

# A review of innovative teaching in the context of Technology Enhanced Learning (TEL)

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## **Abstract**

*This paper presents research undertaken in three Institutes of Higher Education (HE) delivering degrees in business, hospitality and tourism management. The aim was to take a critical look at technology-enhanced learning as a vector for pedagogical innovation. Qualitative research was undertaken in order to have in-depth feedback from educators (n=16) identified as champions relative to the use of technology in their own courses. The interviews were coded and subsequently analysed in line with four dominant themes: use of digital tools and technology; changes in course delivery; success stories of adding value; and finally lessons learned. The findings were surprising in that even the champions were relatively traditional in their practice. Of importance is the confirmation that educators require additional support in terms of the use of technology in instructional design as well as in pedagogical innovation and it is at the institutional level that this change must operate.*

**Key Words** *Technology Enhanced Learning (TEL), Digital Technology, Higher Education*

**Theme** *What's going well in education and teaching?*

**Focus of Paper** *Theoretical/Academic*

## **Introduction**

In looking at education and teaching one cannot help but wonder how things can be going well seeing the shifting sands upon which we are standing. This paper will take the reader through the technological changes that have, and still are, having an impact on education and that are revising familiar paradigms and contributing to a certain level of uncertainty amongst educators. In order to identify whether there is a gap between expectations and the reality that educators are encountering on the ground we examine the use of innovative technology enabled learning (TEL) to impact the learning experience for students today. Additionally, the paper presents initial findings on lessons learned by those at the forefront of change concerning the inclusion of TEL specifically in hospitality and management education classrooms.

The hospitality industry, a service industry par excellence, requires graduates that are able to function effectively in an international industry and who are able to use 21<sup>st</sup> century digital skills and competencies for communication and customer service. The use of digital tools in the context of hospitality education has been the subject of research for a number of years (Cho, Schmelzer, & McMahon, 2002; Liburd & Christensen, 2013; Sigala, 2002, 2004), however, little real change is apparent. It is imperative that hospitality educators

get on board and embrace the variety of tools now available to them for use in the classroom. As student expectations change and technology offers room for new and innovative course design, the question of how best TEL adds value to the learning experience and prepares students for their professional lives must be raised. Moreover, from a teaching standpoint, Newman & Scurry, (2015) suggest that “excellent teaching will need to excel in the use of technology to remain leaders in teaching” (p. 14).

The overall research question addressed in this paper is “How well are we doing in introducing technology in our learning environments?”

## Literature review

The use of tools to enhance teaching goes back as far as 3000 BC with the introduction of the abacus (Mills & Douglas, 2004) and has carried on through time to become increasingly technological and more recently digital. The difference today is that one is not just looking at new tools but the manner in which they are used and the environment in which they are being deployed. Sigala and Baum (2003) emphasize the redistribution of educators’ tasks with a “move from information delivery to management of educational opportunities and experiences facilitated from students’ perspectives through improved access, delivery and instruction options” (p. 373). Despite the inroads that digital technologies have made in everyday life, higher education institutes remain to a certain extent in uncharted waters (Armstrong & Franklin, 2008; Ernest & Young, 2012). Tamim et al. (2011) purport that technology’s role in education is neither understood nor fully resolved, and is limited in that “technology’s main strengths may lie in supporting students’ efforts to achieve rather than acting as a tool for delivering content” (p. 17). A large majority of Higher Education Institutes now use Learning Management Platforms (LMS), a practice which has opened the door to the integration of digital technology into teaching practice. More important are the many individual efforts to innovate in course design and delivery. Yet it is important to remember that it is “not the technology but the instructional implementation that determines the learning effectiveness” (Sigala, 2004, p. 13).

A recent OECD report (2015) highlights the fact that there are gaps in the digital skills of both teachers and students resulting in education providers unable to leverage the potential of technology for learning, and compounded by a lack of pedagogical preparation on the part of educators all of which lead to a wedge between expectations and reality. This suggests that we need to (1) look at the technologies now available to us; (2) see what educators are doing with these technologies; (3) identify barriers and drivers to use, and (4) provide the scaffolding necessary, for educators and students alike, to enable instructional effectiveness and positively impact the learning environment.

The availability of a plethora of new tools coupled with changes in the learning environment (students equipped with laptops, wifi enabled classroom, mobile devices, etc...) and changes in student expectations (Johnson, Adams Becker, Estrada, & Freeman, 2014; Sharples et al., 2013) has led to changing roles for the instructor. A change in role which requires a shift in attitude and which impacts the students more than many educators realize, (Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur, & Sendurur, 2012) Indeed if educators “are reluctant to embrace new technologies and the promotion of digital literacy, students will not see the importance of these competencies to succeed in the workforce” (Johnson, et al., 2014, p. 22). As we move past the basic tasks of searching, reading, watching and classifying of information to the production, sharing and exchange and collaborative development of ideas and the growth of collective intelligences, digital fluency is fast becoming a requirement for professional success. (Johnson, et al., 2014; Lemoine & Richardson, 2013). The tools themselves have evolved, the question here is have the educators?

In a report on embedding and integrating innovative practice in teaching and instruction (Jasinski, 2007) one of the key findings was related to the time available for engaging with e-learning innovations. In order to tip the balance and have educators embrace such change the following inter-related enablers were cited as being of importance: a work culture that embraces and supports innovation; a robust technology infrastructure; technology tools that are appropriate for teaching and learning purposes; a senior champion who drives the process; a willingness to consult and share; and supportive managers, peers and support professionals.” (pp. 4-5).

Kirkwood and Price, (2013, 2014) reinforce the need for further investigation as they report that there is little evidence of a scholarly approach to TEL, and particularly whether technology adds value and is transformative, or just a an agent for delivery. Thus, the research question posited in this exploratory research is unpacked in to the following specific sub-questions to answer the call for further enquiry;

- What are the digital tools and technology currently in use?

- How has the use of digital impacted overall on their teaching, and more specifically on course delivery?
- What are the "champions" of digital technology doing to bring value to the learning experience, e.g. success stories?

We will then discuss some of the key lessons learned from these champions in the context of hospitality, tourism and management education.

## **Methodology**

The focal population of this study is defined as the faculty “discipline champions” (n=16) for the use of technology enhanced learning. A convenience sample comprised 5 male and 5 female faculty members with between 2-22 years teaching experience and aged between 29 and 53 years old. This research adopted a qualitative approach with semi-structured interviews as the main method. Typically, qualitative research will provide in-depth information on fewer cases and cover a variety of contexts, pertinent to this population under examination. Despite the limitations of making inferences or replication (Kitchin & Tate, 2000; Krippendorff, 1980), semi-structured interviews are one of the most commonly used qualitative methods and (Long, 2007) supports interviews as a method to encourage insights which are otherwise difficult to gauge through a survey. According to Fylan (2005, p. 66), this technique is more suitable for finding out “why” rather than “how many” or “how much”.

The literature review (Ertmer, et al., 2012; Johnson, et al., 2014; Kirkwood & Price, 2014; Sharples, et al., 2013) informed the development of the interview guide in line with the questions previously mentioned. The aim is not to produce a statistically representative sample but to reflect the opinions and exploitation of technology in the learning environment; which was achieved through conducting sixteen semi-structured interviews of between 30 and 50 minutes in length. All of the interviewees were based in Swiss HES SO institutions as authors are located there in higher education institutions. Though the entire faculty could not be represented in each of the institutions the number of interviews was deemed sufficient as no new themes or issues emerged from the later interviews, thus suggesting that a saturation point had been reached (Veal, 2011). These interviewees also represent the typical faculty profile of the higher education sector in Switzerland.

The interviews were transcribed in full, the responses collated, clustered and coded (Miles & Huberman, 1994) prior to analysis. This approach to analysis was used to clearly bring out patterns and facts hidden in the wealth of information gathered from the interviews. (Mason, 2014). The results are summarized below in alignment with the above-mentioned themes. For each of the themes, the faculty perspectives and opinions have been discussed and interpreted with reference to the relevant academic literature.

## **Findings**

The major findings for the themes mentioned previously are presented below along with exemplars taken from the research to better illustrate what the educators have actually said.

### ***Digital tools and technology currently in use***

It was expected that the “technology champions” would be using a wide variety of digital tools in their classrooms, and this for reasons of innovation and desire to reinvent the classroom. Surprisingly, what the research has found, however, is that the range of tools remains extremely limited with a tendency to default back to the institutional tools such as the LMS and email. Beyond these basics, the technology most frequently cited was that of video mainly through the use of YouTube to enhance classroom discussion although also through the use of other video materials such as TED-X conferences and in several cases instructor/class-developed materials. The second most used type of technology can be classified as quizzes whether for testing purposes or self-evaluation. Tools of this nature included Quizzlet, Zapettes, Hot Potatoes, Padlet in addition to the LMS standard quiz format. The stated reasons for use, far from any idealized view of education or search for innovative practices, were more often linked to student expectations and, at times, a rather desperate attempt to keep their attention.

### ***Impact on course delivery***

An important theme was that of whether the use of digital technology in the classroom has impacted course delivery. Exemplars related to this are shown below:

*I make the students do a lot more, my slides are mostly images and I tell a lot of “stories”. The students have to find the information, fill in blanks and through the use of the simulation and their interaction they learn on their own. It is through my feedback that I am able to include the theoretical elements that were previously presented in class.*

*I have another role...I used to decide what was important and what wasn't, now with internet and the tools available the students they can also decide what's important and participate more, it's not just me, I am more a coach than a professor.*

*In the practical exercises I no longer give out any information, I am there, I coach each group during the 2-3 hours that we are together.*

As can be seen from the above there are indeed educators who are embracing their new and changing roles and the outcome can only be seen as positive.

### ***Bringing value to the learning experience: TEL success stories***

Of the 16 “champions” interviewed several were indeed looking for innovative ways to enhance the learning experience. This is what they had to say:

*I gave them a task so they have to develop a branding concept. I use the GoPro camera to film their discussion process and I really think that the process helped them understand what a marketer's job is. Without the GoPro camera, the technology, it's just impossible. Document the whole process. Using that as a teaching (tool, is) magnificent.*

*Digital technology allows me to be more original and rather than just having a point to get across, it allows the class to take a more in-depth look at the subject as well as doing it in an entertaining way. For example, yesterday I asked the class about the scientific method and scientific inquiry. Zero idea, I promise you out of 30 students. But we built up step by step, using technology (to include videos: one related to Plato and one to Nestlé – authors' note) and afterwards they understood just what the hypothetical-deductive method was.*

In both of the above instances the educators are going past the basic use of the tools themselves but are using them in conjunction with other activities in order to add value to the outcomes. This said, other educators were found to be using the technology in a rather more perfunctory manner as is illustrated by the statements below:

*I try to vary different activities, and with the use of technology it's much easier.*

*They (students) like quizzes and tests (using Quizlet, Moodle – authors' note)[...]Unfortunately you still have to make them mandatory.*

This suggests that even those identified as “champions” are only beginning to move up the learning curve and that they not only need instructional scaffolding when it comes to the informed use of digital tools but pedagogical preparation as well. The latter in order to allow the faculty to identify just how and when to enhance their course delivery through the inclusion of technology in order to bring increased value to the experience and this both in the present and the future impact on the professional development of the student.

### ***Lessons learned***

Overall the faculty interviewed were in agreement that the use of digital technology is changing the relationship between educator and student as well as the manner in which information can be presented. Statements related to this include:

*I think that these type of technologies can help in the sense that they can activate the audience*

*[...]and probably these are instruments that we can use in order to give the feeling that they are not passive but that in fact they contribute to the course.*

*I learned that I do not have to spend so much time on theory, there are other ways to help students understand.*

*I learnt that the students are not more knowledgeable than myself, they have a lot to learn and even the little things, that we think everyone knows how to use well some of them don't (Google+, using a webcam, even just using internet sometimes)*

What is interesting about the above statements is that they highlight the wedge mentioned previously between expectations and reality. A wedge which is sometimes held in place by educators' misconceptions. Although the "champions" interviewed were not afraid to make changes in their classrooms the above statements suggest that others might be more fearful, yet another indication that increased support for faculty is needed.

## **Discussion**

In our study much of the technology used is institutional- led (or limited), i.e. LMS and email communication. Something which supports the idea that institutional support is necessary to promote the use of technology to add value to the learning experience. It became clear from the interviews that many of the faculty were not seeing looking past their classrooms to consider the positive impact on graduate employability that could result from such change. Also of interest was the quite widespread use of quizzes and materials that added variety and speed to the course delivery in response to what educators feel is a change in student behaviour and expectations.

The findings showed few examples of innovative use of technology and these are initiatives by individual teachers, not strategically defined, required or funded by the HE institutions. This lack of vision translates into an inability to leverage technology to add value to the learning experience with the unfortunate result being that most wait for strategic decisions on TEL to be made or wait till the technology becomes more widely available/ simple/ free so that they can easily implement it within the classroom on their own. There are indications in this study that there is also little practical support for TEL, rather helpful colleagues or occasional workshops are relied on, resulting in the fact that teachers who are innovative have to rely on their own limited technological skills, and risk the technology challenges while delivering in the classroom!

The results here show drastic, disruptive changes in technology are rarely adopted by academic institutions in our educational environment, which is rather traditional in its wider educational design. Rather they wait and try to align with institutional, regional and national policy and guidelines. This highlights the need of a more scholarly approach to SOTL (Scholarship of Teaching and Learning) on the part of, first and foremost the HE institute in order that this be adopted by the faculty. Something which would allow for the shift in attitude that Ertmer et al. (2012) call for.

The other key stakeholders, although not researched here, are the students themselves. As HE students are now the digital natives, who grew up surrounded by technology, teachers feel under pressure to align somewhat with their most common mode of interaction, i.e. mobile devices and visual content. Nonetheless, the adoption of technology should not be viewed as a way of diverting or interrupting students on their mobile devices and social media interactions, rather as a way to enhance their learning using technology tools.

## **Conclusion**

At an institutional level, there seems to be a fragmented approach to introduce TEL, which indicates a lack of strategic direction. We also note that the main barrier seems to be resources, particularly technical support for TEL and that it is predominantly external resources that are being used with even the technology champions struggling to exploit a range of technology resources effectively. This project is limited in its generalizability due to its exploratory nature, the small sample size and its being restricted to a particular HE Institute, Nevertheless it seems clear that more time, consideration and strategic support within the specific learning environment is needed to effectively and fully invest in TEL and allow educators of tomorrow to bring real added value to the learning experience.

## References

- Armstrong, J., & Franklin, T. (2008). A review of current and developing international practice in the use of social networking (Web 2.0) in higher education. UK: Franklin Consulting.
- Cho, W., Schmelzer, C. D., & McMahon, P. S. (2002). Preparing Hospitality Managers for the 21st Century: The Merging of Just-in-Time Education, Critical Thinking, and Collaborative Learning. *Journal of Hospitality & Tourism Research*, 26(1), 23-37.
- Ernest & Young. (2012). University of the future: A thousand year old industry on the cusp of profound change.
- Ertmer, P. A., Ottenbreit-Leftwich, A. T., Sadik, O., Sendurur, E., & Sendurur, P. (2012). Teacher beliefs and technology integration practices: A critical relationship. *Computers and Education*, 59, 423-435.
- Fylan, F. (2005). Semi-structured interviewing In J. Miles & P. Gilber (Eds.), *A handbook of research methods for clinical and health psychology* (pp. 65-78). Oxford: Oxford University Press.
- Jasinski, M. (2007). *Innovate and integrate: Embedding innovative practices*. Australian Government.
- Johnson, L., Adams Becker, S., Estrada, V., & Freeman, A. (2014). The NMC Horizon Report: 2014 Higher Education Edition. In T. N. M. Consortium (Ed.). Austin, texas.
- Kirkwood, A., & Price, L. (2013). Missing: evidence of a scholarly approach to teaching and learning with technology in higher education. *Teaching in Higher Education*, 18(3), 327-337.
- Kirkwood, A., & Price, L. (2014). Technology-enhanced learning and teaching in higher education: what is 'enhanced' and how do we know? A critical literature review. *Learning, Media and Technology*, 39(1), 6-36.
- Kitchin, R., & Tate, N. (2000). *Conducting research in human geography: Theory, methodology and practice*. Harlow: Prentice Hall.
- Krippendorff, K. (1980). *Content analysis: An introduction to its methodology*. Beverly Hills, California: Sage.
- Lemoine, P., & Richardson, M. D. (2013). Cyberlearning: The impact on instruction in higher education. *The Researcher: An Interdisciplinary Journal*, 26(3), 57-83.
- Liburd, J. J., & Christensen, I.-M. F. (2013). Using Web 2.0 in higher tourism education. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 12.
- Long, J. A. (2007). *Researching leisure, sport and tourism: The essential guide*. London: Sage.
- Mason, P. (2014). *Researching tourism, leisure and hospitality for your dissertation*. Oxford: Goodfellow.
- Miles, M. B., & Huberman, M. A. (1994). *Qualitative Data Analysis: An Expanded Sourcebook* (2 ed.). Thousand Oaks: Sage.
- Mills, J. E., & Douglas, A. (2004). Ten Information Technology Trends Driving the Course of Hospitality and Tourism Higher Education. *Journal of Hospitality & Tourism Education*, 16(4), 21-33.
- Newman, F., & Scurry, J. E. (2015). Higher Education and the Digital Rapids. *International Higher Education*, 26, 13-14.
- OECD. (2015). Students, computers and learning: Making the connection.
- Sharples, M., McAndrew, P., Weller, M., Ferguson, R., Fitzgerald, E., Hirst, T., & Gaved, M. (2013). Innovating pedagogy 2013. In O. University (Ed.), *Innovation Report*. Milton Keynes, UK: Institute of Educational Technology, The Open University.
- Sigala, M. (2002). The Evolution of Internet Pedagogy: Benefits for Tourism and Hospitality Education. *Journal of Hospitality and Tourism Education*, 1(2), 29-45.
- Sigala, M. (2004). Investigating the factors determining e-learning effectiveness in tourism and hospitality education. *Journal of Hospitality & Tourism Educatio*, 16(2), 11-21.
- Sigala, M., & Baum, T. (2003). Trends and issues in hospitality higher education: Visioning the future. *Tourism and Hospitality Research*, 4(4), 367-376.
- Tamim, R. M., Bernard, R. M., Borokhovski, E., Abrami, P. C., & Schmid, R. F. (2011). What forty years of reserach says about the impact of technology on learning a second-order meta-analysis and validation study. *Review of Educational Research*, 81(1), 4-28.
- Veal, A. J. (2011). *Research methods for research and tourism:a practical guide*. Harlow: Prentice Hall.