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Plan, prepare and connect: How investing in understanding and tracking the evolving needs of online students informs the development of targeted programs for transition and success

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Abstract

Growth in online higher education offerings has been significant in recent years, with many Australian Universities launching programs to extend into new markets and meet the student demand for greater flexibility in delivery modes. Further, it is well understood that good support is an essential component to student success, satisfaction and retention. Despite this, orientation, including non-academic support, is often overlooked in online education systems. Therefore, the current study aimed to develop an orientation program to increase student preparedness and facilitate ongoing support, in addition to developing evidence-based best-practice strategies to support academic's when developing new online courses.

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Introduction

Growth in online higher education offerings has been significant in recent years, with many Australian universities launching programs to extend into new markets and meet the student demand for greater flexibility in delivery modes (Uijl et al. 2017). This growth has been supported by significant advancements in learning technologies, which allow universities to build online learning environments that are far more interactive than previously possible, facilitating student collaboration and communication. While technology opens more educational opportunities, students choosing to study online require an additional set of skills in contrast to their on-campus counterparts. Not only do students need to be self-motivated and able to manage their time, but they also require an increased capacity to manage multiple online tools for learning and communication (Bozarth et al. 2004).

As evidenced by Smith (2005), implementing technology is only the first step in online course development and delivery, as student support services that meet the needs of remote learners need to be considered to enable student success. This is supported by the recently released National Guidelines for Online Learning (Stone 2016), which highlight the need to gain a comprehensive knowledge and understanding of the diversity of the online cohort, as these students often differ demographically and academically to traditional learners: both factors that can affect attrition.

The National Guidelines further highlight early intervention as a key factor for successful online courses, in order to provide clear expectations and a realistic picture of online study, as well as build a sense of belonging to the online learning community (Stone 2016). This is not surprising as it is well recognised in the literature that successful orientation and transition to higher education, and the first-year experience, are crucial for student success and retention (Baik et al. 2015, Eaton & Sharples 2018, Gale & Parker 2014). Commencing students must navigate a range of challenging issues in relation to academic, social and personal aspects of the new experience and universities must find ways to foster early support and engagement.

There are few recent examples available in the literature of best practice for orientation programs directed towards fully online students. Cho (2012) described the process of developing an online orientation, which was comprised of four modules. The modules included the nature of online learning, how to use the Learning Management System (LMS), technical requirements for the online course as well as skills and motivations for online learning (Cho 2012). Student evaluations following delivery demonstrated they were satisfied with the program overall, highlighting navigation, content and design as key components to the satisfaction. Unfortunately, the sample size for this study was limited, with only 63 students participating and less than 25 providing qualitative feedback (Cho 2012). More recently Taylor et al. (2015) described the implementation of an online orientation program which covered similar modules to Cho 2012, including how to get started, course navigation and communication, as well as communication and information literacy. The program has a significant positive impact on rates of course completion, with familiarisation of the educational environment highlighted as the most important factor leading to this improvement (Taylor 2015). While familiarisation with the online learning environment is clearly a key aspect of the programs, neither contain a live component to facilitate social interaction. Moreover, there are no modules provided on career readiness, or an opportunity to interact with students that have recently completed subjects in the course to provide a student experience perspective. These elements appear to be missing from the examples of fully online orientation programs that are available in the literature.

Given student support – the assistance and guidance that students are offered above and beyond the learning materials – is often overlooked in online education systems, the current study aimed to develop an orientation program to increase student preparedness and facilitate ongoing support. This case study will detail the student perceptions of their barriers and facilitators to success and describe the orientation program (divided into three modules of Plan, Prepare and Connect) that was developed and delivered to meet the online students' needs. In addition, it will propose eight best-practice strategies for online orientation and transition programs to assist the higher education sector in the design of high demand, new online courses with improved student satisfaction, retention and success.

Background and context: an online undergraduate program

Despite health science ranking as one of the most popular fields of education on-campus, there are only a very limited number of courses available wholly online in this field. La Trobe University (LTU) launched the fully online Bachelor of Food and Nutrition (BFN) in partnership with Open Universities Australia (OUA) in 2015. The BFN is the only undergraduate health sciences degree on offer in OUA's portfolio and is considered a success by student opinion indices; this includes an above average overall student satisfaction rating of 90% and a ranking of fourth by enrolment across the full OUA portfolio. Despite a success rate of over 90%, once accepted into the degree course the students in the open access pathway subjects (which make up over 80% of the enrolments in first year) show a significantly higher failure rate. Open access pathways are unique to OUA in the Australian market and are designed to increase accessibility to a university education. As such, there are no academic entry requirements for these open access subjects; thus students can enrol without prerequisite knowledge and are not required to have an Australian Tertiary Admission Rank (ATAR) to commence these subjects. Furthermore, given the fully online nature of the subject there is a diverse student demographic bringing a broad array of personal and life experience to the learning environment, which may have implications for success.

Given the limited academic preparedness and diverse personal backgrounds, as well as the distinctive needs of BFN students, it is important that they are primed and prepared for their online studies. According to the Tertiary Education Quality Standards Agency (TEQSA) guidance note on technology enhanced learning, the HES Framework specifically requires (Standard 1.3.6) that students have "equivalent opportunities for successful transition into and progression through their course of study, irrespective of their educational background, entry pathway, or mode or place of study" (TEQSA, 2017) .

A challenge for universities is to develop orientation programs with "equivalent opportunities" that meet the requirements for online learners. This includes ensuring opportunities are met to promote academic and social integration in order to develop confidence in online social interaction, thus maximising learning. Every Australian university provides on-campus students with an orientation and transition program, with many developing a set of internal guidelines informed by student surveys and research. However, orientation for online students is far less researched, and there are few evidence-based examples of practice for online courses within the literature (Bozarth et al. 2004, Cho 2012, Eaton & Sharples 2018). For face-to-face students, orientation facilitates relationships, introduces campus surroundings and previews the upcoming academic and extracurricular experience. Learners taking online courses – the majority of whom will never step foot on campus – have different needs. In addition, providing a similar experience to the on-campus orientation has previously been challenging due to limitations in communication tools and the predominance of asynchronous delivery.

While traditional on-campus learners receive a week-long orientation program with ongoing support, online learners must navigate their learning on a need-to-know basis – a reactive rather than proactive approach. After identifying this lack of a dedicated online orientation program at LTU, this study was designed to research, plan, design and implement a comprehensive orientation program for online students.

Approach, methodology and design

The principal activity was to gain comprehensive knowledge and understanding of the diversity of the online student cohort in order to appropriately address student needs; thus ensuring that there is an informed strategy for support and communication, and an approach to reduce success barriers where possible.

The research program described here was conducted in two parts. The first phase included seeking the perspectives of two online student cohorts in 2018. The specific questions addressed in the student survey included:

- What personal factors do students believe impact their studies?
- What external factors do students believe impact their studies?
- How confident do students feel using online learning technologies?

An electronic survey method was applied to investigate the research questions. The electronic approach allowed data to be collected at low cost and relatively low response burden on the part of the student participants. A purposeful sample was sought to understand the breadth and diversity of students' perceptions. Student participants were all enrolled in the BFN open access subjects offered through OUA. Ethics approval was granted by the appropriate LTU ethics committee (reference code HEC18092).

The second phase of the research included the design of a comprehensive online orientation program, using an evidence-based strategy that institutions can implement to reduce attrition and increase student satisfaction and success. The design involved a community of inquiry approach based on the concept of a "teaching community" (Laurillard 2008). The team assembled for the learning design and development included academic staff from multiple schools, educational designers, library and other support staff, and information technology experts.

Phase 1: Survey results of perceived barriers and facilitators to student success in an online learning environment.

One hundred and twenty-four students completed the survey examining perceived barriers and facilitators to successful online study. As noted in Table 1, the ages of the respondents reflect the predominantly mature-age profile of students who select an online learning modality.

Table 1. Demographic Information of Students

Demographic	N	%
Gender		
Male	19	15%
Female	105	85%
Age		
<17	1	1%
18-20	7	6%
21-29	38	31%
30-39	39	31%
40-49	27	22%
50-59	7	6%
60>	5	4%
Highest level of education		
< high school	11	9%
High school	54	44%
Bachelor	16	13%
Masters	6	5%
Trade/Technician	24	19%
Doctorate	0	0%
Other	13	10%
Is English the main language spoken at home?		
Yes	109	88%
No	15	12%
Employment status		
Employed (full time)	40	35%
Employed (part time)	18	16%
Unemployed – Currently looking	11	10%
Unemployed – not looking	4	3%
Student	11	26%
Retired	6	19%
Homemaker	16	14%
Self-employed	6	25%
Unable to work	3	16%

Fifty-three per cent of the respondents were aged between 31 and 49 years. A further 31% were aged between 21 and 29 years, and 6% were aged over 50. Respondents were overwhelmingly female (n = 105; 85%), in line with the overall course enrolments in which 81% of students were female in 2018. This also reflects the gender balance in the profession of Nutrition and Dietetics. It is therefore a representative sample of the student population.

Seventy-six per cent of the respondents identified as employed, while 14% cited their role as homemaker, highlighting the fact that most online students combine other significant responsibilities with study. As illustrated in Table 2, this point is further strengthened by the respondents who indicated they chose online study due to work (34%) and family commitments (26%).

Table 2. Students' previous online experience and rationale for choosing an online learning modality

Why have you chosen to study online?	N	%
Work commitments	42	34%
Family commitments	32	26%
Personal ill-health	8	6%
Lifestyle choice	24	19%
Other	19	15%
Have you previously studied online?		
Yes	37	30%
No	88	70%

A long history of previous research has illustrated the complexities and concerns of online learners as they juggle study, work and personal commitments (McEwen 2001). Finally, with the offer of online courses ever increasing (Bowers & Kumar 2015), it is not surprising that 30 per cent of the respondents indicated they had already completed online study.

As the landscape of technology in education has changed over the last two decades, online learning has become more prevalent (Martin & Ndoye 2016). This underlines the importance of understanding what student learners perceive as influencing their success.

Students' perceptions of external factors that facilitate success in online study

In an online environment, there are not only personal factors such as self-efficacy, but also organisational and technical support elements that can influence success (Gaytan 2015). As indicated in Table 3, almost 50 per cent of respondents viewed *varied learning resources* as an important contributor to supporting mastery of learning and overall success.

Table 3. Students' perceptions of external factors that facilitate success with online study

	N	%
Varied learning resources e.g. readings, interactive, multimedia, figures	60	48%
Regular contact with staff via "live" sessions	35	28%
Regular contact with staff via forum discussion	8	6%
Reliable internet access	13	10%
Other	8	6%

In addition to this, regular contact with staff formed another perceived element of success. This is consistent with earlier research highlighting that engagement is increased when staff are accessible and show passion in teaching the course (Hew 2016).

Students' perceptions of personal factors that facilitate success with online study

As institutions of higher education continue to roll out online courses, issues of student preparedness can present challenges and impede retention and overall success (van Rooij & Zirkle 2016). When students in the current study were surveyed, the overwhelming response to perceived personal factors that they felt would facilitate success was *organisation* (48%) and *time to study* (39%).

Table 4. Students' perceptions of personal factors that facilitate success with online study

	N	%
Organisation	46	37%
Resourcefulness	8	6%
Computer-based skill	4	3%
Dedicated time to study each week	59	48%
Other	7	6%

In examining this further, these personal factors contributing to success were strongly conveyed in the written narrative as well. As recounted by one student, "being organised is a factor… as well as understand [sic] the process of online study… and having a routine…". Previous research has shown that effective time management is not only associated with academic success, but also contributes to other important variables such as stress reduction, increased confidence, and overall student satisfaction (Ghiasvand et al. 2017).

Online learning resources

To maximise learning opportunities in an online environment, students need to feel confident in navigating and using technology, as well as participating in discussions with their community of peers and teachers. This is largely because the interaction among learners themselves, as well as between the teacher and learner, plays a significant role in the experience and outcomes of online learning (Liu et al. 2007). Being able to navigate resources also has implications for the student to master subject content and develop overall problem-solving, critical thinking, and communication skills – all hallmarks of higher education (Andrade 2015).

As noted in Table 5, only about half (48%) of student respondents in the current study felt either *very* or *extremely confident* at learning new technologies.

Table 5. Students' perceived confidence in learning new technologies

	N	%
Extremely confident	16	13%
Very confident	44	35%
Moderately confident	48	39%
Slightly Confident	9	7%
Not confident at all	7	6%

This highlights the fact that while online students are expected to have access to necessary hardware and software, and to be minimally proficient in using the technology (Mupinga et al. 2006), this is not always the case.

Confidence with learning technologies goes beyond the direct function of accessing learning material for study, to include asynchronous discussions. In an online environment, discussion forums can play a significant role in collaborative learning processes that benefit students. Through collaboration, students become more actively involved in sharing information and viewpoints with each other (Rabbany et al. 2014). It is therefore noteworthy that 52 per cent of students in the current study felt only *moderately confident* to *not confident at all* when it came to using discussion forums.

Table 6. Students' perceived confidence in using discussion forums

	N	%
Extremely confident	14	11%
Very confident	46	37%
Moderately confident	49	40%
Slightly Confident	11	9%
Not confident at all	4	3%

As discussion forums provide a collaborative learning space, it is important for students to feel confident. This is further supported by the findings of Shea et al. (2006) that there is a clear connection between perceived teaching presence and students' sense of learning community, altogether enhancing the student learning experience.

Phase 2: A conceptual framework for learner support services via an online orientation program

Based on the findings of the student survey in Phase 1, and established internal guidelines from LTU relating to on-campus orientation programs, a customised online orientation and transition program was designed for delivery on the learning management system, Canvas.

The program was divided into three distinct modules: Plan, Prepare, and Connect, consisting of a suite of online resources, academic video presentations, step-by-step guides, quizzes and interactive, live sessions. As illustrated in Figure 1, the Plan module included a recorded welcome from the Vice Chancellor, an orientation schedule of events, key course dates and information plus a general discussion forum to post questions on. The Prepare module included information on the learning

management system and an introduction to a range of LTU policies, procedures and services including the student charter. The Connect module included scheduled synchronous sessions across an orientation week featuring teaching, support staff, nutrition experts and student peer leaders that were offered live and interactive but also recorded and published within 24 hours on the LMS. The module system allowed students the flexibility to progressively work through the content at their own pace and mimicked the tools and layout of a typical subject in the BFN LMS.
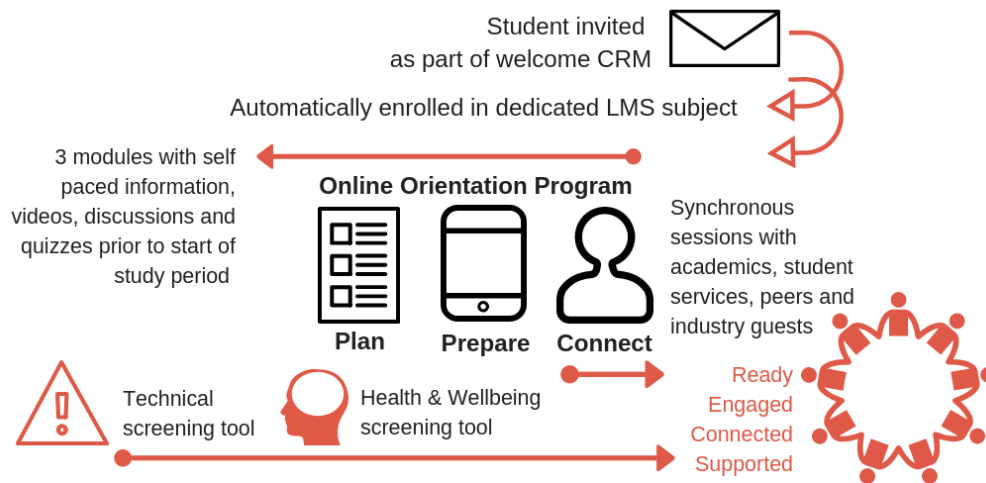

Figure 1: Overview of the Plan, Prepare, Connect dedicated orientation program for online students.

It is important to note that synchronous activities require detailed planning, and set-up time prior to the scheduled start time, and were conducted after typical business hours to accommodate online students and work commitments. Technology used to facilitate synchronous sessions typically required two staff members to run a session managing both the presentation slides, expert guests and the chat function. Compared with face-to-face lecturing, there were a number of additional administrative activities related to programming the synchronous sessions and uploading and publishing the recordings. The following section describes the program content in more detail and relates it to the findings in Phase 1.

Setting course and career expectations

It is important that expectations for students are set prior to them commencing their studies (Mupinga et al. 2006). A course information page was developed outlining the structure of the BFN, and students were invited to attend a synchronous session where they were introduced to the BFN course coordinators and open access teaching staff. During the session, students were provided with key information about the course and each of the open access subjects, including information on subject coding, credit points, Australian qualifications framework (AQF) levels and workload expectations. Students were given the opportunity to ask questions and interact with academic staff and their peers. Furthermore, this session also provided the opportunity to gather additional feedback to refine future orientation programs, as students voiced their own preconceptions and expectations of the course.

"Careers in Nutrition" information was provided to address some of the frequently asked questions and common misconceptions regarding the profession of nutrition and dietetics, including the

requirements for accreditation and registration by peak bodies such as the Nutrition Society of Australia, Dietitians Association of Australia and Sports Dietitians Australia. An interactive quiz at the end of the section was designed to assess and reinforce students' uptake of the key messages. It was identified that well over half of the students (64%) were able to correctly differentiate the key differences between a dietitian and nutritionist, and nearly all (95%) students recognised they are eligible to apply for postgraduate dietetics entry following the BFN degree (if appropriate elective subjects are selected). To provide further information on career pathways in nutrition, and to assist students in modelling their own career paths, an interactive "meet the experts" session was delivered via an online seminar tool (Zoom) as part of the orientation program. This session gave students an opportunity to connect with registered nutritionists and nutrition experts in the field of food and nutrition and gain important insights into career planning. Students were encouraged to ask questions of the experts in the session and share their own career pathway goals and future aspirations with their peers, which provided an additional opportunity to document and clear up common misconceptions.

Peer mentoring was an important element incorporated into the orientation program to assist students in setting expectations and informing themselves about the demands and realities of online learning. Students were connected with past students who were invited to share their experiences of online learning and provide hints and tips on how to succeed and how they managed their online studies. This was delivered to students via pre-recorded videos and live interactive sessions and allowed students to ask questions and seek advice from their peers. This student mentoring assisted new students in setting realistic standards for their learning and provided exemplars on which to model their own learning.

Student preparedness

To prepare students for online learning and familiarise them with the learning platform and format of the learning management system, the orientation program was designed and delivered to students via Canvas, the subject LMS platform. The program consisted of a variety of learning resources and was structured in a format similar to their open access subjects, to ensure that students were able to gain experience in the mode of subject delivery. The orientation program was delivered to students a week prior to commencing their studies, so that they were able to effectively navigate the learning management system in their own time and familiarise themselves with the technology, tools and mode of online learning prior to commencing their studies.

Incorporated into the program design was an interactive "Getting Prepared for Study" quiz. This quiz was created with a suite of questions to moderate student expectations in online learning. Students completed questions centred around key academic processes; accessing appropriate technical, study and counselling services offered by the university; and expectations of studying online. Specifically, students were asked questions regarding how many hours they felt they should be dedicating to their studies per week, to ensure they were aware of the time commitment associated with online learning. This quiz was self-paced and designed with inbuilt formative feedback and gave students an opportunity to self-assess their knowledge of what was required of them as a student prior to commencing their online studies. It was identified that less than half of the students were aware of specific university processes surrounding assessment tasks such as applying for an extension or special consideration. However, students seemed confident on how to appropriately contact academic staff, and self-assured in identifying study supports available to them as open access students.

To facilitate academic preparation, information pages were developed to ensure that students were familiar with the necessary tools, resources, and information required to succeed when studying online. A dedicated interactive session was scheduled where students were shown how to navigate Discover La Trobe, a key support module designed to assist new students to access systems and processes specific to both LTU and OUA. A library section containing guides and links to key resources, and a live (Zoom) information session with a library staff member were offered to help students navigate the library site, use important search functions and access referencing tools when completing assessment tasks.

Organisation and time management for online learning

As mentioned above, results of the student survey identified that students overwhelmingly perceive organisation and effective time management as a key facilitator to their success in online studies. As the online learning environment is largely self-driven and dependent on the learner's ability to manage both personal and academic responsibilities, if not equipped with the necessary skills it can be a very demotivating experience for the student (Gedera et al. 2015).

Multiple aspects of the orientation program were designed to assist with focusing students' attention on organisation and time management skills prior to commencing their studies. To assist with preparing for studying online, students were provided with a suite of online resources containing information on how to achieve at university. Students were introduced to university support pages containing hints and tips on how to plan and prepare for their studies – such as creating a weekly study planner – and time management advice and techniques. Students were also introduced to a key online study tool "assignment calculator" which assists with creating an assessment schedule to ensure that students can organise their time and track their progress on assessment tasks. Accompanying this, a live interactive seminar was also scheduled for students informing them about effective time management, study goal setting and study skills in online learning. Students were educated on time management techniques and strategies of how best to prepare for online learning. An important element of the session also focused on mechanisms to deal with stress and offered wellbeing support strategies to improve overall student performance.

Confidence in technology

Being able to confidently navigate online resources and learning new technology was also highlighted as a facilitator to their success in online learning. It is important for learners to adapt to the online learning environment for meaningful learning to take place, thus preparing and equipping students with the skills required to gain confidence in using the technology for online learning were key elements of the orientation program. When learners are not familiar with the online educational delivery system this creates frustration, and students can sometimes feel isolated in an online learning environment when confused about the course material or struggling to navigate new technology (Bawa 2016). To assist with this, students were provided with step-by-step guides and an interactive session instructing them on how to navigate the learning management system and its associated features, as well as where to access technical help and support if required. Interactive live sessions were run via Zoom including multiple ice-breaking polls, exposing students to the technology that they will be using for collaborative online synchronous sessions in a supportive way and familiarising students with the functional aspects of the learning tool. Student LMS analytics were also explored and captured during the orientation program. Equipping students with confidence in using technology was essential as it will assist them in mastering the navigation of subject materials and learning resources required for student success.

Communication and a sense of community

Another reason that students need to be confident in using online learning tools and technologies is that these communication tools provide not only a collaborative learning space, but an opportunity for students to connect with their peers and academic staff. Using technology to communicate allows online students to develop a sense of community (Wlodkowski & Ginsberg 2017), construct understanding, and question and clarify content through communication with other learners (Shackelford & Maxwell 2012). Online synchronous sessions using Zoom were scheduled to connect students with academic staff and their peers and equip students with the skills and confidence necessary to interact with the learning community. These live sessions were designed to be fully interactive and give students a "voice" in the online space with the use of both personal video and audio along with chat functions. Online polling tools were used where students were asked questions to generate discussion, encouraging active learning in the online space and engaging students in the learning process. Student-to-teacher, as well as student-to-student interactions, were encouraged and expectations were set on each person's role in a collaborative online community of active learning.

A key aim of the program was to ensure that students felt a sense of belonging, and that they felt connected and responsible to a learning community. Multiple opportunities were provided in the design of the orientation program which fostered interaction with peers and academic staff, creating a sense of online community and collaboration. It was important that students were able to develop confidence in social interaction online with their peers, as well as recognise a strong supportive "teacher presence". To establish a strong teacher presence students were welcomed to the orientation program through personal introductions from staff members, ensuring that early connections were made. Academic staff were active and responsive to students in discussions and checked forums regularly (multiple times each day) to ensure that students felt supported. Furthermore, this also assisted in setting clear standards and expectations of professional and respectful communication for students when using asynchronous discussions.

Implications for practice

Eight best-practice strategies for higher education online orientation and transition

To ensure that students undertaking online higher education courses have equivalent opportunities for successful transition into and progression through their course of study, dedicated evidence-based orientation programs must be designed, delivered and evaluated as part of a continual cycle of quality improvement. We propose the following list of strategies to assist the higher education sector in the design of new online courses:

1. Establish institution-wide policies and procedures around quality online orientation and transition to provide equivalent opportunities for all students, regardless of mode, to foster success.
2. Design, evaluate and continually refine customised online orientation programs in response to student profiling, data collection and feedback instruments, to ensure such programs are targeted, equitable and effective.
3. Invest in academic, support service, peer presence and industry engagement in online orientation programs through appropriate resourcing and workload planning. Recognise the value of, and student desire for, teacher presence and interaction and the likely requirement to schedule synchronous sessions after business hours.

4. Ensure online orientation programs encompass the full spectrum (not simply technology requirements) of student preparedness needs and are on par with the scope provided on-campus. A key focus of orientation programs for online students should be time management and organisational skills.

5. Implement online orientation programs that mimic the diversity of varied learning resources and technologies students will encounter in the learning management system. This can provide early reassurance to different learner styles and act as a screening tool to identify technical barriers to e-learning and implement directed support.

6. Utilise online orientation as a first opportunity to set expectations of the course and online study and as a first intervention to identify at-risk students. Incorporate a mechanism for referral to, or promotion of, support services including health and wellbeing to improve retention.

7. Drive and inspire a collaborative culture of active learning with high engagement through early teacher-to-student and peer-to-peer interactions via asynchronous and synchronous online orientation. Encourage early confidence in contributing to collaborative discussions and synchronous sessions through multiple ice-breaker elements.

8. **Encompass a career-ready focus in orientation programs for online students with comprehensive information on pathways to further study or employability to improve graduate outcomes.**

Conclusion

As illustrated in the current study, online student learners are often mature-age and thus present with various complexities as they juggle study, work and personal commitments. They may also enter tertiary education via newer open access pathways and be less confident and academically prepared for studies compared with traditional students. With this comes a myriad of considerations to support retention and student success. The BFN has been highly successful, as measured by student opinion indices, enrolment and retention data. This includes an above-average, overall student satisfaction rating of 90% and a ranking of the fourth top course by enrolment across the full OUA portfolio. This success has been in part due to investment in understanding and tracking the evolving needs of the online cohort plus a fluid and responsive course design and delivery, including the dedicated Plan, Prepare and Connect evidence-based Orientation program. The learnings from this case study, along with the proposed eight best practice strategies for higher education online orientation and transition, will assist the higher education sector in the design of new online courses, and improve student satisfaction, retention and success in online learning.

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