BEd Year 1 students in CLE1169-02E (27 Students)	Ms KAN, Lai Har	Ronnie Shroff	Library e-learning studio
5th March (Mon)	2:30-3:00pm	Briefing for Staff	Supervisors of BEd (LS) & BEd (GS) Departments	Dr. Ellen Tsang Ms Ada Wong (SPFEO) (#6393) Ms Sally Pang (SPFEO) (#8782)	Ronnie Shroff	B1-LP-02 *Remarks 1) Filming is needed 2) To prepare: Briefing materials
7th March (Wed)	9:30- 11:30am	e-portfolio workshop	BEd (LS) Year 3 Students (16 Students)		Frankie	Library e-learning studio
8th March (Thu)	12:30-2:30pm 3:30-5:30pm	e-portfolio workshops (2 timeslots)	BEd (GS) Students- (74 Students) (Departments: SES & SSC) Prof Lo- SSC Prof. So-SES		Frankie	Library e-learning studio
9th March (Fri)	9:30-11:30am 11:30am-1:30pm	Student e-portfolio workshop (2 Timeslots)	BEd Eng FE Year 3 Students (84 Students)	Dr. Tim Taylor Miss Tsang, Yi Nga Jamie (SPFEO) Ms Ivy Ngai for the consolidation of the students' Mahara links, for supervisors	Ronnie Shroff	B1-LP-01 *Remarks: *An extra laptop is needed