

Students as collaborators in creating meaningful learning experiences in technology-enhanced classrooms: An engaged scholarship approach

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Abstract

In dealing with numerous challenges, higher education instructors need to adapt their pedagogical practices to present students with meaningful, engaged learning experiences that are likely to promote student success and adequately prepare students for the world we live in. As part of this pedagogical transformation instructors also need to consider the potential of digital technologies to assist flexible pedagogies, as well as the role that students can play as partners in transforming the learning process (C. Evans, D. Muijs, & M. Tomlinson. Engaged student learning: high-impact strategies to enhance student achievement. York: Higher Education Academy, 2015, p. 9). In this paper the author reflects on her particular engaged scholarship approach and the important role that her students—as collaborators in the pedagogical transformation process—have played in the creation of meaningful technology-enhanced learning experiences. She describes the evolution of her action inquiry approach over more than a decade and uses one particular project to highlight the value that student voice can contribute to pedagogical transformation. She also underscores the value of a “design for partnership” approach that can be incorporated as an underlying pedagogical approach to facilitate the creation of meaningful learning experiences in a technology-enhanced teaching and learning environment.

Introduction

The 21st century learning environment presents higher education instructors with numerous challenges. They are tasked with developing pedagogically sound practices that present students with meaningful, engaged learning experiences that are likely to promote student success and adequately prepare students for the world of work (Evans *et al.*, 2015; Morrison & Camargo-Borges, 2016). Additionally, instructors need to prepare graduates who are discipline specialists, as well as “independent, creative and innovative thinkers, future leaders and productive, ethical citizens who are better able to meet the challenges of living and working in our fast-changing and unpredictable world” (Zuber-Skerrit, Wood, & Louw, 2015, p. 2). In addition, instructors also need to consider context-specific challenges related to diverse student populations, large classes, insufficient institutional resources and students’ under-preparedness for higher education (Hornsby, Osman, & De Matos-Ala, 2013).

a). Facts backed with evidence

b). Challenges identified

Practitioner Notes

What is already known about this topic

- In the present era it is challenging but of the utmost importance to create learning environments that enhance student outcomes and, at the same time, adequately prepare students for the world of work.
- Students are motivated to learn if they “find learning activities meaningful and worthwhile and... try to get the intended benefits from them” (Brophy, 2010, p. 208).
- Digital technologies have the potential to assist flexible pedagogies and promote student agency (Evans, Muijs, & Tomlinson, 2015, p. 9).

What this paper adds

- Employs an engaged scholarship approach to provide insights regarding the impact that student-instructor collaboration (which involves deliberate efforts to motivate students to become engaged in the learning process) can have on the improvement of pedagogical practices.
- Advocates a “design for partnership” approach that can be incorporated as an underlying pedagogy to facilitate the creation of meaningful technology-enhanced learning experiences.

Implications for practice and/or policy

- Instructors need to make more deliberate efforts to “design for partnership” as part of their pedagogies rather than treating students as mere data sources.
- An engaged scholarship approach that focuses on the active involvement of motivated student collaborators can lead to the development of new knowledge and the overall improvement of student learning experiences.

Ideas presented in a logical order, a clear connection between ideas

In dealing with these challenges, higher education instructors need “a new understanding of teaching and learning processes” and methods that maximize student learning” (Zuber-Skerrit *et al.*, 2015, p. 6), and should consider ways in which they can adapt their pedagogical practices accordingly (Morrison & Camargo-Borges, 2016, p. 162). In advancing pedagogical practices that support meaningful and engaged learning, Waring and Evans (2015, p. 27) propose “a more informed understanding of pedagogy as a dynamic process, underpinned by theories, beliefs, values, and dialogue realised in real settings”. Although Evans *et al.* (2015, p. 8) recognise the importance of discipline-specific approaches to pedagogic research, they appeal to researchers to be more explicit in identifying the generic pedagogical principles relevant to a wider context. They also request further exposition of the role that students can play as more active collaborators in the learning process, as well as the potential of digital technologies to assist flexible pedagogies (Evans *et al.*, 2015, p. 9).

Gaps

The aim of this paper is to illustrate the important role that students as collaborators can play in creating meaningful learning experiences and how these insights have contributed to the transformation of my own pedagogical practices. Although the paper uses one particular project as example, the reflections and conclusions are informed by data collected over a period of 13 years as part of an ongoing action inquiry (Dick, 2002) aimed at establishing guidelines for the creation of meaningful technology-enhanced learning experiences in undergraduate Computer Science classrooms.

Purpose

Perspectives from literature

This section commences with a brief overview of the concept of student engagement—articulating the various components that need to be considered in pedagogical strategies aimed at fostering a meaningful and engaged learning environment. It is followed by perspectives on the impact that students—as partners in the learning process—can have on the development of meaningful learning experiences.

Two themes presented.....

Student engagement

Literature presents “student engagement” as a multi-dimensional concept with an array of contrasting definitions and associated concepts. In an attempt to provide some clarification in this regard, Kahu (2013) identifies four dominant research perspectives on student engagement: behavioural (effective teaching practice), psychological (individual psycho-social process), socio-cultural (critical role of socio-cultural context) and holistic (broader view). In the South African higher education context, views on student engagement are predominantly rooted in the work of North American and Australasian researchers. Engagement is generally regarded as the frequency and enthusiasm with which students participate in educationally meaningful activities that are linked to high-quality learning and involves interaction with a wide range of stakeholders and contexts (Coates, 2008; Hu & Kuh, 2002; Krause & Armitage, 2014). This viewpoint draws elements from both the behavioural and socio-cultural perspectives—as also identified by Kahu (2013). Despite many contrasting definitions in literature, there is, however, consensus among academics regarding the importance of fostering (deeper) student engagement in higher education (Bryson, 2014a; Dunne & Owen, 2013, p. xvi; Kahu, 2013, p. 758). In an attempt to provide conceptual clarity, Bryson (2014a) proposes the separation of student engagement into two spheres: “engaging students” and “students engaging.” “Engaging students” centres around the opportunities created for students (by various stakeholders) to participate in educationally meaningful ways, while “students engaging” refers to the way in which individual students participate in these educationally meaningful activities.

For students to engage, they need to become active participants in their own learning. At many institutions the disorganised way in which active learning practices are implemented has, however, been shown to negatively impact student learning (Kuh, 2008, p. 9). Coates (2008, p. 29) urges instructors to make more deliberate efforts to enhance student engagement by considering strategies that focus on enhancing active learning, as well as developing supportive and responsive learning environments. Instructors should also realise the potential value of incorporating students’ views in efforts to enhance student engagement (Coates, 2008, p. 30). Such efforts should include opportunities to reflect on their learning processes and the outcomes of their learning (Barkley, 2010, p. 17).

All efforts would, however, be educationally meaningless if students were not motivated to learn. Wlodkowski and Ginsberg (2010, p. 16) regard motivation as a “consequence of learning.” They encourage instructors to firstly, develop a deeper understanding of their students’ different perspectives and secondly, work with their students to create a “motivating educational experience” (p. 17). They also regard true, active engagement as an indicator that students “are motivated to learn and are learning” (p. 18). Instructors are therefore “more likely to promote student engagement” when they implement pedagogical practices that “increase the synergy” between active learning and motivation (Barkley, 2010, p. 38). Any pedagogical innovations need to consider the individual needs, interests and values of students, as well as the context in which teaching and learning are taking place (Evans *et al.*, 2015, p. 12). Furthermore, in an attempt to promote intrinsic motivation, special attention should be given to strategies that promote autonomy, competence and inclusion (Barkley, 2010, p. 11).

Enhancing meaning in learning

As part of their motivational framework, Wlodkowski and Ginsberg (1995, p. 29) identify four motivational conditions that are essential to the development of intrinsic motivation for learning: inclusion, attitude, meaning and competence. In their later work, Wlodkowski and Ginsberg (2010) suggest various strategies that instructors can utilise to put these four motivational conditions into action. This paper mainly focuses on strategies that can be employed to enhance the meaning of student learning experiences.

For learning to be meaningful, students first of all need to be interested and involved in the learning process (Wlodkowski & Ginsberg, 2010, p. 100). According to Brophy (2010, p. 208) students are motivated to learn if they “find learning activities meaningful and worthwhile and... try to get the intended benefits from them”. Kuh (2008) coined a number of high-impact practices that are likely to encourage student behaviours that could enhance the meaning of learning. These high-impact practices have common characteristics related to the amount of time spent on a task; the presence of student-student and student-instructor interaction regarding important matters; the level of contact with individuals from diverse groups; and the frequency of feedback on performance (Evans *et al.*, 2015, p. 11). Evans *et al.* (2015, p. 9) also highlight the importance of involving students as partners in determining what constitutes meaningful and quality learning experiences in a specific learning context and how it can best be provided.

Students as partners

Meaningful learning experiences can be enhanced when students are involved as partners in the learning process. Healey, Flint, and Harrington (2014) define this partnership as a collaboration between instructors and students “to foster engaged student learning and engaging learning and teaching enhancement” (p. 7). In order to collectively benefit from learning and working together this type of partnership should be a relationship where all participants “contribute equally, although not necessarily in the same ways” (Cook-Sather, Bovill, & Felten, 2014, p. 7). Healey *et al.* (2014, p. 7) regard “engagement through partnership” as an effective approach to student engagement that has the potential to promote more authentic engagement and educationally meaningful learning experiences for all involved. In an attempt to identify key elements of effective educational practices that are relevant to 21st century learning environments, Evans *et al.* (2015, pp. 36–37) list five themes that each contain references to some elements of student-instructor partnerships. They call for appropriate research-informed pedagogies that:

- consider the specific learning needs of students;
- are relevant to student beliefs and values;
- are sensitive to the learner context;
- encourage dialogue between students and instructors regarding pedagogical decisions; and
- support student autonomy.

Partnership should therefore be regarded as a “process of engagement, not a product” (Healey *et al.*, 2014, p. 7). Students and instructors need to work together to establish what constitutes meaningful and quality learning experiences in a specific context (Healey *et al.*, 2014, p. 20) and how this knowledge can best be applied in creating a flexible, technology-enhanced pedagogy (Evans *et al.*, 2015, p. 9). As part of their conceptual model, Healey *et al.* (2014, pp. 7–8) outline four broad teaching and learning areas in which students can act as partners: learning, teaching and assessment; subject-based research and inquiry; Scholarship of Teaching and Learning; and curriculum design and pedagogic consultancy. A successful partnership would therefore require actions such as involving students in discipline related research projects, recognising students as partners in pedagogical inquiry, considering students’ teaching and learning experiences and/or

ways in which they can help improve the curriculum and provide pedagogic advice (Healey *et al.*, 2014, p. 9).

In the age of massified higher education, such actions represent a dramatic shift away from the “student as consumer” perspective, as well as the traditional “sage-on-the-stage” model (Cook-Sather *et al.*, 2014, p. 7). For a partnership to be effective, all participants need to think differently about teaching and learning as a whole. In moving towards a partnership model, Cook-Sather *et al.* (2014, p. 18) suggest “start[ing] small by asking for student input on parts your course... and giv[ing] them a chance to see what happens and how it feels when they [the students] have that voice”. Student voice—as one of the key elements of partnership (Bryson, 2014b)—refers to “a range of activities that encourage reflection, discussion, dialogue and action on matters that primarily concern students”, as well as the wider educational context and community (Fielding, 2004, p. 199). Through the incorporation of student voice, instructors have an opportunity to “reposition the way that students can contribute to teaching and learning through including and valuing their perspectives and experiences and by students taking a more active role and leading activities in relationship with staff” (Jensen & Bennett, 2016, p. 42).

In consideration of the different ways in which student voice can be incorporated into a partnership model, Fielding (2011, p. 67) identifies six patterns (or levels) of partnership. These patterns provide a valuable typology for the classification of different types of interaction between students and instructors in educational partnership contexts. On the lowest level, students act merely as data sources—providing instructors with “passive” data about their “progress and well-being” (p. 68). This basic level of involvement corresponds to a large extent with the “student as consumer” perspective from which partnership advocates are trying to move away (Cook-Sather *et al.*, 2014, p. 7; Dunne & Zandstra, 2011, p. 4). Fielding (2011, p. 65), however, advocates for an underlying “democratic fellowship” approach driven by “personal development” (of both students and instructors) and a “shared responsibility for a better future.” On the students as data sources level, Fielding (2011, p. 69) advocates for a commitment from the instructor to move “beyond test data” and consider her own, as well as the lived experiences of her students (in formal and informal contexts) when making decisions regarding the improvement of educational practices. On the second level of Fielding’s model, students act as active respondents—participating in dialogue and discussions to help their instructors “deepen their approach to student learning and enhance the professional decisions they make” (Fielding, 2011, p. 69). This approach provides students with formal opportunities to discuss their own learning experiences and actively engage in the enhancement of teaching and learning in their learning environments. On this level, the fellowship dimension calls for the use of students’ personal knowledge and other “rich” artefacts or narratives (such as online discussion postings and video recordings) as a trigger for transformative discussions (Fielding, 2011, pp. 69–70). The third level is characterised by a greater degree of partnership as students become co-enquirers who are actively engaged in dialogue, discussions and formal evaluations aimed at deepening “learning/professional decisions” (Fielding, 2011, p. 67). Further progression through Fielding’s levels of partnership allows for even more student involvement with students taking on the role of knowledge creators with support from their instructors (level 4) or becoming joint authors with their instructors (level 5). Fielding’s typology extends partnership up to the sixth lived democracy level where there is “a shared... responsibility for the common good” together with “an equal sharing of power and responsibility” between students and their instructor(s) (Fielding, 2011, p. 72). Throughout all of Fielding’s levels, the key to successful partnership remains the presence of dignity, respect and care, as well as “its transformative effect on the lived experiences” of all stakeholders (Fielding, 2011, p. 68). Despite the many problems and challenges associated with the implementation of a partnership model, Bryson (2014b) regards partnership as “the most fruitful” and “practical” way forward for the enhancement of student engagement.

An engaged scholarship approach

Despite the various viewpoints regarding student engagement, two elements remain central (Bryson, 2014a):

- The opportunities created for students to participate in educationally meaningful activities (“engaging students”) and;
- The manner in which students participate in these activities (“students engaging”)—their lived experiences.

In devising these “engaging” learning opportunities, instructors need to ensure that students are **not only actively involved, but also motivated to learn** (Barkley, 2010, p. 38). By heightening students’ interest and consciously involving them in pedagogical decisions, their learning experiences are likely to become more meaningful (Wlodkowski & Ginsberg, 2010). But the true “meaningfulness” and quality of students’ lived experiences (and how it can best be provided) can only come to light when instructors are prepared to look beyond the **“students as consumers” perspective towards a partnership model** (Evans *et al.*, 2015, p. 9). A student-instructor partnership approach has the potential to promote **more authentic engagement and educationally** meaningful learning experiences for all involved (Healey *et al.*, 2014, p. 7). The level (or pattern) of an educational partnership is determined by the various forms of interaction taking place between students and their instructor(s) (Fielding, 2011, p. 67). Partnerships that are (1) driven by the lived experiences and “personal development” of all stakeholders; (2) grounded in the human needs of mutual dignity, respect and care; and (3) focus on a “shared responsibility for a better future” (Fielding, 2011, p. 65, 68) could become the cornerstone of 21st century scholarly enquiries aimed at “engaged” pedagogical transformations.

Methodology

Action inquiry/research, as an established *reflection on action* approach, is a natural way of acting, learning and researching at the same time (Dick, 2002). In the view of Hubball and Burt (2003) action research methodologies and the variety of data collection sources provide distinctive opportunities to integrate research into university teaching and learning. In addition, they provide effective strategies to develop learning communities that cross traditional boundaries between educators and students whilst enhancing professional development and pedagogy in multidisciplinary settings. The action inquiry model used in this study comprises the four stages of *plan, act, observe* and *reflect* as proposed by Kemmis and McTaggart (1988), and is often portrayed diagrammatically as a spiral of cycles. This ongoing action inquiry was initiated in 2003 with the re-planning of each new cycle as a direct outflow of the findings from the previous cycle. The experiences discussed as part of this paper mostly relate to the implementation of a flipped classroom project that commenced in 2012.

The research design in this ongoing study resembles the *engaged scholarship* approach—described by Zuber-Skerrit *et al.* (2015, p. 4) as a participatory form of action research, which is regarded as “a philosophy, a methodology, a theory of learning and a facilitation process” (p. 11). All stakeholders collaborate in thorough, systematic inquiries to create knowledge “that is more insightful, penetrating and transformative than when researchers work on their own” (p. 4). The ultimate aim of engaged scholarship is to improve learning, teaching and research through the involvement of numerous stakeholders and to add to the existing body of scholarly knowledge (Zuber-Skerrit *et al.*, 2015, p. 4).

The target population consisted of undergraduate students in the Department of Computer Science and Informatics at a South African university. The purposeful, yet comprehensive sample consisted of all students enrolled for the “Introduction to the Internet and web page development” (CSIS1664) semester course from 2003 to 2015. The number of students involved in each

research cycle fluctuated between a maximum of 160 (in 2003) and a minimum of 44 (in 2007), with an average number of 89 students involved in each of the completed cycles.

In line with the requirements of a participatory form of action inquiry, the data collection methods employed were mainly qualitative (Zuber-Skerrit *et al.*, 2015, p. 14). In this way, a better understanding of students' actions, feelings, thoughts, and emotions could be developed. Most of the information was gathered by means of online feedback from the students, either as part of discussions, as messages received or as feedback on specific open-ended surveys undertaken. Other data sources included minute papers, focus group interviews and classroom discussions. The researcher (who was the lecturer responsible for presenting this course) also kept a detailed research diary from the start of the project.

The flipped classroom project

Towards the end of 2011, I noticed a sudden (renewed) interest in academically-oriented newspaper articles and online blogs about the Flipped Classroom concept [as popularised by Jon Bergmann and Aaron Sams (2012)]. As more and more academics jumped on the flipped classroom bandwagon, concerns were raised about the concept, and whether the approach was truly beneficial to student learning or just a revival of the “boring” lecture in a digital form. Student reflections collected as part of the 2010 end-of-semester course evaluations, revealed a number of shortcomings in the current technology-enhanced learning approach—especially with regard to the format of the face-to-face contact sessions and the amount of content that had to be covered in a very short time:

“Theory classes, where the lecturer does most of the work and we are watching does not give us courage” (Student 1).

“The classes was nice but we should get more opportunities to do practical exercises in class” (Student 27).

“Class time too short for all the many concepts that needs to be covered” (Student 45).

On reflection, I recorded the following four questions in my research diary:

1. What are the actual important information and activities that my students must know/be able to do?
2. How can my students engage more actively in disciplinary knowledge practices?
3. How can I help my students to get there?
4. How can digital technology integration be improved to provide better support for the pedagogical objectives of this course?

Given the potential benefits of flipped classrooms (Bergmann & Sams, 2012), I decided to pilot this approach in 2012. During the planning phase I pre-recorded a series of short lecture videos and made these available to students on the institutional learning management system (LMS). Students were requested to watch these preparation videos before coming to each class session. I was hoping that moving the “boring” lectures out of the classroom would provide more time to engage students in appropriate learning activities (both individual and collaborative) during contact sessions.

The engaged scholarship approach (Zuber-Skerrit *et al.*, 2015) necessitated the involvement of my students in dialogue on my pedagogical decision to move towards a flipped classroom approach. In line with Wlodkowski and Ginsberg's (2010) engagement strategies for the creation of meaningful learning experiences, I provided all my students with frequent response opportunities to become active participants/collaborators in their learning experiences by “answering questions, giving options, demonstrating skills and reacting to feedback” (Wlodkowski & Ginsberg, 2010, p. 102). Throughout this project I have realised the value of mid-semester

feedback from students. This particular type of feedback has allowed me to gather information from students relating to recent experiences and make immediate changes where necessary to further improve the students' learning experiences. Mid-semester response opportunities can be facilitated in both face-to-face settings (via minute papers or class discussions) and online environments (via online discussions or personal electronic messages). I found feedback from minute papers (Angelo & Cross, 1993, p. 148) in particular of great value to (1) elicit feedback from students regarding their experiences with the newly introduced flipped classroom approach, and (2) consequently make improvements to the overall flipped classroom experience.

After the first week of "flipping" (three classes), students were asked to share (in a minute paper distributed at the end of a class session) their first impressions of the flipped classroom approach. In general students described the approach to be "extraordinary," "helpful," "interesting," "effective," "exciting" or "different". Students commented on how the new approach forced them to "come to class prepared," allowed for "more active engagement in class activities," "improved understanding" and made it easier to "clarify misconceptions." One student expressed his complete dislike of the flipped classroom, while several others had concerns about the approach. Some students found it difficult to download the videos from home, because of a slow Internet connection, while others complained that they did not have enough time to watch the videos when made available only a day before class. Others were finding it difficult to get used to the new approach. Based on this feedback I adapted my preparation schedule to ensure that all videos were made available at least one week in advance—thus providing students with ample opportunity to schedule their viewing times. I also made a conscious effort to constantly encourage my students to watch the videos in preparation for each class.

After a further nine flipped classes students were asked to answer two questions as part of a minute paper:

- What can the instructor do to improve your flipped classroom experience?
- What can YOU do to improve your flipped classroom experience?

In their responses they urged me to:

- include more practical examples in the videos (with less focus on theoretical knowledge);
- make the practical examples discussed in the videos available on the LMS (so that they can practice by modifying and extending the examples);
- provide short exercises that they can complete after watching the videos (to help with retention);
- create an online discussion group (where students can post problems and questions); and
- give more class quizzes (to motivate students to come to class prepared).

The students also indicated that they could improve their own experiences by:

- watching the videos more often;
- attempting exercises after watching the videos;
- consulting the textbook more regularly (not just relying on the videos); and
- making notes while watching the videos.

Based on the feedback from the second response opportunity a revised "flipped" approach was adopted for the remainder of the semester. In an attempt to improve retention, students were provided with additional practice opportunities after they had watched the preparation videos. Each face-to-face session started with a quick recap of the work discussed in the videos—focusing on difficult concepts and answering student questions. While students worked on the collaborative class activities, I would move between the groups, quietly observing the students and providing comments or assistance where needed to prevent students from feeling isolated (Wlodkowski &

Ginsberg, 2010, p. 103). Whenever common areas of confusion became apparent, I temporarily halted the activity to either re-explain a difficult concept or provide advice to students on how to proceed with the activity. After class, students were given opportunities to demonstrate what they had learnt by completing individual practical assignments. An online discussion forum (created on the LMS course site) provided students with a platform where they could ask additional questions (outside of class) about problems they were experiencing while working on the practical assignments. Interestingly enough, students also started to respond to each other's online questions.

As part of reflecting on their entire flipped classroom experience, 63 of the 76 students (82.9%) completed an end-of-semester online survey. In general, they indicated that:

- Videos are more effective for content delivery than the textbook (85.8% agreement).
- Videos make it easier to participate in class activities (84.1% agreement).
- Discussions with group members (as part of collaborative class activities) helped to improve their understanding of the work discussed (82.2% agreement).
- Moving the "lecture" outside of class was beneficial to their learning experience (85.5% agreement).

The students also provided interesting insights with regard to how their preparation, and thus their learning habits and approaches, had changed during the course of the semester consequently enhancing the meaning of their learning experiences. Some "started making notes" while watching the videos whilst others adopted a similar "preparation approach" for their other courses. Since they wanted to be "more prepared and active in class" they "watched more videos," "practiced the video examples" and "prepared lists of questions and doubts" before coming to class.

As part of the end-of-semester survey, the students also provided valuable suggestions for further improvement of the CSIS1664 flipped classroom approach.

Reflection and discussion

In an attempt to engage my students in more meaningful technology-enhanced learning experiences I implemented a flipped classroom approach in the CSIS1664 course. As part of the engaged scholarship approach (Zuber-Skerrit *et al.*, 2015) followed in this study, I incorporated response opportunity strategies (Wlodkowski & Ginsberg, 2010, p. 102) to encourage dialogue between myself and my students regarding my pedagogical decisions. Students were provided with ample opportunities to be "active respondents" (Fielding, 2011, p. 67) through the sharing of their lived experiences in a flipped classroom. I listened to my students and acknowledged the validity of their individual experiences, needs, values and judgments (Wlodkowski & Ginsberg, 2010, pp. 134–135). Changing the ways in which students were engaging ("students engaging") enabled me to make various adaptations to the initial flipped classroom approach and the way in which I was "engaging [my] students" (Bryson, 2014a). Students become more motivated to come to class prepared so that they could actively participate in classroom activities. With regard to the development of intrinsic motivation [as an essential element of student engagement (Barkley, 2010)], the response opportunities and consequent pedagogical adaptations not only assisted in enhancing the meaning of students' learning experiences, but it also supported the remainder of Wlodkowski and Ginsberg's (1995) motivational conditions. By caring about and showing respect for my students' individual experiences and perceptions (Bryson, 2014a; Fielding, 2011, p. 68) I was able to establish an inclusive learning environment where students felt connected to their peers, the instructor and the course (Wlodkowski & Ginsberg, 2010, p. 20). In addition, the approach helped to develop positive attitudes toward learning (Wlodkowski & Ginsberg, 2010, p. 21) by increasing the personal relevance of the learning experience (through the collaboration

process) and giving students access to the learning tools and materials they felt best supported their personal learning needs. And lastly, by gaining insights on the effectiveness and authenticity of my students' learning experiences I was able to present them with a pedagogical approach that engendered competence (Wlodkowski & Ginsberg, 2010, p. 24).

In reference to Fielding's (2011, p. 67) patterns of partnership, there is ample evidence that the collaboration process described here signifies a move beyond *students as data sources* towards the *students as active respondents* pattern/level. Through my own desire to learn more about my students learning experiences, my students became active "discussants rather than recipients of current approaches" (Fielding, 2011, p. 69). In this collaboration process students were not only involved as active participants in their own learning, but they were also provided with opportunities to act as "teachers" and "assessors" themselves (Healey *et al.*, 2014, p. 8). Peer teaching was facilitated through the assistance students provided to their peers during collaborative classroom activities as well as the valuable and insightful responses they provided to questions posted on the online discussion forum. Students also had opportunities to "assess" their own work as well as those of their peers through classroom activities that required them to compare their homework answers with those of their fellow group members. Most significantly the students were directly engaged in critical reflection on existing teaching and learning practices. They were provided with opportunities to share their experiences and make suggestions for future improvement of pedagogical practices (Healey *et al.*, 2014, p. 9). Through a process that can be described as student-instructor collaboration, I was able to develop a relevant, context-sensitive and flexible research-informed pedagogy (Evans *et al.*, 2015, pp. 36–37) that provided my students with meaningful and engaged technology-enhanced learning experiences.

Although I always regarded my students as co-research partners in a scholarly pedagogical inquiry, the students themselves were not explicitly made aware of their role in this regard. Therefore, the level of student-instructor partnership described here has not yet fully moved over to Fielding's (2011, p. 70) third level—*students as co-enquirers*. What is, however, evident is the role that student voice played in enhancing the quality of learning through consideration of students' own teaching and learning experiences (Healey *et al.*, 2014, p. 9). There was also a considerable level of collaboration between myself and the students in making decisions about the process and outcome (the transformed pedagogy).

Conclusion

Although this discussion only focusses on one particular attempt at pedagogical enhancement, there are numerous other examples from this particular action inquiry where I employed similar strategies to involve my students as collaborators in my pedagogical transformation process. In comparing my current (2016) pedagogical approaches to those employed before the start of this project (2003), a definite teacher-centred to student-centred shift is noticeable. My basic pedagogy evolved from a traditional lecture-based approach to an engaged approach that relies heavily on flipped classroom principles and the innovative integration of digital technologies to provide my students with meaningful and engaged technology-enhanced learning experiences. My students have access to an optimally structured online learning environment (on the institutional LMS) where they can easily access the information they require in a format most suited to their way of learning. During class sessions they now use iPad devices to participate in carefully selected collaborative learning activities aimed at fostering deep learning and maximising their level of engagement. They are provided with opportunities to work on subject-related projects that allow for the sharing of their own experiences and perspectives. They also receive feedback on their learning activities in a format that best supports their learning improvement attempts. The specific strategies employed also helped to promote student success with throughput rates gradually improving from 51.2% in 2003 to 86.27% in 2015.

The true educational benefits of a partnership process can only be achieved if instructors realise the value that student voice can add to their pedagogical transformations and accept the validity of their students' views and experiences. Such a partnership process will, however, not happen automatically. In moving forward, there needs to be more deliberate efforts to "design for partnership" as an underlying pedagogy that moves beyond the lowest level of partnership where students are merely used as data sources. This design should outline specific strategies to: (1) create awareness and make the partnership process visible to students; (2) motivate students to become engaged partners in the learning process who take collective responsibility for the aims of the partnership (HEA, 2014); and (3) involve students as true collaborators and co-enquirers/knowledge creators/joint authors (Fielding, 2011, p. 67) who can make suggestions and co-facilitate the implementation of new ideas (Williamson, 2013, p. 8). Such a participatory model can be a strong launching pad for the idea of engaged scholarship where students and instructors work collaboratively—in an intentional, systematic, well documented and ongoing way—to establish what constitutes meaningful and quality learning experiences (Healey *et al.*, 2014, p. 20), and how digital technologies can be integrated to best support teaching and learning in a specific context. The ultimate goal should be to work towards technologically enhanced pedagogical designs that have strong theoretical foundations and engage students as true partners in the learning process. For the successful instructor in the 21st century this engaged scholarship approach should be considered more than a methodology, learning theory or facilitation process—it should become "a way of life."

Statements on ethics and conflict of interest

At the start of each action inquiry cycle students completed the relevant consent forms giving the researcher permission to use their feedback for research purposes.

Ethical clearance for this project was also granted by the Ethics Committee of the Faculty of Natural and Agricultural Sciences at the University of the Free State (Tracking number: UFS-HSD2015/0119).

To the knowledge of the author, the information and experiences portrayed in this paper do not present any conflict of interest.

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