Technology and student outcomes: what works?
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1. Issues Paper

The challenge for Vocational education Institutions is in combining the physical and virtual learning experiences that provides true engagement that ultimately leads to improved student outcomes. This will require a digital strategy that is focused around supporting student outcomes. We will need to use digital technologies in new ways and understand the role analytics has in determining trends, predicting behavior and optimize responses to get the best outcome for the individual student.

The question is: What is the best way to do this?

Rather than continue to focus the majority of our technology provision on things such as information systems, communication processes and gathering data, we should tackle the difficult problems that come from our desire to provide engaging learning experiences and the effective application of skills to ensure increase in student outcomes. Our focus should be on the combined use of technology and human capabilities for engagement and connectivity informed by analytics.

VET Institutions have the desire to transform the way they provide Vocational Education and Training to students. We also have access to the technology platforms and some capability to think and implement innovatively. What is missing is an understanding of how this all interconnects and how we can use data generated by digital interactions to improve engagement which will lead to improved outcomes for students.

Educational leaders must fully engage with and experience digital technologies to have confidence to provide leadership and strategically embed its use in VET, from this a top-down change process will flow. Our practitioners also need to fully engage and feel free to experiment to enable innovation to occur; this provides a bottom-up change trigger. Providing an environment where both occur will enable a culture that can rise to the challenges in implementing digital technologies this will further enhance student outcomes.
Improving student outcomes is driven by our customers’ demands, industry demands and a shift in our funding model. We are seeing the bricks and mortar classrooms being replaced by electronic platforms with information readily available, individuals networking and connecting via mobile devices. The individual student’s needs are also driving the requirement to respond in a much more flexible way to address their needs and provide a positive experience and outcome for that individual.

One example that Dr Diana Oblinger gives us, with game-based learning for example, students develop expertise through practice. Combining live + virtual can accelerate their learning. It is much more than ‘digital presence’ as most of us can claim this already with options for students. What it is about is full digital engagement using tools that allow us to customize learning experiences.

OTEN (distance delivery model) is currently piloting a virtual classroom through ‘iSee software’ to increase collaboration and engagement. The potential that this software provides in connecting and engaging learners is very exciting.

Of course there are growing worries about affordability, especially in the public sector where funding models are changing drastically. But can we afford to not resource the very capability that will keep us relevant and at the cutting edge so we are the provider of choice to students, industry and the community?

“We have come to think of games not as replacing traditional resources such as maps, texts or educational films. Rather, students are motivated to return to those media to do better in the game. They don't memorize facts; they mobilize information to solve game-related problems” (Squire and Jenkins, 2003).

Data form various sources can provide insights into the ‘process’ of learning and ultimately positive outcomes for students.

- OTEN uses a state of art learning delivery system which is integrated with the student management system. Student analytics are captured through reports built into the student management system. This includes participation rates and engagement in learning activities, assessment submissions and contact with the teaching section. Information from these analytics has enabled us to respond to areas of need by directing resources accordingly. Assessment analytics are also built into the delivery system which is used during assessment reviews.
• WSI supports blended learning through an online learning platform that has incorporated in it a learner engagement analytics dashboard that enables teachers to identify individual learners who are not engaging in the online learning activities.
• WSI has developed a student “My Learning Pulse check” which is a tool that can trigger alerts to teachers and students when their success may be at risk. This tool is used with all students at colleges within the first three (3) weeks of their study as research has shown that as an intervention tool it will have little value if not used early.

Many of you will be aware of the Horizon report and the predictions around emerging technologies that will have a significant impact on education, with the key areas of emerging technology cited for 2014 in education being:
• Adoption within one year or less: Flipped Classroom and Learning Analytics
• Adoption in two to three years: 3D Printing and Games and Gamification
• Adoption in four to five years: Quantified self and Virtual Assistants

The flipped classroom and learning analytics fit nicely with ways we can address the challenge of how to achieve better student outcomes with appropriate application of digital technologies. We have also seen the shift to and promotion of Universal Design principles and inclusion within learning resources that does increase the likelihood of connecting with students who have a variety of preferred learning needs or special needs.

I think we are all in agreement that we need to be using innovative digital technologies in VET but perhaps we don’t know as much as we’d like to about what is being used successfully in Australia and around the world that we can learn from.

So over to you - how can we best rise to this challenge?

➢ What are they key elements of a digital strategy to support student outcomes?
➢ What are the cultural challenges in implementing digital technologies to further enhance student outcomes?
➢ What is the role of analytics in determining critical success factors?

I hope to find some answers to these questions through the discussions today.