

The learning challenge: discovering the power of digital practices

Caroline Steel

La Trobe Learning and Teaching (LTLT)
La Trobe University

‘The learning challenge’ is an authentic and formative assessment task that requires students to evaluate the power of their learning strategies, personal technologies and digital practices for learning. The design was created in response to the need for universities to provide more pedagogical guidance to students preparing for an unknown digital future. The challenge provokes students to question their digital practices and underlying beliefs as learners through gaining pedagogical intelligence and a trialing a transferable action-learning process. The learning design was adapted for an undergraduate languages and technologies course from a teacher development model for technology integration (Steel & Andrews, 2012). The tasks deepen students’ understanding of themselves as learners and technology users through self-exploration, experimentation, evidence-gathering and reflection. Mapped to Fullan and Langworthys’ (2014) continuum of pedagogical effectiveness and supported by student-generated data, the learning challenge offers a powerful way to discover the impact of students’ digital learning practices.

Keywords: digital practices, digital literacies, new pedagogies, learning strategies

Introduction

Despite the hype around digital learning, the reality is that universities are often criticised for their slow response to the technological and societal changes occurring around them (Barber et al., 2013; Ernst & Young, 2012). Our learners, influenced by lower prices and wider choice, are purchasing a diverse range of personal devices and technologies they expect to use productively for learning in and beyond their university classes. This trend has led to the ‘Bring Your Own Device’ (BYOD) phenomena across our universities (Bradford Networks, 2013). At least seven years ago, Conole et al., (2006) identified that universities need to “respond to the ever growing body of personalized, handheld devices” and “rethink not only how content is delivered to such devices, which may be distributed across wide networks and locations but also how students interact, contribute and repurpose this content within their communities and for their own purposes” (p. 99). As students are expecting to use their devices effectively and productively there needs to be a stronger educational focus on equipping our learners with the digital literacies and practices they require for learning now and into the future (Beetham, McGill & Littlejohn, 2009; White, Connaway, Lanclos, et al., 2012). The role of pedagogical guidance is critical and yet remains unaddressed in many universities (White, Connaway, Lanclos, et al., 2012). Nevertheless, teachers cannot realistically keep up with the accelerating range of diverse technologies learners now have at their fingertips. However, they can design learning opportunities that deepen students’ understanding of themselves as learners and technology users. Students can respond to these opportunities and share their learning with their teachers and colleagues. Fullan and Langworthy (2014) argue for the need for ‘new pedagogies’ based on active learning partnerships between and among learners and their teachers. Such learning partnerships need to be focused on the learning process as “the focal point for the mutual discovery, creation and use of knowledge” (p. 3). Clearly, it is time for teachers to partner with students to better appreciate the potential and impact of learners’ digital practices and to guide learners toward more transferable digital literacies for their futures.

This paper describes one such learning design that offers a learning partnership and process capable of helping learners (and teachers) develop and understand the impact of their digital learning practices. Theoretically, the pedagogical principles of the learning challenge design are mapped to Fullan and Langworthys’ (2014) future-focused model that proposes a “continuum of new pedagogies effectiveness”. As this continuum offers dimensions “for analyzing the effectiveness of new pedagogies in practice” (p. 43), it provides a framework for assessing the pedagogical efficacy of the design for future learning. In turn, these dimensions exemplify how pedagogies can contribute to students’ deep learning competencies, especially in relation to the learning process, key future skills, and tackling and influencing challenges. All these competencies are central to the intentions of the learning challenge.

A further aim of the paper is to report on student planning, evaluation approaches and reflections from the learning challenge. In this case, the learning challenge was implemented with undergraduate students in the

context of learning foreign languages. The student data reported here is from the 2014 cohort (N=28) and elaborates students' self-selected learning strategies, the language areas they chose to address, the technologies they decided to explore, the evaluation strategies they employed and the learning constraints and benefits they reported.

The learning challenge design

The learning challenge was designed as an authentic, peer supported and formative assessment task that partners with learners to evaluate the potential of their learning strategies, personal technologies and digital practices. The design was derived from an academic and teacher development model around technology integration and reimagining teaching (Steel & Andrews, 2012) that transpired from a PhD study of teachers' beliefs and technology practices (Steel, 2009, 2013a). Arguably, the learning challenge is a flexible design that can be transferred to other disciplines and programs. In general terms, the design prompts students to question their practices and better understand themselves as learners through gaining pedagogical intelligence and an effective process to evaluate the potential of the technologies that are accessible to them. Using an action-learning process, the challenge engages students in designing a personalised 'self-intervention', and in doing so, encourages them toward deep, reflective learning.

Using a blended or 'flipped' learning mode, the learning challenge was implemented in an undergraduate course for students learning foreign languages in 2013 and 2014. The elective course was available to students of all undergraduate year levels and disciplines across the university. The specific course goals required students to:

1. Articulate a working knowledge of (students' own) learning approaches and strategies for second language acquisition.
2. Critically evaluate the potential affordances and constraints of a range of technologies for different language areas and skills and holistic language learning tasks.
3. Use learning and second language acquisition theories to understand digitally mediated environments for their linguistic and cultural features and potential for learning and acquiring second languages.
4. Apply knowledge of second language acquisition theories, learning strategies and technology affordances to the language learning challenges to help evaluate the ways technologies can assist in language acquisition.
5. Reflect upon experiences generated from the language learning challenge plan (from initial ideas through to implementation & evaluation) and the impact of digital practices on self-determined learning goals.

The learning challenge, as the major assessment task, was implemented to help achieve these course goals. The in-class and online activities and assessment tasks that supported the challenge are summarised in Table 1. Essentially students completed the challenge in stages over the duration of the semester and received feedback and marks on each stage. This also meant that some students were motivated to improve their performance and engagement as their challenge progressed. In-class and online tasks were designed to scaffold the experience, promote co-inquiry and garner support from peers and the teacher.

Table 1: Outline of the learning challenge

	In-class	Online	Assessment tasks
Week 1- 4/5	<ul style="list-style-type: none"> • Survey of learning strategies & styles • Evaluation of self as a learner • Experience of various pedagogical models & technologies • Collaborative evaluation & hands-on practice with technologies 	<ul style="list-style-type: none"> • Orientation • Introductions in Discussion forum (DF) • Online lectures & readings • DF for assessment questions 	<ul style="list-style-type: none"> • Students develop their learning challenge proposal*
Week 5	<ul style="list-style-type: none"> • Peer review and feedback 	<ul style="list-style-type: none"> • Online lectures & readings 	<ul style="list-style-type: none"> • In class-peer review**
Week 6 - 11	<ul style="list-style-type: none"> • Regular updates with peers • Experience various pedagogical models & technologies • Collaborative evaluation & hands-on practice with a range of personal technologies 	<ul style="list-style-type: none"> • Online lectures & readings • DF for assessment questions 	<ul style="list-style-type: none"> • Implementation of learning challenge • Blog task: Document learning challenge ***
Week 12 - 13	<ul style="list-style-type: none"> • Students present ‘pechakucha’ style in class • Authentic audience 	<ul style="list-style-type: none"> • Online lectures & readings 	<ul style="list-style-type: none"> • In-class student symposium (presentation & participation) • Written reflection

*See learning challenge proposal template in Appendix 1

**See learning challenge peer review criteria in Appendix 2

*** Blog task was added as a refinement in 2014

In the first 4-5 weeks of the course, students were invited on a journey of self-discovery about themselves as learners. This initial journey aimed to develop their pedagogical intelligence through experiencing, exploring and reflecting upon different learning and second language acquisition theories. This focus on ‘pedagogical intelligence’ was to help them make sense of their learning experiences and heighten their capacity for reflective learning. Hutchings (2005) argues that pedagogical intelligence ensures learners are better equipped to evaluate teaching as well as their own learning. He defines pedagogical intelligence as “an understanding about how learning happens, and a disposition and capacity to shape one's own learning”. During the semester, different pedagogical approaches were explicitly modeled and then discussed in class. Students were exposed to second language acquisition (SLA) and educational theories that provided them with several theoretical lenses to evaluate and influence their own learning. Further to this, they surveyed their language learning strategies (Oxford, 1990) to help them understand their dominant strategies for learning languages (memory, cognitive, metacognitive, affective and social). In combination, this first stage improved students’ understanding of the interrelationship between how they were taught languages, how they learned them and how they believed they should be learnt. During these first weeks students were also encouraged students to: share their prior digital practices and concerns about technology use; determine the language skills and knowledge areas that they were finding most challenging; and start to evaluate the affordances and constraints of some of their personal technologies for different language areas (reading, writing, speaking, listening, vocabulary, grammar, translating etc.). Both online lectures and in-class activities supported these aims.

This first stage culminated in the development of a personal ‘learning challenge proposal’ (see template provided in Appendix A). The learning challenge was also referred to as a ‘self intervention’ as it gave students the opportunity to disrupt their learning routines so that they could experiment with and evaluate their digital learning practices. Particularly, they sought to discover the kinds of approaches that might contribute toward, or hinder, their progress as a language learner now and into the future. Students determined their own challenges, learning goals, technologies and the ways they collected evidence and evaluated the impact of their challenge experience. Their proposals were peer reviewed in a safe and constructive environment and with reference to their assessment criteria (see Appendix B).

Outside of class students implemented their peer-reviewed learning challenges over a five to six week period. As a refinement to the design in 2014, students were required to document their self-intervention via a blog. This strategy encouraged learners to be more transparent about collecting evidence to show the impact of their digital practices on a week-to-week basis. It also warranted regular engagement with the challenge and reflection in real time. Student blogs were written in a personal and multimodal format with screenshots of

evidence, graphics, videos and material that encapsulated experiences. Students could also alter their challenge proposal if they provided a strong rationale. However, the emphasis of the challenge was not so much on success in achieving their personal goals but on the engaging with the action learning process and learning from their evaluation and experiences.

Finally, in the last two weeks of semester, students shared and disseminated their experiences and findings with peers, and an authentic audience. Teachers, learning specialists and educators from outside the university were invited to attend a two class student symposium. A themed program was developed and students were given four minutes to present their findings. Audience participation also attracted marks. A reflection on their experience (in an academic format) was submitted at the end of week 13. The process of the learning challenge is expressed in Figure 1.

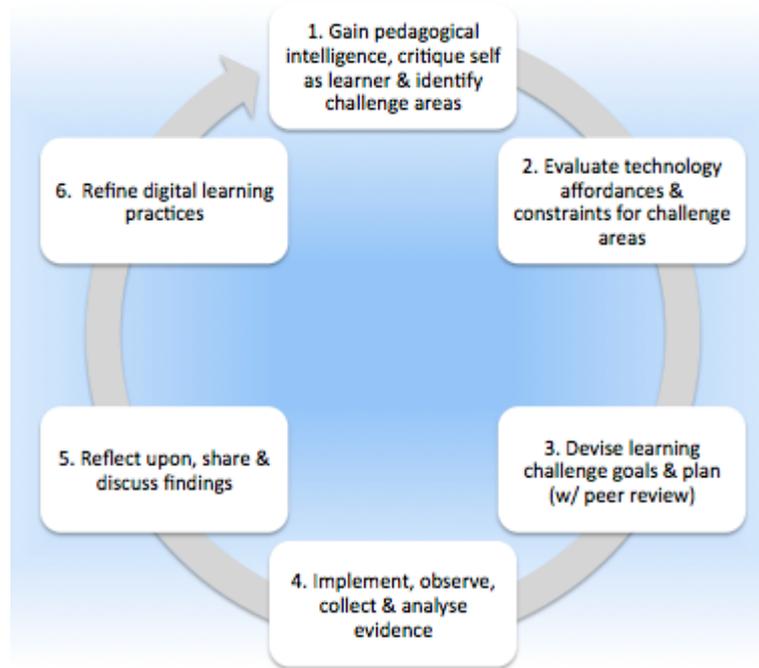


Figure 1: The learning challenge process

Pedagogical principles

The pedagogical principles that underpinned the learning challenge are applicable to a rapidly accelerating digital age. A recent report by Michael Fullan and Maria Langworthy (2014) entitled “A rich seam: How new pedagogies find deep learning” offers perceptive insights. Their report argues that there are three forces converging to offer new possibilities for learning. These forces are ‘new pedagogies’, ‘new change leadership’ and ‘new system economics’. Of relevance here is their conceptualisation of a model for evaluating ‘new effective pedagogies’. Their proposed model describes how pedagogies can contribute to students’ deep learning competencies such as: students’ mastery of the learning process as well as content; students’ key future skills including knowledge creation that draws on collaboration and communication; students’ disposition to be proactive in tackling challenges; and the influence of students’ work on their intended audiences or challenges.

Whilst not entirely new, Fullan and Langworthy offer a theoretical and evidence-based model in the same vein as Kember’s (1997) ‘multiple-level categorisation model of conceptions of teaching’, Reeves & Reeves’ (1997) ‘dimensions of interactive learning’ and Bain, Mcnaught et al.’s (1998) ‘categories and dimensions of computer facilitated learning’. Fullan and Langworthy (2014) offer a ‘continuum of new pedagogies effectiveness’ (see Figure 2). They propose four continuums comprising: pedagogy; tasks and assessment; technologies use by teacher; and technology use by students. The blue text on the far right-hand side of each continuum describes more effective (or advanced) new pedagogies whilst the blue text in the middle may comprise a ‘necessary stage of development’ (p.44). Mapping the ‘learning challenge’ implemented in 2013 and 2014 to Fullan and Langworthy’s continuum was affirming.

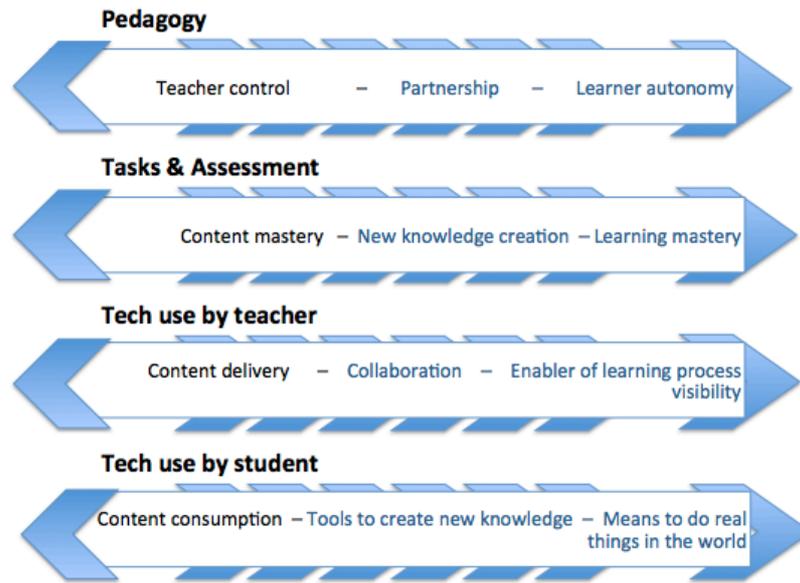


Figure 2: Continuum of new pedagogies effectiveness (Fullan & Langworthy, 2014)

On the pedagogy continuum, the teachers' role in the learning challenge was deliberately designed as a learning partnership with the teacher as scaffolder and co-enquirer into students' learning processes and digital practices. According to Fullan and Langworth as learning partners, teachers should be concerned with "dynamically activating their students to push them further along their learning paths, and helping students think more clearly about their learning goals and how well they are doing in achieving them". Or as John Hattie (2012) suggests, making learning visible. In the learning challenge design, the teacher focuses tasks on helping learners understand themselves as learners and evaluate the effects of their practices. Ultimately, the aim of the learning challenge is for learners to understand the impact of their approaches to learning and to acquire a process to evaluate the affordances and constraints of their personal technologies as fit for the goals they are striving to achieve. In this way, they learn to self-monitor their learning and digital practices - and thus develop more learner autonomy.

As for the tasks and assessment continuum, the learning challenge was designed to involve students in creating and sharing new knowledge about the affordances and constraints of new and emerging technologies. The tasks help students to connect their prior knowledge, learning experiences and approaches with pedagogical, content and technical knowledge that in turn helps them along the pathway to learning mastery.

Both learners and teachers determine the technologies used in the course. The classes are conducted in collaborative learning spaces where a range of technologies are used including students' personal technologies and discipline specific technologies. The blog-based assessment task introduced in 2014 to document the learning challenge enables learning process visibility.

The learning challenge is an authentic real world task. In their future work, contemporary students will be required to select and evaluate currently unimagined technologies for unknown work practices and expected to understand their impact or efficacy of their digital practices on their intended goals. In the learning challenge, students use their pedagogical knowledge and knowledge of self to select technologies they hope will achieve their intended goals.

Importantly, this process can be applied to almost any disciplinary context to help prepare students for an unknown digital future. A future where they will need to evaluate a rapidly changing suite of technology tools and apply effective learning strategies to real world work challenges.

Research aims and method

The research described in this paper was initiated through a larger study that involved two complementary research projects. The first project was a large-scale survey of foreign language students (n=587) conducted in 2011. The survey investigated learners' reported use of technologies to support their language learning and their

perceptions of the learning benefits they gained (see Steel & Levy, 2013). The survey results highlighted that the technologies students now have at their fingertips are varied and powerful. While online dictionaries and web-based translators were most used (82–85%), our language learners' toolkit was enriched by a number of technologies that were not developed specifically for language learning but nonetheless offered exceptional opportunities to access language specific resources and to listen to, watch and interact with the foreign languages. Language learners were less reliant on institutionally provisioned technologies, and while some students were using their technologies in quite sophisticated ways, many employed them rather superficially. Thus we needed a more in-depth understanding of the conditions and circumstances of use of the many tools in play.

The second research project is a longitudinal study of students' beliefs and experiences of evaluating the affordances of technologies for their suitability for language learning. The longitudinal study has been conducted over four iterations of the course (2011-2014) that now incorporates the learning challenge. The research was conducted within a Constructivist theoretical framework that acknowledges learning as an active and creative process that seeks to connect new knowledge and skills with current and past knowledge (Bruner, 1996). This research approach supports the concept of collaborative co-inquiry whereby both teachers and learners are engaged in a process of defining objectives and finding answers (Wells, 1999). Previous papers have reported on students' perspectives on the affordances and constraints of mobile applications and mobile learning more generally for language learning (Steel, 2013b; Steel, upcoming).

This paper reports on some aspects of the learning challenge. In particular, students' self-selected learning strategies, the language areas they chose to address, the technologies they chose to explore and the evaluation strategies they employed. Student perceptions of the learning constraints and benefits of the experience are also reported. The data used for this paper pertains to the 2014 student cohort and includes student responses to Oxford's (1990) Strategy Inventory for Language Learning (SILL) survey, students' learning challenge proposals and students' written reflective pieces. Quantitative data was analysed descriptively while qualitative data was manually coded to identify common themes. Data generated from student blogs will be reported in future articles.

Sample

In 2014, twenty-eight of the 35 students who completed the course gave consent to use their assessment and in-class work for this research project. Being an elective course, it attracts a diverse range of undergraduate students at different year levels (first semester in year 1 to final semester in year 5) from various degrees. For example in 2014, 12 of the 28 students were studying a Bachelor of Arts whilst the remaining students were studying degrees such as Arts/Law, Education, Engineering, Commerce, IT, business and a Diploma of Languages which can be completed alongside a core degree. The common factor was that they were studying a foreign language. The variety of languages was also diverse with some international students and many students speaking and studying a number of foreign languages. In 2014, students studying French were most highly represented (n=12).

The learning challenge 2014

Of the 28 students who consented to participation in the study, 12 students focused their challenge on learning French, 5 on Spanish, 3 on Japanese, 3 on English (as a foreign language), 2 on German, 2 on Chinese and 1 on Korean. Students were at different stages of language acquisition from beginner to highly advanced levels.

Learning strategies

Before conceptualising their learning challenge proposal, students completed the SILL survey (Oxford, 1990). Although Oxford has refined her work in recent years (Oxford, 2011), the categories of learning strategies originally proposed were selected as students in the course appear to understand them more easily. Oxford defined learner strategies as specific actions learners take to facilitate and accelerate the learning process by making it more enjoyable, self-directed, and effective as well as transferable to different situations. She categorised language learning strategies into direct and indirect strategies.

Direct strategies included memory strategies (how you remember the language), cognitive strategies (how you think about your learning), and compensation strategies (how you overcome limitations to your knowledge). Indirect strategies included metacognitive strategies (how you manage your learning), affective strategies (how

you manage how you feel about your learning) and social strategies (strategies to learn through interaction with others).

Twenty-five of the 28 students completed the SILL survey. So as not to influence their results, they learned about the types of learning strategies *after* completing the survey. The survey results reported high use, medium use and low use for each strategy type. The results from survey were interesting (Table 2) with students reporting that their highest use strategy was compensation, followed by social, cognitive and metacognitive strategies. Perhaps most surprisingly, memory strategies were not reported as a high use strategy by any students in the sample however 21 students using it moderately. Even though most students reported memory strategies as medium use, 15 students scored memory strategies lowest, which meant it was their least used strategy. An earlier New Zealand study by Griffiths and Parr (2001) also found that students reported memory strategies as their least used while their teachers perceived it was their most frequently used strategy. A total of 15 students also scored affective strategies lowest (some having the same low score as memory).

Table 2: Results of initial SILL survey

	High use	Med use	Low use
Compensation	17	5	3
Social	15	9	1
Cognitive	14	11	0
Metacognitive	12	12	1
Affective	4	12	9
Memory	0	21	4

Learning challenge proposals

As outlined earlier, students needed to identify specific language areas and goals for their learning challenge, the learning strategies they were going to use and the technologies they were going to test (Table 3). Many students focused on more than one language area, used more than one strategy and more than one technology. Vocabulary was the most popular language area and varied from basic to academic vocabulary depending on learners' level and need. Ten of the 14 students focused on vocabulary, and employed memory strategies as one of their learning approaches. Mobile applications (especially flashcards) were used by 12 of these students as one of the technologies they selected to help their memory strategy.

Table 3: Learning challenge proposals

Language areas		Strategies		Technologies	
Vocabulary	14	Compensation	9	Mobile apps	21
Speaking	8	Social	5	Skype/ video chat	7
Listening	7	Cognitive	8	Podcasts	7
Grammar	5	Metacognitive	16	Movies/ YouTube/ Ted Talks	5
Writing	4	Affective	6	Audio books	2
Reading	4	Memory	15	Text chat	1
Translating	1			Concordance	1
				Web resource	1
				Online dictionary	1

Speaking, listening and grammar were also quite popular areas for students to focus their learning challenges and metacognitive and memory strategies were employed by 60-65% of students. While learners were encouraged to experiment with strategies they normally did not use, some justified their need to use strategies that they believed were already working well for them or that they felt best suited their learning goals. Although affective strategies were not highly used across the cohort only six students focused on these.

As discussed in previous papers from this project, students' preference for mobile applications is increasing as the number of students with smart devices also rises (see Steel, 2013b). Skype was popular for those students who aimed to improve their speaking fluency and reducing anxiety (affective strategy) when speaking. Although social strategies were reported as high use in the SILL survey, only 5 students employed this strategy in their challenge. Compared to the survey results from 2011, online dictionaries were only used by one student.

However as with the 2011 study, the technology tools selected were not those that were institutionally provisioned.

The evaluation strategies that students employed to gather evidence as part of their action learning cycle could be categorised into five main evaluation types. Many students used a combination of more than one strategy, often using both a quantitative and qualitative form. Almost half of the sample developed their own criteria or marking schedule whilst nine students made use of the scoring and feedback features available in commercial mobile applications. Gaining feedback from a peer, tutor, teacher or native speaker was also popular and pre and post tests were somewhat popular. A few students use existing validated proficiency tests that had been developed for a specific language.

Table 4: Categories of evaluation strategies

Development of own criteria and marking scheme	12
Use of scoring and tracking facilities available in mobile applications	9
Use of feedback from peer, tutor, teacher or native speaker	8
Development of pre and post tests	6
Use of a pre-validated proficiency test	4

Student perceptions of the learning constraints and benefits of the experience

Prior to, and during their language learning challenge it was emphasised that the challenge was more about the process than necessarily achieving the goals anticipated. The emphasis was on learning about oneself and how to evaluate the impact of digital practices. Additionally, students were able to alter their original proposals if they could provide a sound rationale (in their blogs). However, a limitation of the student data from the learning challenge was that the learning challenge was assessed. Thus, some students may have wanted to tell a ‘good news’ story even if their experience differed. Additionally, as a very different type of assessment task it may have had a novel effect on students’ self reported perceptions. To try and mitigate these limitations, in their final reflections students were encouraged to note the constraints they encountered as well as the benefits.

Constraints

The major constraints reported by students were around time, scope and technology challenges. Students often started out with overly ambitious goals and planned weekly activities that became difficult to juggle when assessment items from other courses fell due. Frequently, students had to scale back the scope of their plan and goals and often this happened quite soon after commencing the challenge. “I realised by the second week that my plan was slightly too ambitious”.

The technologies themselves would sometimes have limitations that students had not anticipated. “I realised that even though songs were an effective way to learn vocabulary, it was inefficient with regard to the quantity of new vocabulary”. Being able to personalise the technology so it aligned with their goals was also an issue at times. Equally, students discovered limited lessons or resources available that were not suited to their language levels. Access to a steady and reliable internet connection was an issue for a number of students too.

Despite the best intentions, coordinating with native speakers in other time zones was difficult for some students who wanted to communicate synchronously online. “After two weeks it proved practically impossible to arrange suitable times to speak with my friend live due to time zone differences and family, work and study obligations”.

Even after peer review, some students struggled with setting goals they could evaluate and developing evaluations strategies. A limitation here may have been that students were from all undergraduate year levels and disciplines meant they had enormously varied experiences of and preparedness for university learning. However, by the end of the process most seemed to have an improved understanding of what they needed to do.

I believe I needed to set a more specific goal in order to sustain my learning challenge over an on-going period. This aim must be able to be accurately measured, unlike the learning challenge I just finished.

Even the activity planning could be difficult for some “Several challenges ... biggest challenge to divide activities in such a way as to finish them in one week... create activities that I could evaluate, and time”. However, all students reported learning benefits from participating in their challenge.

Benefits

In their reflections all students reported that they learnt a lot from the challenge and about themselves. Completing the SILL survey was perceived highly favourably.

Undertaking a self-evaluation prior to the challenge was important for me as it allowed me to determine my specific problem with speaking; my lack of confidence and unwillingness to communicate. Through this evaluation I became more informed to choose appropriate technologies for my challenge based on what I wanted to achieve and also on my preferred strategies... I also gained a greater understanding of why I had been experiencing difficulties in speaking L2 in the past.

Gaining pedagogical intelligence, learning about themselves and how they learn appeared to be motivating. “I found that active knowledge of my learning styles and strategies and my new awareness of learning how to learn has strongly increased my enjoyment of learning and my learning capabilities”. In fact some students felt it was critical to being a successful language learner. “The task of designing a six week case study of ‘me’ related to how I focus on tasks and learn successfully seemed like a daunting prospect to most, ... but I was incredibly excited. I only wish I could have done it before I started learning Chinese”.

Students reported feeling more confident in evaluating technologies in order to meet their learning goals. “I can’t believe how easily and conveniently technology can help me with my language skills”. Students enjoyed the mobility and motivational aspects of their technologies. “Technologies that enable tasks which maximise enjoyment is the underlying key to success”. As reported in previous papers (Steel, 2013b), mobile applications with in-built mechanisms for self-monitoring and assessment alongside gamified options are well received. Even the evaluation of students’ own learning goals inspired motivation.

...noting down my mistakes and using a scoring system actually motivated me to get higher scores. In a sense I added a gamified aspect to my own exercises

In their reflections many students stated that they believed time-on-task combined with the opportunity to reflect on how they were learning and personal technology use were highly influential to their language acquisition and valuable to them as learners:

The LL challenge provided an opportunity for me to significantly increase the amount of time on task, not only working on language concepts themselves but also reflecting on the way in which I approach my learning.

My overall LL challenge experience has been very interesting, rewarding and enriching. Discovering what kind of language learner I am has radically changed my approach to learning French. I am looking forward to exploring more technologies and their potential impact on my language learning progression

Conclusions and implications

Overall, students found the learning challenge to be a helpful process for discovering more about themselves as learners and the potential of the technologies they have ready access to in their daily lives. It enabled students to make their own learning visible and to engage in researching their approaches to learning in a digital age. The analysis of students’ learning processes via their blogs and symposium material is still underway and will no doubt generate further findings that will inform the learning challenge design. Many of the constraints that have already surfaced are potentially learning opportunities that could be shared with students in future iterations.

Given the design was adapted from an academic development model it has demonstrated its flexibility to be translated to other contexts. The pedagogical principles that underpinned the design mapped well to Fullan and Langworthy’s (2014) conceptualisation of effective new pedagogies to find deep learning. The design illustrated the:

- Power of teacher and learner partnerships to explore the affordances and constraints of new and emerging technologies and to influence learners’ digital capabilities toward learner autonomy
- Power of pedagogical intelligence to inform learners and help them gain deep insights into learning mastery
- Power of technologies to enable a visible, deep and reflective learning process
- Power of challenging and understanding the impact of our digital practices

The core issue that initiated the design of the learning challenge is that universities need to provide more pedagogical guidance to help students who are preparing for an unknown and accelerating digital future. Our students need to understand and evaluate the impact of their learning approaches combined with the affordances of continuously new technologies to perform unknown tasks and solve unknown challenges in the future. While the learning challenge offers one such approach we need to share other learning designs approaches too. Importantly, we need to value our students' need for success in and beyond university and partner with them to ensure university education is fit for their digital futures.

Acknowledgements

I would like to acknowledge and express my deep gratitude to the language students from the University of Queensland who participated in the learning challenge and gave consent to include their work in my study. I would also like to acknowledge Professor Mike Levy who enthusiastically co-taught the course with me and provided feedback on my learning design. I also acknowledge the University of Queensland for providing the research and teaching environment.

References

- Bain, J. D., Mills, C., McNaught, C., & Lueckenhausen, G. (1998). Understanding CFL practices in higher education in terms of academics' educational beliefs: Enhancing Reeves' analysis. *Proceedings of ascilite 1998, Wollongong*.
- Barber, M., Donnelly, K., & Rizvi, S. (2013). *An avalanche is coming: Higher education and the revolution ahead*, London: Institute for Public Policy Research.
- Beetham, H., McGill, L., & Littlejohn, A. (2009). *Thriving in the 21st Century: Learning literacies for the Digital Age (LLiDA Project Report)*, Glasgow: Glasgow Caledonian University.
- Bradford Networks (2013). *The impact of BYOD in Education*. Retrieved from <http://www.bradfordnetworks.com/resources/whitepapers/the-impact-of-byod-in-education/>
- Bruner, J. (1996). *The Culture of Education*, Cambridge, MA: Harvard University Press.
- Conole, G., de Latt, M., Dillon, T., & Darby, J. (2006). *JISC LXP Student experiences of technologies final report*. JISC: Bristol, UK. Retrieved from <http://www.jisc.ac.uk/publications/reports/2006/lxpfinalreport.aspx>
- Ernst & Young, (2012). *University of the future: A thousand year old industry on the cusp of profound change*. Australia. Retrieved from [http://www.ey.com/Publication/vwLUAssets/University_of_the_future/\\$FILE/University_of_the_future_2012.pdf](http://www.ey.com/Publication/vwLUAssets/University_of_the_future/$FILE/University_of_the_future_2012.pdf)
- Fullan, M., & Langworthy, M. (2014). *A rich seam: how new pedagogies find deep learning*, Pearson. Retrieved from http://www.michaelfullan.ca/wp-content/uploads/2014/01/3897.Rich_Seam_web.pdf
- Griffiths, C., & Parr, J.M. (2001). Language-learning strategies: Theory and perception, *ELT Journal*, 55(3), 247-254.
- Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning*. New York: Routledge.
- Hutchings, P. (2005). Building pedagogical intelligence Carnegie Foundation for the Advancement of Teaching, *Carnegie Perspectives, A different way to think about teaching and learning*, Jan. 2005. Retrieved from <http://www.carnegiefoundation.org/perspectives/building-pedagogical-intelligence>
- Kember, D. (1997). A reconceptualisation of the research into university academics' conceptions of teaching. *Learning and Instruction*, 7(3), 255-275.
- Oxford, R. L. (1990). *Language learning strategies: What every teacher should know*. Boston, MA: Heinle & Heinle Publishers.
- Oxford, R. L. (2011). *Teaching and Researching: Language learning strategies*. New York: Taylor & Francis.
- Reeves, T. C., & Reeves, P. M. (1997). Effective dimensions of interactive learning on the world wide web. In B. H. Khan (Ed.), *Web-based instruction* (pp. 59-66). Englewood Cliffs, NJ: Educational Technology Publications.
- Steel, C. H. (2009). *The interrelationship between university teachers' pedagogical beliefs, beliefs about web technologies and web practices*. Unpublished PhD, Griffith University, Brisbane.
- Steel, C.H. and Andrews, T, (2012). . Re-imagining teaching for technology-enriched learning spaces: An academic development model. In M. Keppell, K. Souter & M. Riddle (Eds.), *Physical and Virtual Learning Spaces in Higher Education: Concepts for the Modern Learning Environment*. IGI Global.
- Steel, C. H. (2013a). *University teachers' beliefs and practices: Pedagogy and technology*. Saarbruken, Germany: LAP Lambert Academic Publishing.

- Steel, C. H. (2013b). *Students' perspectives on the benefits of using mobile apps for learning languages*. Paper presented at the *Global perspectives on Computer-Assisted Language Learning: World CALL 2013*.
- Steel, C. H., & Levy, M. (2013). *Language students and their technologies: Charting the evolution 2006 - 2011*. *ReCALL*, 25(3).
- Steel, C. H. (upcoming). Students' perspectives on the affordances and constraints of using mobile devices and applications for learning languages *World CALL: Sustainability and computer-assisted language learning*.
- White, D., Connaway, L. S., Lanclos, D., Le Cornu, A., & Hood, E. (2012). *Digital visitors and residents: Progress report*, JISC. Retrieved from <http://www.jisc.ac.uk/media/documents/projects/visitorsandresidentsinterim%20report.pdf>

Contact author: Caroline Steel, c.steel@uq.edu.au

Please cite as: Steel, C. (2014). The learning challenge: discovering the power of digital practices. In B. Hegarty, J. McDonald, & S.-K. Loke (Eds.), *Rhetoric and Reality: Critical perspectives on educational technology*. *Proceedings ascilite Dunedin 2014* (pp. 335-347).

Note: All published papers are refereed, having undergone a double-blind peer-review process.



The author(s) assign a Creative Commons by attribution 3.0 licence enabling others to distribute, remix, tweak, and build upon their work, even commercially, as long as credit is given to the author(s) for the original creation.

Appendix 1: Learning challenge proposal template

Your title: {insert a title that captures the essence of what you are aiming to do}

My challenge: {identify and describe a specific language learning challenge/ problem that you would like to address. The language skill or knowledge area, why this has been difficult for you and describe how you have addressed this area/skill in the past in your out-of-class learning}

My Learning goal: {set a tangible goal that you want to achieve over a 6 week period – e.g. you want to achieve a certain grade on a test, you want to acquire a certain number of new words per week and use them in appropriate contexts, you want to increase the fluency and speed of your language output to the extent that a peer or teacher can hear a real difference, you want to be able to write or read a certain kind of text etc. You may want to break your goal down to weekly or fortnightly goals – by week 2, I will have}

My learning styles and strategies: {Provide a little detail of your preferred learning styles and the learning strategies you use most dominantly. Describe the strategies you intend to use in your challenge and why – and link this with your learning styles}.

The technologies I am going to test: {describe the technologies you are going to use to assist with your learning challenge – the affordances they offer (in terms of your challenge), the constraints, the pedagogical or learning approaches they support. Provide a rationale for why you think this/ these technologies will help with your challenge}

My plan: {Devise a plan to address your learning challenge. Describe what you are going to do week-by-week. Give an indication of frequency of activities, the nature of activities and include documenting your progress on your blog site. You may like an adaptable plan where you can tweak your activities depending on how they are working for you}

My evaluation approach: {How will you know whether you have achieved your goals? How will you observe/ monitor your progress? What data will you collect to know whether you are heading in the right direction? Will you do a pre or post-test? Will you have a peer or teacher comment on your work at certain milestones? Will you video/ or record yourself at certain stages over the 6 week period and compare and reflect on your progress? How will you document your data in your blog? How will you analyse your progress?}

Appendix 2: Criteria used for peer review for learning challenge proposal

Criteria	High Distinction	Distinction	Credit	Pass	Fail	Comments
Quality of proposal	The proposed learning challenge is coherently articulated and argued in terms of the issue(s) to be addressed, and the goals to be achieved.	The proposed learning challenge is articulated and argued in terms of the issue(s) to be addressed, and the goals to be achieved.	The proposed learning challenge is articulated and justified in terms of the issue(s) to be addressed, and the goals to be achieved.	The proposed learning challenge is described in terms of the issue(s) to be addressed, and the goals to be achieved.	The proposed learning challenge is vaguely described.	
	Learning strategies and styles are strongly integrated within the challenge and the argumentation for the proposal.	Learning strategies and styles are somewhat integrated within the challenge and the argumentation for the proposal.	Learning strategies and styles are described in relation to the challenge.	Learning strategies and styles are mentioned.	Learning strategies and styles are not mentioned.	
	The technology(ies) selected are justified and critically evaluated for their affordances and constraints for the challenge - pedagogically and practically.	The technology(ies) selected are justified and evaluated for their affordances and constraints for the challenge - pedagogically and practically.	The technology(ies) selected are justified and superficially evaluated for their affordances and constraints for the challenge - pedagogically and practically.	The technology(ies) selected are justified to some extent but a clear understanding of their affordances and constraints is not evident.	The technology(ies) selected are not justified in relation to the learning goals.	
	Activities are clearly articulated, sequenced and strongly linked to the learning goals and duration of the project.	Activities are clearly articulated, sequenced and linked to the learning goals and duration of the project.	Activities are described and linked to the learning goals and duration of the project.	Activities are vaguely described are partially suited to the learning goals and/ or the duration of the project.	Activities are vague and are not suited to the learning goals and/ or the duration of the project.	
	The evaluation approach uses an action learning framework to generate strong evidence and monitor goals and achievements effectively.	The evaluation approach uses an action learning framework to generate evidence and help monitor goals and achievements effectively.	The evaluation approach is likely to generate some evidence to help monitor goals and achievements.	The evaluation approach is vague and may not generate needed evidence to help monitor goals and achievements.	The evaluation approach is unclear.	