

# **Admission and success for low SES university students**

**Report on a HEPPP 2018 National Priorities Pool Project**

**Editors: David Kember and Robert A. Ellis**

This report is in the format of an edited book. The whole report should be cited as:

Kember, D & Ellis, R. A. (Eds.) (2022). *Admission and success for low SES university students: Report on a HEPPP 2018 National Priorities Pool Project*. Canberra: Department of Education, Skills and Employment.

It will be more informative if citations refer to chapters within the report. For example, Chapter 1 can be cited as:

Kilpatrick, S. & Fischer, S. (2022). Literature review. In D. Kember & R. A. Ellis (Eds.). *Admission and success for low SES university students: Report on a HEPPP 2018 National Priorities Pool Project*. Canberra: Department of Education, Skills and Employment.

The final draft version of the report was submitted to DESE on 30/11/2020.

The Final Research Report was accepted by DESE on 26/2/2021.

The Final Research Report was approved for public release by the Acting Minister for Education and Youth, the Hon Stuart Robert MP on 25/1/2022.

© Copyright 2022. Copyright in the material in the report is held by the authors of the chapters.

## Chapter 13

### Conclusions and implications for practice and research

**David Kember and Robert A. Ellis**

#### **Introduction**

In the proposal, the aims for the project were formulated as follows.

The overall aim is to interpret the modelling and case studies to provide actionable knowledge to universities to better understand the combinations of difficulties faced by low SES students to enable the provision of suitable support services to facilitate the achievement of successful outcomes. This will lead to the development of actionable knowledge for governments, university leaders, discipline heads and program directors to boost the retention, success and completion rates of low SES students.

The function of this concluding chapter is to distil out from the overall project the actionable knowledge needed by universities to boost retention and success. We also intend to go beyond the provision of a body of knowledge to proposing approaches for effective support strategies and suggesting ways to implement them.

The importance of the project was underscored by the Productivity Commission report (2019 p. 2).

The growing risk of students dropping out of university requires attention. On average, the additional students need greater academic support to succeed. While universities had strong incentives to expand student numbers, the incentives for remedial support are weak.

This quotation also points to the key directions for the implications and guidelines drawn from this project. The Productivity Commission is essentially saying that universities have become very good at admission, but not so good at support. Universities have become good at opening the door to low SES students and expanding the intake, but it has been a revolving door. The key findings from the project are, therefore, those about providing forms of support which boost retention and success.

#### **Modelling retention and success**

It has long been recognised that retention and success is a complex multivariate phenomenon (Pascarella & Terenzini, 1980). Accordingly, for the quantitative part of the project, SEM was used. This sophisticated statistical technique is capable of testing hypothesised models, including multiple variables, which theory suggests are related to retention and success.

The multivariate models produced by this project will provide a framework for the analysis and evaluation of admission and support practices of Australian universities. Admission policies will be considered in terms of the need to take into account all relevant aspects of a student's background. Support schemes will be evaluated against their capacity to help students cope with multiple factors and issues. This analysis will result in practical recommendations for admission practices, and support services and practices, for low SES student retention and success.

The project has used SEM to analyse the models of four universities. Based on the data available in the participating universities' student records systems, the four universities represent well the

traditional to contemporary spectrum; with Melbourne close to the traditional end, Wollongong and Griffith in intermediate positions, and UTAS near the contemporary end.

As the data for the SEM analysis came from the universities' student record systems, the variables in the models were, therefore, restricted to those routinely recorded in the student record systems, or ones which could be readily derived from those which were. The hypothesised base model was a path model, which included five presage variables pertinent to student characteristics, including SES status, and study modes. The base model hypothesised paths through two intermediate variables, age and year of study, to three outcome measures, which were indicators of retention and success.

The final models for the four universities differed. Those for Melbourne and Wollongong omitted mode of study, as all undergraduates are enrolled as on-campus students. The further the universities had shifted across the traditional to contemporary spectrum, the greater the complexity of the models; the complexity manifest as extra paths and intercorrelations. The contemporary model of higher education is a more complex one; so the influences on retention and success are more complex.

All four models had fit indices which indicated that the models were a good fit to the data. This indicates that they are valid and reliable models. Retention and success are complex multivariate phenomena.

### **Success of low SES students**

The title of the project was 'Admission and success for low SES university students'. The aim related to this stated:

This project will advance the field, as it will lead to an understanding of the phenomenon of the outcomes of study by low SES students as a multivariate phenomenon. Actionable knowledge will be available to university communities, which will advance their understanding of the issues faced by low SES students and other disadvantaged groups.

The original main focus of the modelling was, therefore, on SES status. Other variables were included in the models because retention and success are multivariate phenomena. It is also known that low SES status can be associated with other factors such as: admission through alternative pathways; regional or rural status; mature age; part-time study; and, conflicting commitments from employment and carer responsibilities.

A surprising finding from the SEM analysis was how little SES status impacted upon the outcome variables. For all four universities the standardised coefficient for the path from SES to the intermediate variables is very small. For Wollongong and UTAS, it was the smallest coefficient for the presage variables. For Griffith and Melbourne, the path from remoteness was smaller, which is not surprising for universities in major cities. The intercorrelations between SES and other presage variables were also small; with many non-significant.

The SEM analysis is saying clearly that, of all the variables included in the model, SES has the least impact on retention and success. Low SES students perform just about as well as those in other status categories.

This finding might seem contrary to those of some other previous studies. The explanation lies in the limitation of using single variable statistics for complex multivariate problems. The SEM modelling takes account of the confounding influence of other variables in a very sophisticated way. Once the effect of other variables is properly taken into account, SES status has a limited impact on outcomes.

The conclusion that SES status has little effect on retention and success is both significant and encouraging. Low SES students are not predestined to perform more poorly than their better off colleagues. These findings should encourage universities to admit low SES students, to meet equity targets, as they perform just about as well as those in other SES status categories.

## **A student body with multiple associated challenges**

The SEM modelling was complemented by qualitative case studies. The interviews were wide ranging, so encompassed variables which the SEM models could not, as they were not routinely recorded in student record databases. The case studies graphically illustrated students coping with an array of issues, which compounded together. The phenomenon we have labelled **multiple associated challenges**.

As universities have expanded their intake, the student body has become more diverse. The diverse student body of the university today includes students with a wide range of characteristics which distinguish them from past cohorts. Characteristics encompass significant issues beyond the six defined as disadvantages. Furthermore, the case studies show that several of these issues commonly act in conjunction with each other; leading to our label of multiple associated challenges.

The multiple associated challenges include the following.

- Low SES students;
- admitted through alternative entry modes;
- study remotely;
- from regional and remote locations;
- study part-time;
- study online or through blended learning;
- have family commitments and carer responsibility;
- are employed;
- mature students;
- do not have parents educated at a tertiary level;
- originate from areas with low tertiary participation.

Both the case studies and the SEM models suggest that universities need to cast their support net widely to cater for these multiple associated challenges. Universities need to examine whether their support services have diversified their outreach to the extent that their student body has diversified.

## **Models of higher education as a spectrum from traditional to contemporary**

To maximise the chances of retention and success it is, therefore, important to examine the provision of support services to ensure that they are compatible with models of higher education operated by the university. In this project, models of university enrolment and mode of course delivery have been envisaged in terms of a spectrum from the traditional to the contemporary. It is this traditional to contemporary spectrum which is the foundation for a lot of the other visualisations.

The finding that one SEM model did not fit all four of the universities in the study led to a major conceptualisation of the project. Rather than just one model, the SEM suggested there was a transition between the models for the four universities. Accordingly, the model of enrolment and course delivery adopted by a university has a profound effect on its ability to attract applications

and admit students. Both the nature of the model followed and the characteristics of the student body it attracts then influences retention and success.

### ***Traditional approaches to student enrolment and course delivery***

The traditional end of the spectrum has close parallels to the model followed by universities in the era of elite higher education. Even today many highly ranked universities often seek to emphasise the campus-based experience as their value proposition, and are yet to adopt enrolment, support and service delivery required for students studying in blended course designs. In the elite era, undergraduate study was almost entirely on campus. Those who lived remotely from a campus had to relocate to study. Most students were full-time, and many courses had no part-time option. Students were recruited largely on the basis of performance in the examinations at secondary school level. The majority of students started their degrees directly on finishing secondary school, or soon after. As a result, most undergraduates were in the 18 to 24 year age range.

### ***Moving towards open learning***

Having all universities in a higher education system following a traditional model is clearly problematic. Equity and social agendas dictate a widening in tertiary participation beyond a privileged elite. Access, logistics, demand and student need have emphasised, the affordances of online learning as a complementary mode of course delivery to meet the widening participation of the student cohorts. Likewise, governments and business need a better educated workforce because of technological and societal advances.

The UK founded the Open University as a way to boost tertiary participation by adopting open learning principles, which permitted many students to enrol at the Open University who would not have been able to study at conventional universities. There were three main elements of openness which were fundamental to the success of the Open University: open entry; freedom to study off-campus; and, flexibility over when study took place. Open entry was needed to permit entry to students who did not qualify for conventional universities. Distance education permits study by those unable to attend a campus to study. Reasonable degrees of flexibility over when study takes place allow study by those who have other commitments, like employment or carer or family responsibilities, to study without committing to fixed class schedules.

### ***Shifting to the contemporary end of the spectrum***

The Australian HE system has chosen not to establish a specific university dedicated solely to open learning principles. Instead, most universities have made some degree of shift to online learning to widen access and entry into higher education. The more the university has embraced the three elements of openness, the further it has shifted to a contemporary model of student enrolment and course delivery.

The Federal Government has taken successive moves to expand and broaden entry to higher education (see Chapter 1). Degrees of openness in entry have been introduced by universities through alternative entry schemes. Openness in entry is also facilitated by the other two elements of openness.

Freedom over *where* study takes place has been facilitated by the introduction of an increasing proportion of online learning in program delivery, including degrees which are fully online. Higher degrees which are partly or fully online permit students to study at places which suit them, rather than having to attend classes on campus. They also permit students who live remotely from a

campus to study without relocation, which many are unable to do because they cannot afford to, or have commitments which prohibit it.

Online study includes asynchronous communication and interaction. This is one part of the element of the degree of openness over when study takes place. The other necessary aspect of flexibility needed is the provision of part-time study. This enables students to study while also fulfilling commitments such as employment and family and carer responsibilities.

### *A contemporary model of enrolment and course delivery*

Both the SEM and the case studies indicate that the contemporary model is significantly different to traditional approaches. Modes of teaching and learning and study patterns are different. Learning support and services need to be configured differently for students both on and off campus. In addition, the diverse student body has a wide range of characteristics which means the services and support need to cater for a broader remit.

The nature of and degree of change in the shift from the traditional to contemporary models is illustrated well by the table of demographic characteristics of the four universities. We make no apologies for repeating the table in this final chapter. Many who have seen this table have expressed surprise at the degree of change. This has included staff at UTAS, who had not realised how much its operating model differed from that of traditional universities.

**Table 13.1: Demographic characteristics of the four universities**

% of students	UTAS	Griffith	Wollongong	Melbourne
Not studying on-campus	71.3%	9.4%	0%	0%
Admitted on basis other than secondary results	71.0%	56.4%	29.9%	12.8%
Living in Outer Regional, Remote and Very Remote areas	39.7%	6.2%	2.6%	2.5%
Low SES	23.6%	14.5%	14.6%	6.4%
Studying less than 70% load	52%	14.0%	18.5%	19.4%
Age greater than 24	44.4%	23.6%	18.1%	3.9%
Attrition	28.54%	19.3%	10.2%	1.9%

### **Relating student support to position on the spectrum**

The quantitative SEM modelling in part B showed clearly that variables associated with the expansion and diversification of the student body were key components of the modelling of retention and success. The qualitative case studies paint an even richer picture of the array of challenges impacting on students. The wide-ranging qualitative evaluations reported in part C sought feedback from students on the difficulties students faced in their studies and what help them to succeed.

Chapter 10 reported a phenomenographic analysis of students' perceptions of student support services. Important findings included that a significant proportion of students were reluctant to seek help from support services. Chapter 11 reported on the analysis of data from students in online and blended learning courses in a university with course delivery approach near the contemporary end of the spectrum. The students reported making little or no use of central support services, as these did not seem relevant to their digital online environment. Instead they relied on support from the online teachers and the online learning experiences. Many also found support through student-student interactions and external support from family and workmates.

The conceptual framework of the spectrum of models of student enrolment, course delivery and the services they require from traditional to contemporary can suggest a way forward of interpreting these findings. As universities move across the spectrum towards the contemporary end, the modes of teaching and learning offered become more flexible with higher proportions of students studying online. This shift enables universities to enrol a student body that is much more diverse. As has been pointed out throughout the report, the shift from the traditional to the contemporary end of the spectrum is a quite significant transformation in the university model and has significant ramifications for service and support delivery.

Chapter 2 examined the support systems offered by the four universities in the study, with descriptions of the services offered being provided by senior support services staff. There were differences in the support services offered by the four universities. These differences, though, were not of the same magnitude as the changes to modes of teaching and learning and the diversity of the student body in moving from one end of the spectrum to the other. This finding could be interpreted as saying that as universities have shifted across the spectrum, they have made major changes to modes of teaching and learning to admit a more diverse student body, but without adapting their support services to the same extent.

A major influence on the provision of student support services has been the student engagement (Trowler, 2010) and first year experience (James, Krause & Jennings, 2010; Kuh, Cruce, Shoup, Kinzie & Gonyea, 2008) literatures. These advanced the notion of boosting teacher-student and student-student interaction to promote social and academic integration. These constructs are central to highly cited models of attrition (Engstrom & Tinto, 2008; Tinto, 1975, 1987, 1993, 2012, 2015). However, these models were originally derived from research at a time when higher education was an elite system. In other words, a major theoretical framework for central support systems reflects the traditional end of the spectrum.

## **A way forward**

In summing up key findings in this report to inform a way forward, we recommend a holistic concept of student support appropriate for all universities.

Improving retention and success of students through better support systems requires widespread institutional change. The multivariate nature of retention means its growth is unlikely to succeed unless there are multiple changes occurring simultaneously across a university (for example, in strategy, governance, policy, management and funding), all working towards a common goal of a student experience in which barriers are removed for students seeking help so they can continue to pursue their learning outcomes.

First and foremost, the university learning and teaching strategy should have pastoral and learning student support and service delivery front and centre in its measurable outcomes. Without an explicit emphasis, sectoral experience (Ellis and Goodyear, 2019) shows that it can easily be pushed to the side by other pressures. To help the focus on student support in a university strategy,

the unit of measurement of success should include things like the number of student requests for help satisfactorily resolved with some correlations to improvements in overall retention and successful graduation.

Next, it is important to recognise that universities are strategically led by governance. The governing body is an influential aspect on all matters of teaching and learning. To ensure that support services meet the needs of all students no matter where and when they learn, members of governance need to have a contemporary understanding of learning, teaching and course delivery, in what contexts students will find themselves when seeking help, how services can be disseminated both online and on campus, in ways which address inequity and that are also sustainable.

Without equitable support and service delivery embedded in a university policy framework, the efforts made in a three-year strategy, for example, will quickly disappear. Governance needs to be emboldened by equitable, contemporary policy so that the outcomes of strategy can be long lasting.

Management of a holistic support and service delivery model for pastoral and learning support for students continues to be one of the trickiest aspects of the student experience. Key barriers to its effective implementation are the breadth and depth of the type of support required for a growing diverse student population and a learning experience that is being fragmented to include an increasing proportion of online learning experiences. Universities will need to rethink and re-engineer their enrolment and program structures in the coming years with student support strategies in mind. These strategies will benefit from some of the key findings in this strategy, including;

- students seemed to absorb information about particular forms of pastoral and learning support only when it was relevant to them;
- they consequently often did not know of the scope and scale of services available to them;
- they sometimes did not think they were worthy of seeking support and that their problems were their own;
- students predominantly or fully online were largely unable to engage with central support services conceived for a predominantly campus-based experience

In addressing a holistic approach to implementing student support and services across on campus and online contexts, universities can be quickly thwarted if they do not understand funding strategies which are aligned to a stratified and diversified support model. All funding for student support can not be located *only* at one level of a university (for example only in the centre, faculties, departments or programs). University leaders need to have a sense of where economies of scale can be achieved through central funding *and* where distributed and local funding strategies are necessary to ensure that students receive the right type of support at the right stage of their candidature. Funding strategies also need to be cogniscent of what student support services can be effectively delivered online in ways that complement the on campus support services. While the intent of supporting students with counselling, for example, can be the same on campus or online, the funding required for delivering counselling online is different to the funding required for a campus-based, appointment-structured approach. Finally, there should be an awareness of the ratio of on campus equivalent full-time student load in the university (a predominantly on-campus EFTSL metric) to the number of online students (a predominantly online EFTSL metric), so that an appropriate amount of funding can be equitably directed to students enrolled in predominantly online experiences of learning.

Our report here acknowledges that there are a number of ways to lead learning and teaching at the level of a university (Chng & Mårtensson, 2020; Marginson & Considine, 2000; Marshall et. al.,

2011; Newton, 2003; Parkin, 2016). Each would offer different affordances for a strategy of how to support student retention and success. In this chapter, we are arguing a useful way of addressing student support needs equitably that is consistent with the multivariate nature of retention and success is to inform it with ecological thinking (Ellis & Goodyear, 2019). By aligning the capabilities and interrelatedness of the key organisational elements in the design of learning and teaching systems; namely the university learning and teaching strategy and its governance, policy framework, implementation and management and funding, to an explicit goal of supporting students no matter what stage of their candidature or discipline they are in, is a promising area for future sectoral development in improving both relevant processes and outcomes. Such an area of developmental research will improve both the sectors' learning and teaching quality as well as how to effect meaningful change in an increasingly interdependent and uncertain international higher education environment.

The future research section below points towards the potential for increased support frameworks online in new ways of thinking about support teachers in new ways of integrating support structures across a curriculum, embed pastoral and learning support in the student experience both on campus and online.

## **Future directions for research**

This project has raised a number of promising areas for research that can inform the Australian higher education sector about retention and success.

One area is the development of a deeper understanding of key variables that determine not only retention, but relate variables of retention more meaningfully and explicitly to variables of success in blended environments. Some of the results, such as the student approach to seeking support in chapter 10, may offer a pathway of investigation that links strategies adopted by students to pastoral problem resolution more directly to qualitative more successful learning outcomes. If identified, these types of associations may offer a more direct correlation amongst a change in activity design to both the resolution of pastoral needs and quality learning outcomes. Part B of this report suggested that the augmentation of the SEM models with academic and social variables may be a stepping stone towards discovering these links.

Another promising area for researching retention and success is a recasting of teacher-student interactive pedagogy in fully online courses, the value of which is emphasised by the current pandemic context in which the Australian HE sector finds itself. The interviews with students in this study found that online students were largely unable to relate to central support services for the reasons described above and their retention and success depended on support which came from their teachers online. Reasons behind these perceptions may be that student support services in most Australian universities have been based on the models such as those derived from the first year experience (James, Krause & Jennings, 2010; Kuh, Cruce, Shoup, Kinzie & Gonyea, 2008) student engagement literature (Trowler, 2010) and academic literacies (for example, Lea and Street, 1998; 2006; Lillis et. al., 2016). With an increasing proportion of students enrolled in full or in part online, their retention and success requires support designed to be accessed and successfully both online and on campus. A key outcome of the analysis is a model of online learning support. The model includes three main components; learning materials, activities and teacher-student exchanges. Each of the three main components had a number of elements and sub-elements. The remainder of this main section presents the analysis of the components and elements of the model, which is shown in Figure 13.1.

***Figure 13.1: A model of online student support through teacher-student interactive pedagogy***



## *Learning community*

At the centre of the model is online learning support, which is meant to include support frameworks integrated into the design of learning materials of a course, the way the activities in the course are moderated and taught online, and all the exchanges between students and the teachers. A key aspect of the model in Figure 13.1 is to establish a learning community. Tinto's (1975, 1987, 1993) model of attrition posits that retention is enhanced through social and academic integration. The model was based on research into on-campus students taught face-to-face. It is not been clear how social and academic integration could be achieved with online and distance students. The evidence in this report suggests that social integration can be achieved, and online communities formed, through high quality teacher-student exchanges. Academic integration can be achieved through the three main components of the model acting in conjunction to enable the students to cope with online study.

We also intend to develop a website which will give details of the elements of the model. It will also include examples of good practice for the elements of the model from award-winning teachers. It will, therefore, serve as a very valuable resource for professional development to enable teachers to better support their students in online and blended learning. As Covid-19 has vastly increased the amount of online learning, the need for such professional development has increased considerably; particularly since many teachers and students thrust into online learning have little or no previous experience of it.

## **Final comments**

The Australian Higher Education sector is experiencing the impact of changing international forces, not just the current pandemic, but also rapid changes in credential designs, pedagogies, innovations in learning and teaching, learning technologies, partners in program and course delivery and funding constraints. Stressing the importance of the outcomes of learning and teaching experiences in universities such as retention and success for students is an essential focus to maintain to ensure that our education experiences are relevant for our students, our disciplines and the societies we serve. In order to be more successful in retaining students so that they can benefit from a university education, a deeper understanding of the multivariate nature of retention is essential. This report points towards a number of ways this can be achieved for the benefit of our universities.