

EDITORIAL

Enabling self-directed learning

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Enabling self-directed learning

JNUSTA has strived over the past more than a year to bring to light interesting ideas in education, as well as to facilitate discussions about hot-button issues in pedagogy. “From the Desk of...” articles have allowed leaders in tertiary education to share their thoughts and launch discussions on timely topics. The “From the Desk of...” contribution to this issue, by Rosemary Papa and Ric Brown of Northern Arizona University, scrutinises the phenomenon of online teaching, which presents the opportunity for good teachers to “construct an engaging learner-centred online environment for learners to be actively participating in *their* learning”. They stress the need, however, to be mindful of the pitfalls of online teaching, i.e. the temptation to transfer (and adapt) material from the classroom to an online stage, without engaging the student properly and ensuring that knowledge is properly curated. They remind us that good teaching occurs when each of the components of content knowledge, pedagogical underpinnings, and the interpersonal skills of the teacher are maximised. Thus online teaching is not merely a numbers game in which the reach, i.e. the number of hits and views online, is key. Rather, it is an opportunity for teaching to undergo a paradigm shift, for considering learning styles in designing and constructing the online classroom with targeted assignments and activities. Papa and Brown remind us that online teaching can be a powerful tool in allowing many strategies that we know are useful to be incorporated into online classrooms, thereby facilitating learner engagement: group work, interaction between peers, field experiences, and so forth. Finally, they acknowledge that the onus is on the teacher to equip him/herself with the requisite IT skills to engage the student online. This article dovetails nicely with the views expressed in Lakshminarayanan’s paper, “[Ruminating about Moocs](#)” in the November issue of JNUSTA.

In an interesting exchange of ideas with JNUSTA, Gary Poole and Mick McManus reflect on different aspects of the changing education landscape, namely the essential ingredients of transformative education and the role of technology in the age of new media literacies. These are, respectively, the topics of Poole’s and McManus’s keynote addresses at a recent Universitas 21 conference held at the National University of Singapore. We are privileged that they are able to share their insights on these important topics in the current issue of JNUSTA.

Poole emphasises the importance of a key component of transformative education in the 21st century, namely “self-directed learning”. He discusses this kind of learning by highlighting a number of “ingredients”: the contributions of the teacher and student to the learning process, the balance between support and challenge, and managing emotion. Ultimately, for deep, transformative learning

to occur, the “self”, as he puts it, “must be fully engaged in the learning process”, which is why it is so important that students be given the opportunity as well as support to direct their own learning. McManus and his colleagues stress “personalised learning” as a key component of the 21st century education landscape. Such learning, which is analogous to what Poole calls “self-directed learning”, is being enabled, as never before, through technological changes that allow students to set their own pace; not least through increased mobility and the widespread adoption of social media. This involves just the paradigm shift that informs Papa and Brown’s contribution, in that it leaves behind the previously dominant way of teaching, namely the instructional paradigm. This traditional paradigm was oriented towards the teacher rather than the learner, and its dominant mode of didactic delivery is the lecture. But all of this is changing with such rising technologies as MOOCs and mobile devices. These new technologies, McManus and his colleagues argue, are resulting in the new 4Rs, as learners reuse, remix, revise, and redistribute knowledge in their own time and space.

Many of the contributions to this and other numbers of JNUSTA foreground technological aids to achieve learning outcomes. In their article “Teaching Crystal Structures using a Transparent Box with Tennis Balls”, Sow Chorng-Haur, Chammika N B Udagama, and Lim Geok-Quee report on their attempts to make students’ learning experience more interactive and hands-on. They demonstrate how “technology” need not imply the latest, cutting-edge devices, or computerised developments. Instead, they use simple tools, with great success, to help science students visualise the complex structures involved in various types of crystals: tennis balls and a transparent plastic box. While some students, in response to the survey the authors conducted after using these simple tools, ask for computer simulation to be added in the future, the beauty of this pedagogically innovative contribution lies in its very simplicity: getting students to participate in the construction of complex crystal structures not only aids their ability to visualise those structures, but thereby helps them achieve genuine, deep understanding of some of the fundamental components of our world. In doing so, Sow, Udagama, and Lim’s pedagogical experiment constitutes one example of the kind of active, and truly transformative, education of which Poole speaks.

Finally, Yeong Foong May reports how she flipped her Cell Biology classroom by requiring that her students write an essay after attending a series of didactic lectures and reading a scientific article that contained information which helped them to integrate the concepts learned during the lecture series. In order to underscore the importance of integrity in scientific writing, students also had to submit their essays to Turnitin, to ensure that no more than 25% of their essays

were “lifted”, in other words, derived, from scientific articles. Yeong’s flipped classroom concept, inspired by problem-based learning, likewise featured a lecture at module’s end that went over the lessons from the exercise. Although only a quarter of the 280 students responded to her online survey, the comments provided by them were generally positive and provided valuable data to inform future teaching modules.

We hope the contributions to this issue of JNUSTA will provide food for thought, specifically when it comes to innovative education practices in a fast-changing landscape that is enabling self-directed learning. They may range from the impact of social networking in education, to the new literacies required in this environment of flipped classrooms, to the use of simple tools to visualise science, but ultimately what they all have in common is that they have students’ best interests at heart: deep, self-directed learning lies at the heart of each article.

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MOOCs

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