

# Interpreting the Experiences of Teachers Using Educational Online Technologies to Interact with Content in Blended Tertiary Environments: A Phenomenological Study

Kimberley Tuapawa  
University of Newcastle  
Callaghan, NSW, Australia  
sales@glintz.co.nz

## ABSTRACT

Although educational online technologies (EOTs) have enhanced the dissemination of learning in higher education, key EOT obstacles have hindered their effectiveness, preventing widespread implementation. The persistence of these obstacles suggests that tertiary education institutes (TEIs) have experienced difficulties in understanding their key stakeholders' EOT needs. This research made an interpretation of key stakeholders' EOT experiences, to establish their existing EOT needs and challenges, and provide a foundation from which to recommend methods for effective EOT support. It analysed the experiences of 10 students and 10 teachers from New Zealand and Australia and interpreted the meanings of these phenomena through an abstraction of local and global themes. This paper is the sixth in a series of six publications that presents the local themes. It documents the interpretations of teachers' experiences with content, in reference to their use of two types of EOTs: learning management systems, and online video platforms. These interpretations, which include descriptions of teachers' EOT challenges, helped to inform a set of recommendations for effective EOT use, to assist TEIs in their efforts to address EOT challenges and meet their stakeholders' needs.

## KEYWORDS

Tertiary education, blended learning, online technology, student experiences, phenomenology

## 1 INTRODUCTION

Educational online technologies (EOTs) have revolutionised the delivery of online education, making a significant contribution to the global increase in demand for higher learning. In an era of considerable online growth, their rapid

emergence, adoption and demand has engendered significant advances across the higher education sector. Traditional classroom spaces have evolved into dynamic blended tertiary environments (BTEs), providing tertiary education institutes (TEIs) with a modern means through which to augment course delivery. These transformations signal exciting prospects for teachers and students, the key stakeholders in BTEs<sup>1</sup>.

Despite the growth and demand for technology-based learning, considerable obstacles impede the use of EOTs. Such challenges include, but are not limited to attitudinal pre-dispositions, insubstantial training, and inadequacies in instructional design support [2]. Other challenges include resistance to change, ineffective EOT usage, lack of motivation, technical constraints, and accessibility [3]. These challenges pose a clear risk to the future success of BTEs [4], and create difficulties for stakeholders as they deliver and engage in learning.

Significant efforts have been made to learn more about EOT challenges. These have resulted in considerable subject-specific research, with varied and noteworthy contributions to the literature. Some studies have considered technology integration into blended environments [5], technology to support institutional roles [6], barriers to adoption of online learning [7], and the needs of online students [8]. However, while "our research foundation is rich" [9], not all problems have been adequately identified and addressed.

The continuation of these challenges suggests that TEIs have experienced difficulties in

---

<sup>1</sup> Predictions about future growth, along with forecasts for EOT use are discussed in the first of these six papers [1].

understanding their key stakeholders' EOT needs. Over time, these needs have evolved, and in an environment of rapid technological change have not been addressed effectively. With their operations based in a dynamic environment, TEIs must maintain relevance by evolving and adapting to meet their stakeholders' needs. However, doing this effectively requires that they have sound, up-to-date understandings of their stakeholders' EOT challenges, to deliver relevant and meaningful support.

Through a phenomenological approach, this research aimed to interpret key stakeholders' EOT experiences, establish their existing EOT needs and challenges, and recommend methods for effective EOT support. Using a 5-step qualitative analysis of data, it analysed the EOT experiences of ten students and ten teachers, categorised these to reflect the nature of their interactions with other key entities and then interpreted their meanings through an abstraction of local and global themes. The global themes delivered a broad set of interpretations about the meaning of key stakeholders' experiences with other students, other teachers and content, and the local themes developed meanings that were specific to their use of distinct EOTs.

This paper is the sixth in a series of six publications that present the local themes of this research, through written interpretations that describe the meaning of the phenomena. It documents teachers' EOT experiences with content, in reference to their use of two different EOTs: Learning management systems (LMS) (Blackboard), and online video platforms (YouTube). Included in its interpretations are descriptions of stakeholders' EOT challenges. These delivered a realistic portrayal of the phenomena to help strengthen knowledge about stakeholders' needs. The interpretations helped to inform a set of recommendations for effective EOT use in teacher-to-content interactions. They were designed to assist TEIs to adapt to meet their stakeholders' needs by providing a basis from which to tackle EOT challenges and deliver support.

To lay a sound basis for this phenomenological study, the author undertook preliminary research, which clarified and verified issues from the literature, and created a basis for the selection of participants. It identified EOTs in BTEs [14], produced a classification system for EOTs [15][16], identified key stakeholders in BTEs [17], identified the EOT challenges of key stakeholders [3] and discussed a key challenge (resistance to change) in using EOTs [18].

## 2 METHODOLOGY

The analysis of this data was guided by the methodology of interpretive phenomenology. It aimed to make an interpretation of the meanings of stakeholders' experiences [39]; [40]; [41]. Linked to the principles of Heideggerian philosophy [42], this analysis of experience [29] abstracted themes from students' and teachers' experiences into a range of interpretations, to illuminate the phenomena [40] of EOT activity. This choice in methodology was influenced by the research aim, which aimed to interpret key stakeholders' EOT experiences in BTEs, the key research questions [43], which were: What were the EOT experiences of key stakeholders in BTEs? and What interpretations could be made from their meanings? It was also influenced by the researcher's "interest in the meaning of a phenomenon as it [was] lived by other subjects" [27].

A group of ten students and ten teachers from TEIs in New Zealand and Australia were chosen as participants using a purposive sampling strategy [41]. This ensured that the data would be gathered from those with first-hand experiences of the phenomena [44]. The rationale for this number was based on literature about qualitative and phenomenological research. Nicholls [28] for example, explained that "phenomenological studies ... commonly use[d] as few as five ... participants" (p. 639). Rawat [45] also stated that usually "four or five respondents" were chosen for such interviews. It was on this basis that 20 participants were chosen [27]; [28]; [39].

Further criteria were set in the selection of participants. To be interviewed, teachers had to be on full-time tenure with an accredited TEI, delivering a course in a blended learning modality. Students had to be aged 18 years or older, enrolled full time with an accredited TEI and in a course delivered in a blended learning modality. Teachers were identified from TEI website profiles of staff teaching in New Zealand or Australia. Students were identified with the help of a staff member at each TEI. Invitations sent out stated that participation was voluntary.

The rationale for the selection of only teachers and students was based on a study by the author [17], which identified key stakeholders in BTEs. In this study, students were recognised as key stakeholders because of the requirement for them to “buy into” blended learning, “participate fully, and be convinced” of its value [17]. Teachers were acknowledged as key stakeholders due to their direct involvement in the teaching and learning process and their every-day focus on and influence over learning activity.

The phenomenological interviews followed a semi-structured format and were conducted using web-based conferencing technology (Skype) and recorded using Pamela software. Participants set aside approximately 45 minutes to engage [46] and were asked a set of 27 questions. They responded with first-hand narratives [35]; [47]; [44] of their EOT experiences, which included descriptions about their use of different EOTs to interact with various key entities (students, teachers and content). The situational aspects of their descriptions were crucial to the study, since understandings of a phenomenon [i.e. EOT use] had to be “connected to a specific context in which the phenomenon [had been] experienced” [i.e., a BTE] [27].

To encourage a candid portrayal of the phenomena, the questions were developed to draw out experiences that included descriptions of stakeholders’ EOT challenges. Probes were used to clarify and encourage participants’ in-depth explanations [48]; [37]; [44]. The questions were also framed to encourage their recollections of

encounters with different key entities. These types of encounters were based on the classification by interaction taxonomy augmented by Culatta [19] and the original classification proposed by Moore [20]. These categorised technologies by the relationship between learners and other entities. The first three interaction types of the original taxonomy were learner to expert, learner to learner, and learner to content. Culatta [19] presented a fourth category: learner to context. Tuapawa, Sher, and Gu [15][16], recommended a fifth category: learner to media. These categories were adapted to interviews with teachers, as follows: (1) teacher to student, (2) teacher to teacher, (3) teacher to content, (4) teacher to context, and (5) teacher to media. The use of a relationship-based taxonomy for arranging the questions helped refine stakeholders’ experiences into recognisable EOT interactions. It revealed distinctions between the phenomena in different key relationships, and established a structure through which to arrange the themes or meanings of the phenomena [44]. Table 1 outlines the questions asked of teachers about their EOT experiences with content.

Table 1  
*Interview questions*

<b>Interaction type</b>	<b>Questions</b>
Teacher-to-content	(a) Describe an experience in which you used an EOT in a teacher-to-content interaction while studying in a BTE? (b) Did you face issues or challenges using the EOT? Explain. (c) What do you think would be a solution to this issue? (d) What do you think would have helped you make more meaningful use of this EOT? (e) Did you experience benefits in using this EOT? Explain.

Recordings of the interviews were transcribed using pre-formatted templates. This process, enabled the researcher to become deeply familiar with the content [49] and prepare it for analysis.

Yin's [50] five phases of qualitative analysis, compiling, disassembling, reassembling, interpreting, and concluding, were used to structure and conduct the analysis. Table 2 shows the connection between these phases, and the techniques used.

Table 2  
*Phases of qualitative analysis vs phenomenological research techniques*

Stage	Stage description	Phenomenological research technique
1	Compiling	Data transcripts imported and arranged
2	Disassembling	Data coded with nodes
3	Reassembling	Memos used to build understandings of EOT phenomena
4	Interpreting (thematic analysis and interpretation)	Themes abstracted, meanings of phenomena described through written interpretations
5	Concluding (conclusions and recommendations )	Recommendations made for effective EOT use to support stakeholders' needs.

NVivo software [21] was used to import, compile, and organise the interview transcripts into an organised structure [50]. These data were disassembled and coded, and the data were separated into categories that matched to the interview questions. These categories represented the data clearly and enabled it to be assigned, referenced and held in manageable groupings [22]. Table 3 shows the link between the labels used for coding, and the questions.

Table 3  
*Nodes linked to teacher interview questions*

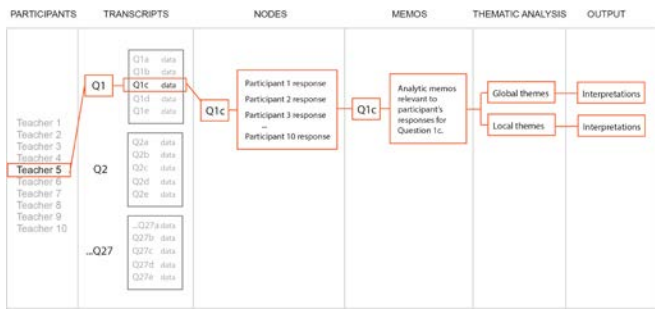
Node	Node	Related question
------	------	------------------

description		
1	Teacher-to-content Q1a	Describe an experience in which you used an EOT in a teacher-to-content interaction while teaching in a BTE.
2	Teacher-to-content Q1b	Did you face issues or challenges using the EOT in this case? Explain.
3	Teacher-to-content Q1c	What do you think would be a solution to this issue?
4	Teacher-to-content Q1d	What do you think would have helped you make more meaningful use of this EOT?
5	Teacher-to-content Q1e	Did you experience benefits in using this EOT? Explain.

The data were reassembled, and moved from the nodal position into analytic memos [50], where they were used to elaborate ideas [21] and develop understandings about the phenomena [23]. Finally, the data were subjected to a thematic analysis, which involved an abstraction of local and global themes [39]. In this process, the essential meanings of the phenomena, were discovered through engagement with the descriptions of the experiences [44]. These were written into a series of interpretations to illuminate the phenomena [40] of EOT use. The global themes developed broad interpretations of the phenomena, whereas the local themes derived meanings from the use of individual EOTs.

The example in Figure 1 demonstrates how the data were gathered, transcribed, sorted and coded using nodes, refined into a teacher-to-content based memo and interpreted through an analysis of themes. These provided the foundation for the discussion of results in this paper.

Figure 1: Process of data analysis



### 3 DISCUSSION OF RESULTS

This section discusses the local themes that were abstracted from teachers' EOT experiences with content<sup>2</sup>. They are delivered as a series of written interpretations of teachers' lived experiences [40]; [44] and organised into two sections based on the EOT types teachers had identified: Learning management systems (LMS)(Blackboard), and online video platforms (YouTube). Each section includes a description of the EOT brand exemplar, and an interpretation of teachers' experiences, which include their comments on EOT issues , challenges, usage, and solutions. The labels used to describe the EOT types are based on the Pentexonomy [15][16], a robust, contextualised and multi-dimensional framework for categorising EOTs<sup>3</sup>.

**EOT: Learning management system**  
**Example: Blackboard**

**Description** Blackboard is a comprehensive and flexible e-Learning software platform that provides a complete course and learning management system [24]. It is can serve as a 'repository' for learning resources, or be used in more innovative ways such as 'an e-learning portal around a particular programme of work or sets of activities' [14].

**Experiences** Teachers' experiences using Blackboard to interact with content revealed that

their EOT activity involved editing materials, providing links to resources, and marking and uploading assessment material. Negative views of Blackboard involved problems with usability and technical issues, large file sizes, and copyrighted content. One teacher described Blackboard as the 'central [means] to formalising content', and commented on its value for disseminating materials. 'I like being able to take content ...and upload [it] to Blackboard,' he said, 'because then ... [it exists] in a virtual area that everyone can access.' Another teacher used Blackboard as an upload point for his lecture recordings, and as a repository for slides that students would later use for course revision. 'You haven't got anything locally on your computer...it's all on Blackboard.' This meant that teachers '[didn't] have to download anything to [their] computer, [they could] do it all online', which '[was] handy'. One teacher adapted her content to suit both distance students and on-campus students, so that 'all students' had access to 'all the material every week that [they had] lectures.' Another 'put material up...which [was] fairly low quality' to ensure that 'students who [were] out in the wild, and might not have a very good [internet] connection' could access the learning materials. Some uploaded content that included 'PowerPoints and mp3 recordings of the lectures'. Others made 'tutorial links' available, and some developed content that instructed students 'where they should be at' in their course progress.

Using Blackboard to edit and maintain content meant 'there was no printing out...no formatting' because 'it was [all] there online'. For teachers interacting with assessment content, Blackboard also provided an efficient method for 'online marking', which '[made] it easier'. 'You [could] mark and give feedback online, without having to put anything down on paper.' Explaining the ease in doing this, one teacher said 'it's there online, [you] put the marks in, put comments in'...and 'then at the end of the course, you download the spreadsheet, and can get [access] to all the marks.' Pleased with Blackboard's efficient assessment methods, one teacher stated that it was 'just easier to mark online.' Despite these benefits, various challenges impacted teachers' experiences with

<sup>2</sup> This discussion also includes a small amount of data from interviews with blended learning experts, some of whom were teachers.

<sup>3</sup> It is important to note that the views expressed by participants reflected the state of development of software at a particular point in time, the ways in which it was implemented and maintained, and the manner in which it was used. Notwithstanding these realities, much was gained from their comments.

content. 'Blackboard has quirks', said one teacher, 'it suddenly freezes...it is slow'. Expressing her frustration, she added 'I find Blackboard very annoying' because 'the screen layout is messy' and requires that I 'constantly change tabs'. Blackboard was described by others as 'clunky'. Some experienced problems interacting with assessment functions. 'You end up with several different places you can enter marks'. This led to 'a bit of uncertainty' as to whether 'comments...[were]...going to get to the student'. One teacher recommended improving 'the interface, [it] need[ed] cleaning up', and 'could do with some smoothing' out.

Another challenge related to oversized file uploads which contained media-rich content. 'Often the recordings...[could] be very large.' While 'that's great if you've got a good download speed...if [however] you're out in the country, that's not good'. Teachers suggested taking time to consider how 'bandwidth issues' impacted content interactions. Having a built in 'way of lowering the quality' of files would improve its efficiency. Another teacher recommended creating or augmenting the 'system ... [to] enable...lower [quality] downloads...to make it easier', since the use of large files 'ha[d] become an issue.' Stating where the responsibility lay, one teacher stated that 'the manufacturers at Blackboard need[ed] to work at it, and come up with some answers.' Another commented on the importance of achieving a balance between download speed and quality visual content. 'It's a mixture, [but] visual people learn better with visual prompts.' While improvements to content were justified, some felt that 'technology was still not there in almost all of these aspects.' Reflecting on the content issues he experienced using Blackboard, one teacher remarked 'I would love them to come into my office, when I'm having a hard time so I [could] ask' 'why is it doing this? Why can't it do this?' Some also expressed frustration over Blackboard's lack of 'intuitive design', describing its 'html style' as 'outdated'. One recommended that 'the design of the environment be more customisable.'

Teachers recognised the work involved in creating and delivering effective content, but asserted that

in some cases the system made it 'problematic.' 'Copyright issues' around posting academic content also raised challenges for teachers. 'We've got to be very careful about putting up chapters'. Acknowledging the need for access to this content, one admitted 'you've got people who are away from libraries...who may be out in the middle of nowhere' where unfortunately, 'there are no libraries'. While these users 'rely on...online journals', help is limited because 'our copyright rules get in our way...and really slow things down.' Teachers said that while 'having some of the chapters online would be good...we can't do it.'

**EOT:            Online video platform**  
**Example:       YouTube**

**Description** YouTube is designed to enable users to upload and share videos that can be viewed by anyone [25]. It utilises repositories to enable users to manage their profiles, share content and collaborate [26]. YouTube is being used extensively to showcase video clips that support learning. 'One of the trends' is to 'put [the media clips] on YouTube...instead of using local storage or LMS' [14].

**Experiences** Themes from teachers' experiences about the use of YouTube to interact with content showed they valued it as a means to view, edit and upload teaching materials that showcased hands-on tasks, and delivered practical learning experiences. They valued the level of 'currency' that YouTube content added to their teaching. The difficulty with 'textbook examples' was that 'even if you're using a 2014 textbook,' the examples within these chapters '[were] 2013, 2012.' Explaining the advantage of using online videos, one teacher stated that 'you [could] use really current examples' to support learning activity. One teacher used YouTube as a repository for teaching content, and had a 'YouTube channel that [she] put videos on' and also a 'a class YouTube channel' which contained 'links to useful websites and games' to support student activity. Teachers also valued YouTube's ability to handle large files. 'What's awesome about this [capability], is that...it splits your files up, [and] while it's

uploading, you [could] put all the [supporting video] info up.’ Similarly, another teacher valued being able to store files on YouTube ‘instead of using local storage or LMS storage’.

Despite the advantages of using YouTube to interact with content, some teachers experienced a lack of ‘control over what you’re linking to in the long term.’ Explaining this problem, one teacher indicated that ‘a YouTube video’ planned for use during class ‘might [later] not be there, or might be replaced with something inappropriate.’ File owners occasionally removed their files from YouTube, creating issues for teachers who interacted with this content on an ongoing basis. ‘More often than not,’ she explained, ‘the videos I’d linked to had been made private,’ preventing access to learning material.’ Other video clips ‘had been...taken down for copyright treasons’, which increased the workloads of teachers who had to ‘run around trying to update links.’ ‘Trying to keep those links up to date’ was difficult, but teachers knew it was important to ‘make sure there had been no exchange to inappropriate materials.’ Referring to one example, a teacher explained how she ‘had a link to a commercial site, which used a game [that taught] people how to reference correctly.’ She had ‘checked it again before the lecture’, only to find that ‘it now linked to a spam site’. This had happened because ‘the URL had been let go’, and now the site contained ‘flashing gaudy advertising’. Reflecting on the possible outcome, she admitted that ‘this [interaction] could have [had an adverse effect in class] and made [her] look crappy’.

Other challenges with YouTube involved creating content intended for upload. ‘Technical issues with the screen capture’ gave one teacher difficulty, and she had ‘to fiddle around...to get it to work.’ Frustrated, she explained that while ‘sometimes it would work’, she didn’t know ‘how to make it work reliably’. The potential for these issues occurring created anxiety. ‘You [did not] want to give a half-hour lecture’ she stated, ‘and then find out you didn’t record the sound, [and realize that the students would] ... see... the slides [without] sound, it [would] not [be] very good.’ Admitting however, that expecting free software

to work consistently without failure was unreasonable, she admitted ‘I’m expecting a lot.’ Training was recommended as a solution. ‘Someone [should] give you a workshop and show you how to do this,’ because ‘there [were] so many tools, it’s very complicated...[and it’s] almost bewildering how many...you can actually use.’ Others felt that while ‘there [was] support there...there could be more.’ Some said that ‘effort’ was required ‘to get over the hard part’. One teacher praised the efforts of her institute’s education development centre, which provided one-of-one EOT help to teachers. For others, ‘it’s better if someone can give you a workshop and show you how to do this.’ ‘Workshops or seminars for academics to come along’ was recommended as a way to help teacher’s improve their YouTube skills.

One teacher was reluctant to engage with YouTube content unless the files were ‘recorded to the quality of the lectures...on TV or on TED talks’, which filmed using ‘multiple perspectives’, and were more likely to increase ‘engagement’ levels. Otherwise, he asserted, ‘you get people standing up’ and walking out, ‘and it just doesn’t work’. Searching for a solution, he continued ‘if I was going to record my lectures’ for uploading to YouTube, ‘I’d want multiple angles, and the same treatment as TED talks.’ Comments like these about YouTube emphasised how the perceived level of content quality influenced teachers buy-in to its use. Content was often developed using other EOTs, and then ‘uploaded to Youtube. For example, one teacher explained ‘sometimes [we] use Jing, but most of us will use Camtasia or Adobe Connect, do it locally’, and copy it to YouTube. In doing ‘content preparation’, teachers found they could ‘merge from one [EOT] to another’.

Other teachers’ experiences involved the use of Moodle, Mindomo, PeerWise, Word Cloud, Echo360, Prezi, Jing, Camtasia, Google Drive, WikiEducator, Vimeo, Blogger.

Teachers experiences using EOTs to interact with content were varied and informative. Their descriptions indicated that effective EOT use

contributed to enriched teacher-to-content interactions, whereas ineffective use created challenges that negatively impacted on their activity. Teachers' descriptions of EOT challenges revealed the reality of their experiences, and the extent to which these obstacles limited their engagement with content. Some expressed frustration, disappointment, and annoyance when faced with technical or usability issues. Despite negative experiences, general recognition of the role EOTs played in enabling engagement was evident. Teachers indicated that improvements to EOT usability, technical support, and design would reduce certain challenges, and enhance their interactions with content. Their recommendations for solutions to challenges signaled that they wanted change and relevant support, to ensure their commitment to EOT use. Teachers valued EOTs that afforded the efficient editing, linking, marking, uploading and demonstration of content.

#### 4 RECOMMENDATIONS

A summary of recommendations for addressing some of the EOT challenges described in teachers' experiences is outlined below:

- TEIs investigate the potential for extending, enabling and improving LMS features to accommodate teachers' online course delivery and assessment needs
- Managers urge and facilitate teachers' ongoing needs-based training for LMS use, to ensure they have relevant skills to undertake effective online course construction and delivery
- Teachers consider bandwidth limitations, and ensure that online file sizes do not impede access to learning, but can be downloaded efficiently
- Teachers ensure teaching content from external sources is current and appropriate for course delivery
- Teachers investigate the potential and feasibility for developing higher quality video lecture recordings, e.g. capture in-class activity from multiple angles

- Teachers ensure that sound and audio equipment works effectively to support in-class learning experiences

#### 5 CONCLUSION

This research made a phenomenological interpretation of key stakeholders' EOT experiences to strengthen understandings about their EOT needs and challenges and provide a basis from which to recommend methods for effective EOT support. It analysed the EOT experiences of ten students and ten teachers from TEIs in New Zealand and Australia and interpreted the meanings of the phenomena through an abstraction of themes. This paper was the sixth in a series of six publications that presented the local themes of this research. It documented the interpretations of teachers' EOT experiences with content, in reference to their use of two different types of EOTs: Learning management systems (LMS)(Blackboard), and online video platforms (YouTube). These interpretations, which delivered insights into the reality of teachers' EOT challenges and needs, helped to inform a set of recommendations for effective EOT use, to assist TEIs in their efforts to address EOT challenges and needs through relevant, meaningful EOT support.

The small sample size normally used in phenomenological studies makes it challenging to generalise results across large groups [44]. However, the descriptions of first-hand experiences provides a rich and authentic means from which to extract in-depth levels of knowledge about the phenomena. Although an interpretive phenomenological approach supported the researcher's "interest in the meaning of a phenomenon as it [was] lived by other subjects", it also permitted their personal preconceptions to affect the analysis of data [27].

The interpretations in this research could be used to support understandings about other similar EOTs. For example, the themes drawn from students' experiences with Blackboard could in some cases be applied to Moodle. This research



has the potential to be replicated and applied to other TEI stakeholders, such as administrators or educational support staff, to strengthen understandings of their EOT challenges and needs.

## 6 REFERENCES

1. Tuapawa, K. (2017). Interpreting Experiences of Students Using Educational Online Technologies to Interact with Teachers in Blended Tertiary Environments: A Phenomenological Study. University of Newcastle, Australia. *Australasian Journal of Educational Technology*, 33(1). <https://doi.org/10.14742/ajet.2964>
2. Panda, S., & Mishra, S. (2007). E-Learning in a Mega Open University: Faculty Attitude, Barriers and Motivators. *Educational Media International*, 44(4), 16. doi: 10.1080/09523980701680854
3. Tuapawa, K. (2016). Challenges Faced by Key Stakeholders using Educational Online Technologies in Blended Tertiary Environments. *International Journal of Web-Based Learning and Teaching Technologies*, 11(2).
4. Moskal, P., Dziuban, C., & Hartman, J. (2013). Blended Learning: A Dangerous Idea? *The Internet and Higher Education*, 18(0), 15-23. doi: <http://dx.doi.org/10.1016/j.iheduc.2012.12.001>
5. Moore, M. (2013). *Handbook of Distance Education* (pp. 753). Retrieved from EBooks Corporation database
6. Huynh, B., Gibbons, M. F., & Fonda, V. (2009). Increasing Demands and Changing Institutional Research Roles: How Technology Can Help. *New Directions for Institutional Research. Special Issue: Imagining the Future of Institutional Research*, 2009(143), 59-71.
7. Bacow, L. S., Bowen, W. G., Guthrie, K. M., Lack, K. A., & Long, M. P. (2012). Barriers to Adoption of Online Learning Systems in U.S. Higher Education (pp. 34): Ithaka.
8. Mupinga, D. M., Nora, R. T., & Yaw, D. C. (2006). The Learning Styles, Expectations, and Needs of Online Students. *College Teaching*, 54(1), 185-189. doi: 10.3200/CTCH.54.1.185-189
9. Passey, D. (2013). *Inclusive Technology Enhanced Learning: Overcoming Cognitive, Physical, Emotional, and Geographic Challenges* (pp. 262).
10. Nagel, D. (2013). 6 Technology Challenges Facing Education. *The Journal, Transforming Education through Technology*, 1. Retrieved from Ed Tech Trends | News website: <http://thejournal.com/articles/2013/06/04/6-technology-challenges-facing-education.aspx>
11. Christie, M., & Jurado, R. G. (2009). Barriers to Innovation in Online Pedagogy. *European Journal of Engineering Education*, 34(3), 7. doi: 10.1080/03043790903038841
12. Beckem, J. M., & Watkins, M. (2012). Bringing Life to Learning: Immersive Experiential Learning Simulations for Online and Blended Courses. *Journal of Asynchronous Learning Networks*, 16(5), 61-70.
13. Gregory, S., Lee, M. J. W., Ellis, A., Gregory, B., Wood, D., Hillier, M., . . . Matthews, C. (2010). *Australian Higher Education Institutions Transforming the Future of Teaching and Learning Through Virtual Worlds*. Paper presented at the ASCILITE Conference: Curriculum, Technology & Transformation for an Unknown Future, Sydney 2010.
14. Tuapawa, K. (in press). Educational online technologies in blended tertiary environments: Experts' perspectives. *International Journal of Communication and Information Technology Education* 13(3)
15. Tuapawa, K., Sher, W., & Gu, N. (2014). Pentexonomy: A Multi-Dimensional Taxonomy of Educational Online Technologies. *International Journal of Web-Based Learning and Teaching Technologies*, 9(1), 41-59.
16. Tuapawa, K., Sher, W., & Gu, N. (2016). Pentexonomy: A Multi-Dimensional Taxonomy of Educational Online Technologies. In M. Raisinghani (Ed.), *Revolutionizing Education through Web-Based Instruction* (pp. 225-252). Hershey, PA: IGI Global.
17. Tuapawa, K. (2017). Identifying Key Stakeholders in Blended Tertiary Environments: Experts' Perspectives. *International Journal of Communication and Information Technology Education*, 13(4).
18. Tuapawa, K. (2015). Resistance to Change Concerning the Use of Educational Online Technologies in Blended Tertiary Environments. Paper presented at the The Fourth International Conference on E-Learning and E-Technologies in Education (ICEEE2015), Surya University, Tangerang, Indonesia, September 10-12, 2015. <http://sdiwc.net/digital-library/resistance-to-change-concerning-use-of-educational-online-technologies-in-blended-tertiary-environments.html>
19. Culatta, R. (2011). Categorisation of Learning Technologies. from [http://innovativelearning.com/instructional\\_technology/categories.html](http://innovativelearning.com/instructional_technology/categories.html)
20. Moore, M. (1989). Three Types of Interaction. *The American Journal of Distance Education*, 3(2), 6.
21. QSR International. (2015). NVivo 10 For Windows. from [http://www.qsrinternational.com/products\\_nvivo.aspx](http://www.qsrinternational.com/products_nvivo.aspx)
22. Williams, A. (2003). How to Write and Analyse a Questionnaire. *Journal of Orthodontics*, 30(3), 245-252
23. Saldana, J. (2011). *Fundamentals of Qualitative Research* (pp. 200).
24. Blackboard Inc. (2015). Welcome to the Blackboard Learning System. from [http://library.blackboard.com/docs/cp/learning\\_system/release6/student/Chapter\\_1\\_Welcome\\_to\\_the\\_Blackboard\\_Learning\\_System.htm](http://library.blackboard.com/docs/cp/learning_system/release6/student/Chapter_1_Welcome_to_the_Blackboard_Learning_System.htm)

25. Digital Unite. (2015). What is YouTube? , from <http://digitalunite.com/guides/tv-video/what-youtube>
26. Churchill, D., Wong, W., Law, N., Salter, D., & Tai, B. (2009). Social Bookmarking-Repository-Networking: Possibilities for Support of Teaching and Learning in Higher Education. *Serials Review*, 35(3), 142-148.
27. Englander, M. (2012). The Interview: Data Collection in Descriptive Phenomenological Human Scientific Research. *Journal of Phenomenological Psychology*(43), 13-25.
28. Nicholls, D. (2009b). Qualitative Research: Part Three - Methods. *International Journal of Therapy and Rehabilitation*, 16, 11.
29. Friesen, N., Henriksson, C., & Saevi, T. (2012). *Hermeneutic Phenomenology in Education: Method and Practice* Vol. 4. (pp. 37).
30. Nicholls, D. (2009a). Qualitative Research: Part One - Philosophies. *International Journal of Therapy and Rehabilitation*, 16(October), 526-533.
31. Chapleo, C., & Simms, C. (2010). Stakeholder Analysis in Higher Education. *Perspectives: Policy and Practice in Higher Education*, 8. doi: 10.1080/13603100903458034
32. Mainardes, E., Alves, H., & Raposo, M. (2013). Identifying Stakeholders in a Portuguese University: A Case Study. *Revista de Educación*, 362, 17. doi: 10.4438/1988-592X-RE-2012-362-167
33. Sanderson, M. (1997). Distance Learning and Best Practice Report *SafetyNet Esprit Project 23917* (pp. 19): Riso National Laboratory, Roskilde.
34. Wagner, N., Hassanein, K., & Head, M. (2008). Who is Responsible for E-Learning Success in Higher Education? A Stakeholders' Analysis. *Journal of Educational Technology & Society*, 11(3).
35. Dowling, P., & Brown, A. (2012). *Doing Research/Reading Research: Re-Interrogating Education* (pp. 225).
36. Martin, W. (Producer). (2010). Phenomenology Beginnings and Key Themes. Retrieved from <http://www.youtube.com/watch?v=Oev9GAm2Mrl>
37. Penner, J. L., & McClement, S. E. (2008). *International Journal of Qualitative Methods*, 7(2), 93-101.
38. Wikispaces. (2015). Introduction. from <https://www.wikispaces.com/content/classroom/about>
39. Padilla-Diaz, M. (2015). Phenomenology in educational qualitative research: Philosophy as science or philosophical science? *International Journal of Educational Excellence*, 1(2), 101-110. doi:10.18562/IJEE.2015.0009
40. Sloan, A., & Bowe, B. (2014). Phenomenology and hermeneutic phenomenology: The philosophy, the methodologies and using hermeneutic phenomenology to investigate lecturers' experiences of curriculum design. *Quality & Quantity*, 48(3), 1291-1303. doi:10.1007/s11135-013-9835-3
41. Yuksel, P., & Yildirim, S. (2015). Theoretical frameworks, methods, and procedures for conducting phenomenological studies in educational settings. *Turkish Online Journal of Qualitative Inquiry*, 6(1), 1-20. Retrieved from <http://dergipark.ulakbim.gov.tr/tojqi/article/view/5000093521/5000087061>
42. Reiners, G. M. (2012). Understanding the differences between Husserl's (descriptive) and Heidegger's (interpretive) phenomenological research. *Journal of Nursing & Care*, 1(5). doi:10.4172/2167-1168.1000119
43. Marelli, F.B. (2016). *Qualitative research methods & methodology*. Retrieved from <http://atlasti.com/qualitative-research-methods/>
44. Waters, J. (2016). *Phenomenological research guidelines*. Retrieved from <https://www.capilanou.ca/psychology/student-resources/research-guidelines/Phenomenological-Research-Guidelines/>
45. Rawat, K. (2014, August 15). Phenomenology as a research method [Blog post]. Retrieved from <http://rawat.blogspot.co.nz/2014/08/phenomenology-as-research-method.html>
46. Simon, M. K., & Goes, J. (2012). What is phenomenological research? Retrieved from <http://dissertationrecipes.com/wp-content/uploads/2011/04/Phenomenological-Research.pdf>
47. Moustakas, C. (1994). Phenomenology and human science inquiry. In *Phenomenological research methods* (pp. 43-68). Thousand Oaks, CA: Sage. doi:10.4135/9781412995658
48. Lester, S. (1999). *An introduction to phenomenological research*. Retrieved from <https://www.rgs.org/NR/rdonlyres/F50603E0-41AF-4B15-9C84-BA7E4DE8CB4F/0/Seaweedphenomenologyresearch.pdf>
49. Daniels, C. (2016). How to transcribe interviews. Retrieved from <http://work.chron.com/transcribe-interviews-11397.html>
50. Yin, R. K. (2015). *Qualitative research from start to finish*. New York, NY: Gilford Publications.