
Title	What's next for the digital portfolio at NIE
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This is the published version of the following article:

Chye, S. (2020). What's next for the digital portfolio at NIE. *Learning@NIE*, 4, 22-24.

<https://www.in-learning.nie.edu.sg/static/LearningatNIEIssue4/>

What's Next FOR THE DIGITAL PORTFOLIO AT NIE

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Digital portfolios were first introduced into NIE in 2010 as a result of the Teacher Education for the 21st Century (TE21) review. Arising from the main recommendations of the TE 21 report, the digital portfolio was introduced to strengthen the theory and practice nexus of learning and classroom teaching, as well as to help student teachers to aggregate and integrate their learning. The digital portfolio is complemented by the Professional Practice and Inquiry (PPI) course – a core module for all student teachers enrolled at the NIE. Together, the digital portfolio and the PPI course seek to support and provide student teachers with knowledge, skills, attitudes and tools to inquire into their own learning and professional practices.

In the context of teacher education, the digital portfolio is recognised as a powerful tool for self-management, reflective practice, building connections, showcasing oneself and lifelong learning. It allows the student teachers to reflect, share and plan their own learning goals. The digital portfolio was thus introduced into NIE as a vehicle for the student teachers to chart their learning journey; develop their personal teaching philosophy over time; provide evidence for the theory-practice nexus in the student teacher's learning and classroom teaching; facilitate the integration of the Reflective Practice Model, and to provide evidence for the integration of Values, Skills and Knowledge (V3SK) and the attainment of the Graduand Teacher Competencies (GTCs).

Almost a decade later, the digital portfolio continues to retain its importance, with potential to become even more significant. Rising globalisation and rapid technological changes necessitate a move from a knowledge-based to a learning society. Full participation requires lifelong learning skills, which include problem-solving abilities, reflective dispositions and capacities, the ability to work both independently and in a team, communicate effectively in all formats and on all levels, dapple with technology, self-direct and

deepen one's learning and professional development needs as well as inquire into practice with a view towards promoting positive change (e.g., Heinrich, Bhattacharya, & Rayudu, 2007).

Higher education institutions, including teacher education, need to take responsibility in preparing their students in terms of learning for life. The new NIE strategic vision 2022 behoves us to develop: "(i) life-long; (ii) life-deep; (iii) life-wide and (iv) life-wise" programmes and pedagogies and for us to lead and exemplify learning technologies and innovations in pedagogies. Our student teachers need to develop and demonstrate lifelong growth and development; life-deep professional expertise via reflective practice; learning that is life-wide with a capacity for global and local perspectives as well as literacies in multimodal forms; and life-wise, values-based learning and living. Here, we believe digital portfolios proffer much in terms of supporting engagement in these four aspects.

Our present team, comprising Mr. Chris Chua and Ms. Berlinda Khu from the PPI Unit at OTE, Mr. Eric Bonneau and Mr. Alvan Tan from the Academic Computing and Information Services (ACIS) division, with initial inputs from IN-Learning, is seeking to design and develop a holistic and integrated platform to the requirements of the new digital portfolio system. It is envisaged that this enhanced platform would be able to buttress our efforts in supporting student teachers in their learning and development. We seek to harness the affordances of digital portfolios in bringing about "Learning 4 Life" in the following ways:

Life-long Learning

To facilitate the development of Life-long learning, the enhanced digital portfolio supports the uploading of multimodal teaching and learning artefacts and is facilitative of student-teacher reflections. The platform seeks to enable the tracking and showcasing of student teachers' mastery of Graduand Teacher Competencies

(GTCs) through features such as enhanced visualisation tools, search and filter functions, and descriptive learning data. This facilitates student-teachers' inquiry into practice in a synergistic programmatic way.

There will be greater synergy between the enhanced digital portfolio and MOE platforms. For instance, there have been concerted efforts to work with the OPAL team at the Academy of Singapore Teachers (AST) to ensure the migration of the portfolio to the OPAL system employed in schools. The data will be portable and this enables the continuity of learning. It allows student-teachers to build on their narratives of learning and development throughout their professional careers.

In doing so, it is hoped that the digital portfolio would enable multiple pathways to be made across the continuum of teachers' career-long growth and development. From their time as a pre-service teacher to that of a beginning teacher, to that of a professional teacher.

Life-Wide Learning

In the enhanced digital portfolio, there is a greater emphasis on collaboration and interactivity. There is, for example, a stronger emphasis on community spaces to facilitate learning interactions mediated by technology. Student teachers are able to reach out to mentors and peers in the fraternity with ease, thus contributing to the development of virtual professional learning communities (e.g., McConnell, Parker, Eberhardt, Koehler, & Lundeborg, 2013). The online community is multi-leveled. Open Communities encourage a digital repository of reflections and teaching beliefs that span across programmes and cohorts. Course-level Communities provide a space for tutor guided tasks, and Project Communities allows the creation of ad-hoc, small group reflections revolving around a particular interest. Student teachers will be able to visualize their

holistic learning footprint both within and outside NIE via the geo-contextual features such as the in-built interactive digital map.

The digital portfolio is enhanced with greater automation functions with the ability to further integrate and aggregate with other systems in use at NIE to pull in additional data for learning. Electronic filing and digital referencing help users to manage and retrieve multiple artefacts and reflections easily. This supports both Life-wide and Life-long learning without the tedium associated with traditional portfolios.

Life-Deep Learning

To help our students deepen their learning and their professional practice, a core emphasis is on reflective practice and personal reflections by means of the portfolio as a tool and in conjunction with the Professional Practice and Inquiry course. Furthermore, the platform supports the consolidation, synthesis and articulation of student teachers' NIE learning journeys via showcases of their Focused Conversations during the Teaching Practicum. The curation of artefacts from theoretical modules and practicum, and reflections deepen the professional knowledge and the theory-practice link. The platform features support the synthesis of new knowledge and allow cross-referencing of multiple data sources. The inclusion of visualisation tools such as location maps and attainment charts serve as the precursor to learning analytics, which provide means for a deeper understanding of the self, and of learning.

The NIE digital portfolio is both a workspace and a showcase. The workspace is a sandbox where students curate artefacts, reflect on and across courses, organise learning, check-in with communities, and construct new knowledge. Such learning activities will be supported by features such as the artefact organiser, reflection authoring tool, digital communities and visualisation tools.

The showcase will allow users to present both their learning, and about themselves. Users can choose to include selected articles such as their teaching philosophy or past learning experience to describe themselves as individuals, and as professionals. A public view of their competencies attainment and learning map help augment this description. On learning, users can curate groups of reflections into topics, blogs or learning journeys to articulate their learning both in NIE and during teaching practicum.

Life-Wise Learning

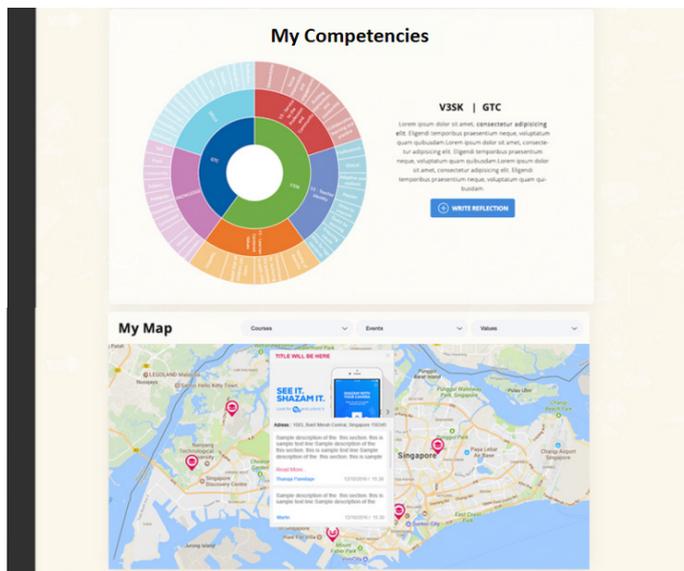
The digital portfolio seeks to strengthen its values-based components so as to support student teachers' building of professional ethos and values. Emphasis is placed on the Values-Based Education (VbE) components of the programme which comprises student teachers' work and reflections from Meranti, GESL and SgK. Student teachers are also able to track the attainment of their V3SK attributes via the digital portfolio and visualisation wheels.

Conclusion

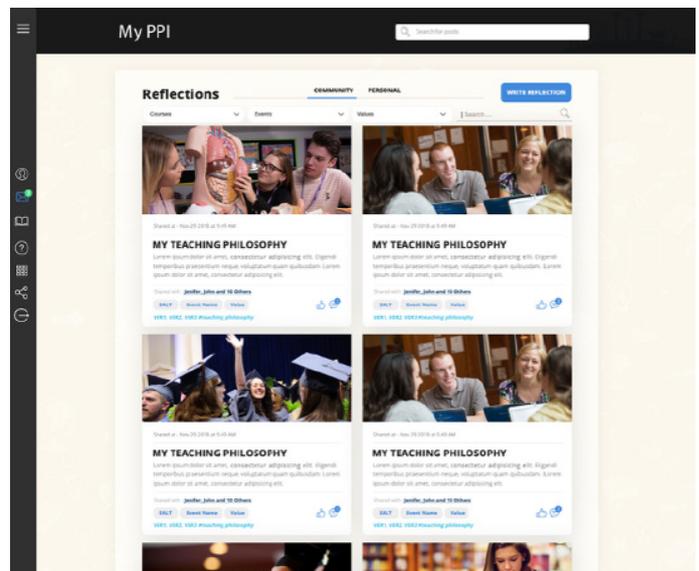
The above features are still a work-in-progress even as we continue refining and augmenting the platform. In subsequent phases of the digital portfolio development, we intend to harness the full potential of learning analytics in the digital platform and contribute to evidence-based teacher education. We hope to have a basis for differentiated instruction and customisation grounded in data. We expect to harness the role of AI for feedback and strong personalized mentorship. Finally, we anticipate that the digital portfolio will be a tool that can be used to buttress current initiatives in e-pedagogies.

Table 1: Digital Portfolio 4 Life

Digital Portfolio Components	
Life-Long	<ul style="list-style-type: none"> Tracking and showcase of Graduated Teacher Competencies (GTC) mastery via portfolio Collaboration and migration with AST to ensure continuity of learning via portfolio Strengthening of Teacher Identity through the accentuation of My Profile development to understand personal philosophy, values and competencies
Life-Wide	<ul style="list-style-type: none"> Core emphasis on personal reflections using portfolio Supports consolidation, synthesis and articulation of NIE learning journey via showcases Deepens theory-practice link via curation of practicum related artefacts and reflections in My Teaching Practicum Deepens professional knowledge via curation of course-related artefacts and reflections in My Workspace
Life-Deep	<ul style="list-style-type: none"> Encourages community-based learning via News Feed and Activities Visualise holistic learning footprint both within and outside NIE via the Map View
Life-Wise	<ul style="list-style-type: none"> Emphasis on Value Based Education (VbE) in the portfolio through explicit links to Meranti, GESL and SgK Attainment of V3SK attributes via portfolio



Samples of Visualisations



Community Page

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