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Carol A. Miles
University of Newcastle

Keith Foggett
University of Newcastle

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Supporting Our Students to Achieve Academic Success in the Unfamiliar World of Flipped and Blended Classrooms

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Carol A. Miles and Keith Foggett
University of Newcastle, Australia

Introduction

The past few years have seen a rapid increase in the integration of flipped and blended modes of learning in the Australian university classroom. In this move to new teaching strategies, universities are spending a great deal of time focusing on redesigning courses and upskilling academics to assist in the adoption of these new methods of instruction (Porter et al. 2014). In contrast, an intensive review of the literature reveals that far less time is being allocated to determining the needs of students (the primary stakeholders) and their role in this process, and to meeting their requirements to become effective learners and partners in this changed learning environment.

Flipped and blended learning incorporates both online and face-to-face interaction (Garrison & Vaughan 2011; Keppell, Suddaby & Hard 2011). In a flipped learning model, students often engage with the content prior to attending a face-to-face class where student-centred active-learning experiences are prioritised. Direct instruction is moved from group to individual learning spaces (Butt 2014) (Hermanns, Post & Deal 2015). This changing nature of delivery has created the need for students to adopt study patterns that incorporate learning outside the classroom. Students frequently view this as having to “teach themselves”, and as not receiving the instruction they were expecting (Means et al. 2013).

Flipped delivery assumes that the student has achieved general content knowledge (commonly through viewing video clips or engaging with other online resources) prior to the completion of engaged, authentic tasks in class. The quality of the online resources is an issue, and in many cases is less than optimal. Students are often expected to learn for themselves from materials that do not replicate the same interactive quality or format as the existing lecture model (Gosper, Malfroy & McKenzie 2013).

There is a definitive shift from students as consumers of content to creators of their own knowledge through a move to deeper and more engaged learning approaches (Johnson, Adams, Becker & Hall 2015; Daniels & Moore 2000). These developments, especially the reduction in face-to-face teaching hours, place a greater demand on students as curators of their own learning and assign them greater responsibility for maintaining sufficient and effective involvement in their courses. Students will no longer have a timetable of contact hours that directs their mastery of core course content, and for the first time they have the responsibility and the opportunity to determine their own approaches to learning and understanding content and concepts. While this may appear to be a positive development, it must be acknowledged that students are being required to do this with little consideration for the impact the changes will have on their workload and their approaches to learning. Their voice can be an important part of determining the shape of these flipped and blended offerings.

For centuries, universities have been responsible for ensuring that students received instruction that facilitated the development of their knowledge to achieve stated learning outcomes (Johnson, Adams, Becker & Hall 2015). This has traditionally taken the form of lectures delivered by content experts, with the achievement of the outcomes demonstrated through assessment items of

various forms. This model of delivery is what students have grown to expect from a university, and is the model familiar to anyone who has attended a university or similar institution. With the flipped model, this responsibility is now, to a large extent, being transferred to the students. Content knowledge is often gained from media-rich learning objects that are developed for individual consumption prior to attending classes. The emphasis in class is on gaining deeper understanding of the subject matter through active and engaged activities that explore the content. This model of learning is fundamentally different from that which universities have previously offered. Students' parents, older siblings, or other adults in their lives have not experienced this learning model, which means there are few people who are able to mentor them on how to be a successful student in these new modes. This renders most students of flipped or blended learning as a new breed of "first-in-family" – a cohort that has been previously acknowledged by all universities as requiring special support (Luzeckyj et al. 2011).

Across Australia, universities are developing blended-learning experiences and designing corresponding learning spaces that increasingly take better advantage of the growing number of educational technologies available (Johnson, Adams, Becker & Hall 2015; Russell, Malfroy, Gosper & McKenzie 2014). These developments challenge the relevance of the traditional lecture format as the most effective model, and, in fact, represent the potential for a renaissance of teaching and learning methods in the university setting. Adopting these approaches will necessitate fundamental changes to how most courses are designed and delivered, as the traditional course model is a poor fit for the flipped or blended environment.

The common method for course redesign and developing blended learning experiences has been a partnership between academics and instructional designers in the development of materials that are better suited to the blended-delivery model (Hermanns, Post & Deal 2015). These resources will often include the development of video or other audio-visual stimulus materials for students to use as self-access resources through which they engage with course content. This design methodology has a two-level team approach, with the academics as the subject-matter experts providing the content material and the instructional designers assisting in the development of active-learning objects that engage students and facilitate their construction of their own knowledge.

A comprehensive literature review has yielded few results directly related to the requirements of, and support for, students in the blended classroom. Little has been written about engaging the student as a vital partner in the course-design process. Some studies indicate that students need to quickly learn to manage their obligations and master new concepts and skills (Fyfe et al. 2014), and that they may require coaching in how to manage their learning (Scott 2009), but little is available to support how this will happen. In the *Good Practice Report: Blended Learning*, Partridge, Ponting and McCay (2011) make recommendations that will affect universities and teaching staff, and do mention the need for students to change their learning approaches, but they have not investigated how universities can support students in this endeavour. A number of previous Australian Government Office for Learning and Teaching projects have focused on blended learning, albeit with little, if any, advice for how to support students¹.

¹ Embedding peer review of learning and teaching in e-learning and blended learning environments (McKenzie 2010), Blended Synchronous Learning (Bower, Kenney, Kennedy, Dalgarno, Lee & Phillips 2014), The Medici Project (Palmer, Devitt, Chur-Hansen, Crabb & de Young 2012),

Perceptions of students and staff

To enable the changes to flipped and blended learning, universities are directing considerable resources toward course redesign and the professional development of academics to design and administer these courses successfully. In recent years, there has been considerable investment in technical and pedagogical support as well as professional development for academics developing and delivering blended courses at most institutions (Porter et al. 2014).

Much of the effort currently directed toward “flipping” classes appears to be based on an assumption that students will naturally be drawn to this form of learning. This has resulted in universities’ competing in the race to develop virtual and physical learning spaces that will facilitate the changes in pedagogy expected to assure student success – specifically engaged, and often group, activities (Bower et al. 2015). Because most of these new methods involve some form of learning technologies, there is an underlying belief that students will easily embrace the changes in study and learning approaches. This has not been the case to date (Dalstrom & Bischel 2014), with students preferring and expecting more-traditional methods of course delivery. The increasing use of learning technologies will require students to radically change their methods of organising their study and general life as a student.

There seems to be an assumption that students will easily embrace the new methodologies that are integral to blended-learning approaches. Universities have made this assumption based on the belief that students are skilled in (and enticed by) all things relating to technology – but this may not be true (Gosper, Malfroy & McKenzie 2013). A review of the literature has revealed a paucity of research relating to the needs of on-campus students attempting to succeed in blended and flipped environments (Porter et al. 2014; Torrisi-Steele & Drew 2013). It appears that there needs to be a comprehensive inventory of all programming and a gap analysis conducted at all Australian universities that is specifically intended to address the unique needs of students confronted with altering their well-established methods of study and learning for the first time.

Universities have also made the assumption that students possess sufficient organisational and study skills to cope easily with these changes in learning approaches (Oh & Lim 2005). Students enrolling in what they assume are “traditional” university programs will not expect extensive use of educational technologies or self-directed learning (Calderon, Ginsberg & Ciabocchi 2015). The increasing use of purposeful video or other activities designed to engage the student in the independent mastery of content is an essential part of the “flip”. Most students are not aware that they will need to develop a whole new skill set that allows them to be effective learners when exposed to these changes in pedagogy. The major change they will need to adopt is an imperative to independently manage their own learning processes and construct their own knowledge (Oh & Lim 2005).

Curriculum Renewal for Evidence-based Practice: Implementing a Blended Learning Approach in Medicine (Ilic 2014), Flipped learning: lessons learnt and good practice for large first year health sciences classes (Fyfe 2014), Using Cost-Effective Multimedia to Create Engaging Learning Experiences in Law and Other Disciplines (Butler 2011).

Universities are telling students that this is the best delivery method for their learning, when in truth, we are all in our infancy in this new blended world (Baird & Dupin-Bryant 2014). It is important to distinguish between students faced with studying in a blended environment (which includes face-to-face learning) and those who have intentionally chosen to study online. Students enrolling in fully online courses would be expected to have some knowledge that their mode of study would be different to any previous face-to-face experience. Online course information often indicates the need to study independently using various technologies, and outlines the nature of the course materials provided (Hughes 2007).

Students who have enrolled in university courses expecting the traditional experience are confronted at the outset with a model that is not only unfamiliar, but generally unpalatable. They often begin their studies assuming that they will be getting a traditional university education based on live lectures, not dissimilar to their high school or other previous educational experiences and expectations. They have been well prepared and warned by parents and others (especially high-school teachers) regarding what will be necessary to succeed in this type of university study. Sadly, these strategies won't always work, as students are expected to take a more active role in constructing their own learning. This can result in student dissonance and dissatisfaction regarding the "flip" in teaching strategies, especially if they had no expectation that university study would take this form.

The expectation that students will master content through online engagement or viewing videos prior to attending classes (Murphy & Stewart 2015) may, for many, look no different to the common traditional expectation that they read the chapter prior to the lecture – which many students assume is unnecessary, as they expect (and even demand) that the content be taught during the lecture (Butt 2014). This shift in study requirements will be easier for some students than others and a variety of learning objects and activities will be needed to address varying learning styles.

The delivery of curricula designed in blended or flipped modes is generally posited to increase student engagement; however, little is known about whether this is leading to discernible gains (Means et al. 2013). As these blended-delivery models become increasingly popular, universities are providing a plethora of programs to support academics in this style of teaching and course design, as well as a broad variety of incentives and programming to assure that teaching academics are redesigning their courses, as well as their teaching methods. Despite these efforts, one of the most challenging things for students is the skill deficit of many of their university teachers, many of whom are using these strategies and technologies as learners themselves, and are being compelled to change their teaching methods through university policy and strategy, and not necessarily through their own choice (Llamas 2014).

Student feedback

Students can provide meaningful and valuable insights into the curriculum-design process as well as personal insight into courses they have recently completed. Their critical perceptions can lead to improvements that may not have otherwise been considered, and their input can be far greater than the standard feedback that is currently sought. Feedback is often collected but seldom used as a catalyst for change.

At universities throughout Australia, an increasing number of courses are being developed for delivery in flipped and blended modes. Some of these courses have been trialled and been in place

for a number of years, with student feedback an integral part of the trial process. In 2014, a faculty at a large Australian university began a concentrated initiative to convert all first-year courses (in the first instance) for delivery in a flipped or blended mode. A recent review of the feedback received for these initial courses provided a number of insights and directions for curriculum change.

Comments from students were received for several areas relating to course satisfaction and organisation through the university's formal student-feedback process. Many of the comments related to the quality of teaching and this impact cannot be dismissed when considering the effectiveness of course delivery. Other comments were more perceptive regarding the organisation of the course and mode of delivery, and may provide general insight into course improvement.

Feedback from the students was mixed, with many saying that they would prefer the traditional lecture mode, and others indicating that they enjoyed the added engagement in the classroom. Other opinions fell within these two extremes, but the general feedback was that students had not expected to "learn the material themselves" when they enrolled. The courses in this case were new, and developed by academics who were inexperienced with teaching in these modes, and this may well have had an impact on student perception. No targeted student support was directed specifically toward these courses, but academics were given assistance with course design and development. Student comments suggested that third-year students were more comfortable than first-year students with engaging in activities that allowed them to construct their own learning. This was concluded to be primarily due to third-year students' acquired abilities to independently engage with learning materials and construct learning through their previous experience of university study. It should also be noted that the course coordinator of the third-year blended course flipped the course voluntarily, as opposed to those coordinators compelled to flip their courses under policy.

Some examples of comments concerning the flipped model included statements such as:

The flipped classroom was effectively explained and implemented in this course (more so than in any of the other flipped learning classes) in order to increase understanding through constant reinforcement.

The course was the only course that made the flipped classroom layout organised and engaging. The teachers went over what had to be done online, instead of leaving it up to the students to learn everything.

The structure of the course was effective and motivated the students to complete all homework, preparation, study and assessments.

These insights provide useful feedback that may explain the characteristics of blended courses students find effective. When they do not have knowledge that a course in which they have enrolled has blended activities, or what that entails, they may be immediately dissatisfied. This can be seen in comments such as:

Students would have appreciated a more direct email explaining what was required of them before the first week, as they were caught off guard by the "flipped" structure, [were] not prepared for class and felt a bit overwhelmed.

Approachable staff members are also essential for the model to work, especially because course contact hours are reduced in the flipped model. Students reported that they enjoyed engagement with the course and felt that the quality of education was “great (considering contact hours per week were restricted to 2 hours)”. Given that this reduction in contact hours is a reality when compared to the previous models of course delivery, the ability to contact staff was seen as necessary, and students who had this access saw it as very important. Comments expressed that students saw as extremely helpful teaching staff encouraging students to approach them whenever they were having any difficulties, and staff who ran numerous revision sessions to ensure students were comfortable with the content were valued. Congratulations were offered to teams who undertook the extensive work to deliver the course effectively in a flipped mode. These staff were also seen as always more than willing and happy to discuss any issues related to the new model of teaching.

This very limited sample of student feedback indicates the need for a broader study of the satisfaction these students perceive when placed in courses with alternative delivery, and the conditions that are required to support both their satisfaction and success. The two issues identified here – informing students of the mode of delivery ahead of time (perhaps even before they enrol in the course), and having constant engagement of teaching staff (course coordinators, lecturers, tutors) – require further investigation.

A framework for the successful design and delivery of blended courses

The design and delivery of flipped and blended classes involve three essential partners: the academics teaching the course (and their teaching teams, including tutors and lecturers), the students taking the course and the instructional designers creating the learning objects for the course and often assisting with course assessment, structure and design. Any framework targeted at designing and delivering a successful blended course must include all three groups. There are two distinctive phases in the design and delivery of a blended course: the preparation of the three groups, and the integration of essential input from all three. Given the importance of both academics and instructional designers to the success of these courses regarding student learning, and the integral role that students play in the cycle, it would be expected that all academics and designers would receive substantial professional development and that customised learning development activities would be offered to students.

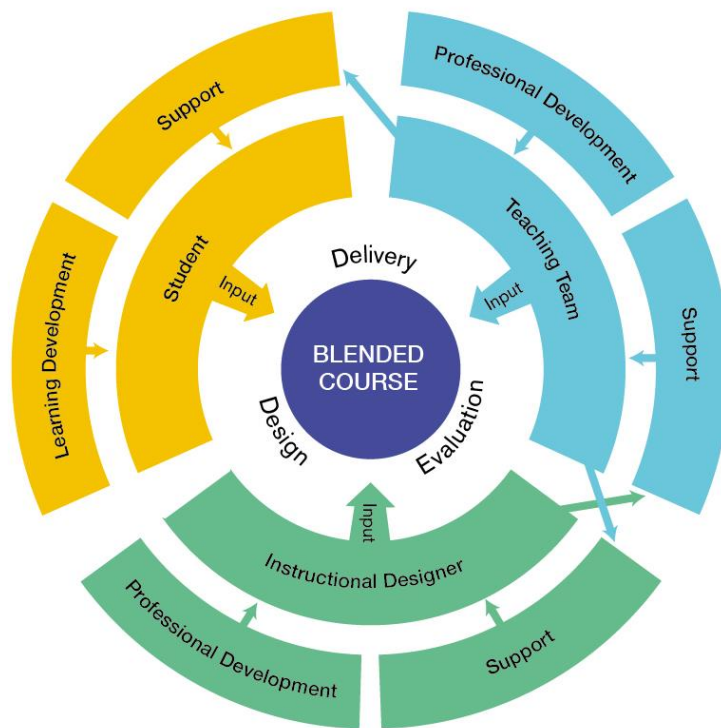
This blended-learning model (Figure 1) was developed as the result of the examination of student feedback, the authors’ professional experience and an extensive review of the literature. The significance of this model is in the identification of three distinctive stakeholders involved in the flipped/blended course design and delivery cycle. The model suggests that three essential inputs are required before and during the design, delivery and evaluation of a flipped or blended course: from the academics teaching the course, from the students taking the course and from the instructional designers enabling the course.

Achieving success in blended-learning courses would also require intensive support for the three stakeholder groups (Figure 1). Academics need continuing and comprehensive support and guidance in the development of courses in the blended and online learning mode as well as in the associated pedagogical theory. Instructional designers require constant upskilling relating to the rapidly-evolving suite of tools at their disposal as well as sound pedagogical knowledge. Students

need substantial and formal training relating to how their behaviours will help them succeed (or not) as well as specific professional development in the use of technologies and other study skills.

Figure 1. Model for inclusive blended course design, delivery and evaluation

Model for Inclusive Blended Course Design, Delivery and Evaluation



This model and the framework (Table 1) do not propose new or radical concepts in the field of blended design, delivery and support. Rather, they aggregate what has been acknowledged as the challenges to course development and delivery in the flipped and blended mode and suggest a way forward that may assure student academic success. The framework suggests not only that academics and instructional designers have input into blended-course design, but that active and substantial student input is an essential element of the flip.

This is consistent with the findings of Deane and Stanley (2015, p. 11) who recommend that students and staff must work together as partners to create more effective curricula and a better general learning environment. They recommend that students and student leaders be given training so that their contributions go beyond that of an often uninformed token student

representative and passive consumer of knowledge, and that students be “co-producers and partners in knowledge generation and acquisition”. This philosophy of engaging students in the actual development of curriculum is described as well by Bovill, Cook-Sather and Felten (2011) and Bovill (2013, p. 462), who report that globally, academics are increasingly involving students in the development of their curriculum, course activities and engagement. This involves the practice of co-created curricula, where students are actively involved in curriculum development at the outset, and engaged along the way as the course is delivered.

Including students in the provision of input to curriculum design can take a number of forms, such as welcoming senior students on curriculum-development committees, asking for their direct input during the curriculum design and development process, requesting frequent and broad feedback from students engaged in a newly designed course while the course is underway, gathering traditional student feedback on teaching after the course has been delivered and surveying students both within programs and more generally regarding their learning requirements and resource and activity preferences (Bovill et al. 2015). Bovill (2013) describes these methods as engaging in true collaboration with students on general curriculum design, and it is argued that this partnership is even more critical for offering blended and flipped courses. A unique opportunity exists that will allow academics, instructional designers and students to learn together as they move forward in this fundamentally different form of university study.

The following framework, reflected in Figure 1, proposes six essential inputs to a successful flipped or blended course, and provides detail regarding the types of activities that might be appropriate:

Table 1. Framework for the inclusive design, delivery, and evaluation of blended courses.

Activity	Who?	What?	When?	Key Considerations
Professional development for academics	Course coordinators, teaching support (lecturers, tutors, professional staff)	Workshops in general blended-learning theory, individual consultation regarding course design, rich support in the conversion of courses from lecture-based to blended and training in available technologies.	As soon as they begin work at a university. When they are made responsible for designing a blended course. Throughout the design process. While delivering the course. Post-course evaluation.	It may be difficult to compel academics to modify their courses if they do not believe that the delivery mode is helpful.
Professional development for instructional designers	Instructional-design staff, media technologists, curriculum designers	Development in pedagogy, curriculum design, university teaching and learning, technological developments in the field. Detailed training on the use of a wide variety of technological tools.	Prior to work on blended courses. Ongoing.	Busy instructional designers may not take the time to explore and master emerging tools and should be supported to do so.
Learning support for students	All students engaged in study in flipped and blended modes of learning	Detailed information about course structure and requirements prior to enrolment. Orientation activities to clarify study requirements for blended courses. Detailed information about course structure and requirements at the beginning of a blended course. Targeted workshops and consultations regarding study skills for blended learning. Online modules to guide work in blended courses. Rich support from course coordinators regarding requirements during the course.	Prior to course selection. On beginning university study. As they begin a blended course and ongoing through the course. Throughout their study in a blended course.	Teaching teams must remain accessible and fully engaged throughout delivery of a blended course – more so than in a standard lecture course.
Input from academics	Program conveners, course coordinators, subject-matter experts from the School, lecturers, tutors	Insights on previous traditional offering of similar courses. Detailed learning outcomes. Learning module design. Assessment design.	When deciding which courses are most appropriate for blending. Throughout entire design and delivery process. Post-delivery evaluation.	It should be clarified that a flipped course cannot just be a standard lecture-based course without the lecture.

Activity	Who?	What?	When?	Key Considerations
Input from instructional designers	Instructional-design staff, media technologists, curriculum designers, academic developers	Inclusion in curriculum development teams. Lead role in learning object design during development. Consultation regarding course structure.	At the beginning of course design and throughout. Post-course evaluation.	Instructional designers with teaching experience and sound knowledge of pedagogy and current teaching methods make sound contributions to the team.
Input from students	Students having previously taken the course and PASS facilitators, and ongoing input from current students, student leaders and student association representatives	Inclusion of students in curriculum-development teams. Consultation with students who took the course prior to the flip. Consultation with students who have taken the blended course. Consultation with previous PASS facilitators. Frequent survey of student reactions to learning modes and objects, including assessments.	When determining which courses are appropriate for blending. When designing blended courses. When deciding which learning objects would be most effective. When assessing the effectiveness of blended courses as they are being delivered.	Students' input must NOT be restricted to formal or informal feedback on teaching. They must be more engaged in all phases of the blended-learning process.

When considering these six essential components of successful blended and flipped design, delivery and evaluation, it appears that those relating to input from, and development opportunities for, academics are well underway (Means et al. 2013; Porter 2014). This has been the primary focus of most universities as the shift in teaching strategies has evolved. Clearly, input from instructional designers has been available and increasing for some time, and this service is evolving in most universities as these staff members are becoming highly valued and sought for their technical and pedagogical skills. Professional development for instructional designers is critical to the model, as they need to be cognisant of the latest technologies, strategies and emerging pedagogies relating to delivering engaging online content. This framework would recommend that this is considered as primary to any successful model of flipped and blended course provision.

The two components of the framework that require the most development are those relating to collaboration with and support for students in the flipped and blended classroom (Bovill, Felten & Cook-Sather 2014). As discussed above, a primary consideration is that students are not surprised by the format of the courses that they are presented with, but are well-informed about the reality of how their courses will be structured as well as what will be expected of *them* to achieve success. This critical communication should be carried out in course and university marketing, and freely available so that students beginning course attendance are not surprised by the mode of delivery. Once enrolled, students should be provided with detailed information about course format and activities, and directed toward development activities to help them achieve success. Close and

continuous engagement of the teaching team with students throughout all stages of a blended course is critical to student success, and to students' beginning to master the different types of skills required for this type of learning.

Support for students learning in flipped and blended modes is perhaps the largest deficit in many universities with regard to the currently considered framework. A comprehensive literature review revealed very little study or reporting in this area. For the reasons described above, students will not necessarily approach their studies in these new models equipped with the requisite skills for success. This will require a comprehensive suite of supports beginning even before they enrol in these types of courses, and carrying through until they complete their final blended course. These support structures must be multi-faceted so that students learning under varying circumstances, and with different learning styles, are all supported.

Excellent skills in the effective use of basic university technologies is a minimal requirement. Organisation and self-discipline skills in study are an obvious necessity that are not highly developed in many students entering university for the first time (Fyfe et al. 2013; Oh & Lim 2005). Learning Development areas in universities need to develop broad and deep suites of support mechanisms that are offered over multiple modes (online, face-to-face and blended) to aid these students in fundamentally reconceptualising their approaches to study. Requiring students to contribute to the composition and content of these support mechanisms makes infinite sense, as they are the best positioned to identify gaps in their knowledge, particularly when asked directly.

Academics may be reticent to engage current students in active curriculum and learning-object design, as this has not been a widespread practice. It will be important for universities to encourage a general culture change that truly includes the student as a partner, and to overcome the inevitable resistance from more-traditional university teachers (Bovill et al. 2015, p. 4).

Conclusion

Universities are rapidly adopting flipped and blended instructional methods that are changing students' university experience, especially relating to content delivery, without actively and aggressively supporting the students through this change. What is expected of students has significantly changed, without sufficient warning and support mechanisms for this way of learning. To be effective in delivering quality learning opportunities, we need to evaluate the support that students are receiving and design structures that provide the necessary skills to be successful in this changing landscape. We need to consult widely, engage the students in this discussion and listen and respond to what they want and need.

Student engagement and satisfaction is a critical issue for both ensuring that students can maximise their opportunities to achieve their educational goals, and meeting broader public-policy objectives; they are also crucial for universities' very survival in their current and evolving forms. It is important that universities manage this impact and provide the right support for students. To accomplish this, Australasian universities must involve students in a meaningful way in all phases of course design and delivery, and begin offering the rigorous support they require as they embark on radically different learning pathways.

Students with different backgrounds, experiences, year of study, discipline, circumstances and learning styles will necessarily require different support mechanisms to take advantage of new approaches to teaching. We need to guide our students not only on how to use the technologies and learning resources available, but when and why specific tools would best assist them in achieving

academic success. Considerable research and student engagement is required to determine the optimal institutional and course-based supports needed for students embarking on a university journey that is significantly different to that which has previously existed.

Our students must be given guidance on how to use the technologies and learning resources available, as well how specific self-organisation and study methods can best assist them in achieving academic success. Their preconceptions of university study, gained from parents, siblings, teachers and others, will no longer assist them in university study. It is time to work carefully and closely with all students and listen to them regarding how they want to construct their learning. Our students must also be actively engaged in the development of blended curricula as key partners in redesigning course materials that will enhance their ability to achieve stated learning outcomes. Action research can determine the optimal institutional and course-based supports required for students embarking on this form of university study.

The model and framework included here recommends a structured approach to assuring that all voices are heard and integrated in the flipped and blended design and delivery cycle, and that all parties are supported to assure learning and teaching success in this mode. Adherence to this or a similar framework will assure that students' needs, learning requirements and feedback, as well as course coordinators' and learning designers', are soundly integrated into a successful strategy for the design or conversion of courses in flipped and blended modes.

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