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Abstract

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Introduction

Around the world, students are impacted by uncertainty and confidence prior to entering higher education (Jansen & van der Meer, 2012). Students often have misconceptions of the expectations and workload of higher education (Kitching & Hulme, 2013), and are often required to adjust to the academic demands of university without guidance (O'Keeffe, 2013). The mismatch in expectations between students and teachers (Hassel & Ridout, 2018), coupled with the need to learn how to balance study and home life and a lack of academic skills required for university, results in increased levels of stress, poorer academic outcomes and higher attrition (Bewick, Koutsopoulou, Miles, Slaa, & Barkham, 2010; O'Keeffe, 2013).

Many universities have focused on making higher education more equitably accessible, resulting in increased enrolments and more diverse populations entering university. An increase in students from diverse backgrounds has increased the range of problems students face whilst transitioning (James, 2016); with first-generation university students, mature-aged students and students who have taken an academic gap between secondary education and university being particularly at risk of dropping out of university (O'Keeffe, 2013).

Attrition rates have become an increasing concern globally (Brook, Deane, Maeorg, & Michell, 2014; O'Keeffe, 2013). Approximately 50% of students graduate from university from countries within the Organisation for Economic Cooperation and Development (OECD, 2018). In Australia, one in five students drop out of university after the first year (Bagshaw & Cook, 2016); at the University of Wollongong, Australia, one in four students drop out (Department of Education and Training, 2017).

The importance of the first year university experience to improve retention and success in

subsequent years is widely acknowledged (Brook et al., 2014; Jansen & van der Meer, 2012). It is essential that first year university students learn to manage their study, work, social life, and engage with the university environment to achieve academic success (McGhie, 2017; O'Keeffe, 2013). In order to support students and increase student retention, academics and university teachers are required to reconsider curriculum design, pedagogy and community building within the classroom (Ahn & Class, 2011), by providing holistic, inclusive and supporting learning environments, and regular feedback to students (Biggs & Tang, 2011). Reconsidering teaching and learning styles at university is particularly important considering the increase in the diversity students entering university (Biggs & Tang, 2011; Wingate & Tribble, 2012).

Transition programs were originally established to target first generation students, socially disadvantaged students, and cultural and minority groups, thereby ensuring all students entered university with the same knowledge base (Greenfield, Keup, & Gardner, 2013). Due to an increasing demand on support programs for students, transition programs now focus on bridging the gap between secondary and higher education for all students regardless of their background, to maximise students' potential (Lowe & Cook, 2003), increase access to university and reduce inequities for students (Curtis et al., 2016). Transition programs aid students to establish relationships with academic staff and fellow students, and develop fundamental academic skills, which enhance the student experience (Curtis et al., 2016; Ewing-Cooper & Parker, 2013; Goggin, Rankin, Geerlings, & Taggart, 2016). Transition programs commonly instruct students on academic culture, including academic writing and the use of referencing, oral communication, and time management (McWilliams & Allan, 2014), to ensure students are academically literate, prepared for their studies (Curtis et al., 2016; McWilliams & Allan,

2014), and are provided with a realistic picture of the university environment (Sheard, Lowe, Nicholson, & Ceddia, 2003).

A variety of transition programs exist internationally. Transition programs are referred to in the literature as transition, preparation, orientation, introductory or bridging programs, with varying focus and duration from a few hours to a semester or year-long program, making it difficult to correlate their effectiveness (Greenfield et al., 2013). Although evidence exists for the effectiveness of transition programs in the international context, with approximately 45 % of universities in the United States providing students with access to some form of transition program (Barefoot, Griffin, & Koch, 2012), there is very limited evidence in the Australian context (James, 2016; McPhail, 2015). This study aims to address this gap by exploring students' perceptions of the effectiveness of an interdisciplinary for-credit transition subject that was developed and implemented to assist first year undergraduate students transition to university in the Australian context.

Background to subject development

The teaching styles at university are often different to those utilised in secondary education; students have reported missing the level of individual attention and access to teaching staff that they may have had at secondary school, as well as the detail provided about how to pass exams (Hanna, Hall, Smyth, & Daly, 2014). At university students are required to learn how to be critical thinkers, to study independently, and how to be active participants in their education (Ahn & Class, 2011). However, "although there seems to be little time to teach such skills in high school, there is even less time in college or university, where such skills are often assumed on entry" (Stone, 2009, p. 137).

The semester-long subject, *Essential Academic Skill (HAS 111)*, at the University of Wollongong, Australia, was a credit-bearing, fee-paying subject for which students could receive government financial assistance. HAS 111 was developed based on the *Learning by Doing Approach* (Gibbs, 1988) which is also known as the experiential/student-centred learning approach, and Bandura's Self Efficacy Theory (Bandura, 1977). Learning by doing requires students to learn new information and then put the information into practice (Gibbs, 1988). Students reflect on their learning which enhances their understanding (Gibbs, 1988) and their self-efficacy, and as such learning by doing has become a prevalent teaching style in higher education (Ahn & Class, 2011).

A key focus for HAS 111 was building a strong academic skill base for students. Unlike many introductory academic skills courses which concentrate heavily on academic writing, the key focus for HAS 111 was learning to incorporate evidence-based decision-making into academic and future professional practice. Students learnt epistemology, the difference between quantitative and qualitative research and how these fit in with academia and professional practice; how to dissect a situation (for example, an assignment question) in order to determine the key components to search for in the literature; how to search the literature effectively; how to critically appraise the literature and determine good literature from 'rubbish in, rubbish out'; and how to put it all together in the form of a critical essay, report and/or presentation. Writing and presentation skills were incorporated into the above activities.

The Subject Learning Outcomes were:

- Understand academic reading and writing conventions, ethical scholarship, and purposeful professional communication, using evidence-based practice;

- Identify the key components of a scenario and/or assessment task to formulate a searchable research question;
- Locate scholarly literature efficiently, critically appraise it, and present an argument based on the evidence;
- Develop skills to become effective ongoing learners, including professional collaboration and working in small groups.

The subject was highly scaffolded with material taught in subsequent weeks building on material learnt in the previous week. The lectures provide students with an understanding of why they needed to develop the academic skill they would be learning that week and how they would utilise it throughout the rest of their university degree and in their future professions; and tutorials supported students to develop a deeper conceptual understanding and provided practical experience. Students attended 13 two-hour-long lectures and 13 two-hour-long tutorials over one semester. Time was provided in tutorials for revision of the lecture material, and for students to begin their major assessment tasks. This required students to utilise the skills learnt, whilst providing direct feedback from academics on their assessments, which is more akin to the learning styles students were accustomed to in secondary school (Hanna et al., 2014).

Essential Academic Skills (HAS 111) was originally developed in 2016 as core-subject for students enrolled in the Bachelor of Social Science Education for Change degree, a newly created pathway for students who did not obtain the required marks in the Higher School Certificate to enter the Bachelor of Primary Education degree. That degree was not offered again in 2017, however, the School of Education adopted HAS 111 in 2017 as a core subject in their Bachelor degrees: Bachelor of Primary Education, Bachelor of Education – the Early

Years, and Bachelor of Health and Physical Education. HAS 111 was also made available to all undergraduate students at the university as an elective. In 2018, it was adopted as a core subject for the Bachelor of Public Health. HAS 111 was also adopted in 2017 as a core subject in the Diploma of Social Science at the University of Wollongong College. The University of Wollongong College offers accredited pathway courses into the university. The diploma is a pathway into the Bachelor of Social Science at the university and students gain advanced standing from having undertaken the subject as part of the diploma.

As a non-discipline specific subject, that was also incorporated in some degrees as a core, both general and discipline-specific examples were provided to students as new concepts were introduced in lectures and tutorials. The discipline-specific examples were provided with an aim to reach the majority of students (education, health and science, business/accounting, arts and humanities). This was achieved by scanning the enrolment records at the beginning of each new semester to see what discipline students were in to ensure that examples provided were relevant to the cohort. Having students in tutorial classes from different disciplines helped students to see the concepts they were learning applied in various settings, thereby aiding their understanding. Discipline-specific assessment questions were provided for the two major assessments for those students undertaking HAS 111 as a core subject.

Methodology

This study utilised an interpretivist constructionist epistemology. Interpretivist constructionism states that multiple realities exist and reality is dependent upon actors within it, and that it extends beyond an individuals' interaction with the natural world, to how individuals interact with one another (Crotty, 1998). In a study attempting to

determine the perceived effectiveness of a university transition program, one must study how students interact with the university environment, including with teaching staff and other students, because it is through these interactions that meaning is constructed. As such an interpretivist constructionist epistemology was relevant.

Ethics

Ethics approval was received from the University of Wollongong Human Research Ethics Committee. All participants were provided with a Participant Information Sheet outlining the purpose, benefits and risks of the study; that participation was voluntary; and that participants were free to withdraw from the study at any time without prejudice. Informed written consent was received from all participants.

Study setting, recruitment and study population

The study was conducted at the University of Wollongong, Wollongong in Australia. Although a young university, it ranks among the top two percent of universities in the world, with approximately 34,000 students enrolled across 340 undergraduate and postgraduate degrees. Being a regional university, there is a wide diversity of students and staff from approximately 180 different nationalities and socioeconomic groups (University of Wollongong, 2018).

Participants in the study were first year undergraduate students enrolled in the subject, *Essential Academic Skills (HAS 111)*. Student numbers steadily increased each year (2016 $n=211$, 2017 $n=357$, 2018 $n=455$). Students undertaking the subject as a core subject comprised the bulk of the enrolments (primary education 65%, early years education 11%, physical education 4%; public health 11%); those undertaking the subject as an elective

came from health sciences, social science, psychology, arts and humanities, business, and computing science. Approximately 10% of students are international students. As a regional university, many students are from Australian government defined equity groups (regional and remote, first-in-family, low socioeconomic status). All students who undertook the subject in 2016, 2017 or 2018 were invited to participate.

Data collection

Interviews are described as, “an interview where knowledge is constructed in the interaction between the interviewer and the interviewee” (Kvale, 2007, p.1). Hence this data collection method is relevant in an interpretivist constructionist study. Thirty-six individual semi-structured interviews were conducted via telephone or face-to-face, according to the preference of the respondent. Interviews were conducted at least mid-way through the following semester after students had completed the subject in 2016, 2017 or 2018, depending on which year the student completed the subject. Four research assistants conducted the interviews. Participants were asked to answer seven broad questions:

1. Prior to undertaking HAS 111, what skills did you think you needed for university?
(For each skill):
Do you think you had these before doing this subject? Why/Why not?
Do you think you have them now? Why/why not?
How did the lectures and/or tutorials help you acquire these skills?
2. What parts of HAS 111 do you think you benefitted from the most? Why?
3. What parts of HAS 111 do you think you benefitted from the least? Why?
4. Do you think this subject would be useful to students in other courses and

disciplines if it was adapted to their needs for that course? (Why/why not)?

5. Would you recommend the subject to other students? Why/Why not?
6. What else would you like to add?
7. Demographics

All interviews were audio-recorded with consent.

Analysis

All interviews were transcribed verbatim by the research assistants. Author HS checked the validity of the transcripts by reading the transcripts while listening to the recordings. Thematic analysis was performed using NVivo Version 11 software (QSR International, 2018), a program that assists with coding and organising data. Emergent themes were identified using Braun and Clark's thematic analysis framework (Braun & Clark, 2006).

A number of steps were taken to increase the rigour of the study. Interviewers set aside extra time prior to the commencement of the interview to ensure participants felt comfortable and to build rapport with participants (Lincoln & Guba, 1985). To ensure credibility of the data analysis, researcher triangulation was employed (Lincoln & Guba, 1985). JB coded the interviews and created the initial code frame based on repeated themes identified in the transcripts, HS then reviewed the code frame and dominant themes in order to identify differing or additional insights or meanings, which informed the subsequent analysis. Both researchers then discussed and made adjustments to the coding to reduce researcher bias. Data saturation was achieved ensuring the diverse experiences of students were captured (Lincoln & Guba, 1985). Students were not asked to validate the interpretations of their interviews (a process known as member checking or participant validation) (Lincoln & Guba, 1985), out of respect for the amount of

time that they had already afforded the study and taking their study loads into consideration.

Results

Participant information (year studied, degree and age group) are provided in Table 1 on the next page. The average interview length was 13 minutes 26 seconds (range 8 to 29 minutes).

The following four themes emerged: preparedness for the change in academic culture, academic skills, collaboration and communication, and confidence. These are discussed below.

Preparedness for the change in academic culture

This theme was associated with students' knowledge and awareness of the difference in academic culture between secondary school and university and their perception of how well-prepared they felt they were for the university learning environment.

Prior to commencing university, two thirds of students were not aware that they were expected to have any pre-existing academic skills. One third believed that essay and report writing would be required, but felt that they were ill prepared for the standard required for university:

I was prepared for a shock because I have been out of school for six years working and travelling ... I felt like I was street smart but I was not academically prepared or ready, I didn't really know what to do. *Student #6*

Table 1**Participant demographics**

Year studied	Age group	Degree										Total	
		Primary Education		Early Years		Health & Physical Education		Public Health		Other*			
		F	M	F	M	F	M	F	M	F	M		
2016	≤ 20	2	1										3
	21-25	3											3
	26-30	2											2
	31-25	1											1
	36-40												0
	41-45												0
2017	≤ 20	2	2				1						5
	21-25	3		1									4
	26-30	1	1										2
	31-25												0
	36-40			1									1
	41-45	1											1
2018	≤ 20	3	1			1	1		1				7
	21-25		1					1			1		3
	26-30		1					1					2
	31-25									1			1
	36-40												0
	41-45												0
Total		18	7	2	0	1	2	2	1	1	1	1	35

* Other: subject taken as elective; F: female; M: male

Almost one third of students mentioned how high school did not prepare them for university. The associated culture shock students experienced when they transitioned from secondary school to university was not anticipated:

High school doesn't prepare you for the cultural shock ... the shock of the new place, a new standard, a new academic level, so culture shock was something that shocked almost everyone to their core. *Student #31*

One third of students identified how they realised how important time management skills were for university, how they differed from their secondary education, and how they were not prepared for this difference prior to entering university:

Just the amount of work that, especially for assignments, that you were given ... You were given more time at high school whereas [at university] you could be learning the content in class a week before the assignment is due. And they didn't really prepare us for that. *Student #26*

Students realised that time was precious and needed to be utilised efficiently in order to get the most out of their learning, and that during the semester time, learning needed to be prioritised:

You need to be organised, you can't leave things to the last minute ... And you can't have everything like you could in high school... Something's got to give. *Student #13*

A few students highlighted that at university they needed to be self-directed learners and this was different to how they learnt in high school where they were given all the information:

When you come out of high school, all you know how to do is essays for the HSC [Higher School Certificate]. You don't need to know how to find the information, it's given to you; you don't need to find if it's relevant or if it's reliable because your teachers [have] handed [it] to you ... in university you're not hand-fed the information that you need. So you need to find it yourself. You need to find if it's reliable. You need to find if it's correct yourself. So you're coming from being spoon-fed, to having all of your information, to university, and not given much. You need to figure it out yourself because uni and high school are totally different. *Student #31*

One student mentioned another important difference between secondary school and university was that progression was not automatic at university, that is, students needed to demonstrate that they understood the content and would not be able to progress through their degree unless they passed subjects:

[In high school] if you're not passing or if you're not putting forth an effort, you still going to get through. I don't know, just like you get on this boat ride and you're going to get off it at the end, but in university if you don't do it, no one is going to be holding your hand, and being like – come on, you've got to graduate. *Student #30*

A few students identified how the large lecture style at university was different to what they experienced in secondary school, which was intimidating, and stated they felt more comfortable in tutorials because there was more one-on-one time with their tutors:

I found the tutorials a lot more helpful than, like, the lectures, because in the tutorials I guess you would put it into practice, and it was that bit of one-on-one time, it was a smaller class, kind of thing. *Student #21*

However, some found the longer lecture and tutorial times provided at university compared to the shorter classes at high school more difficult in terms of remaining engaged:

They were really good but they were long, they were like two hours long ... I feel like so many people go into a two hour tute and they are dreading it. *Student #6*

Academic skills

This theme encompassed the change in students' awareness of the standard of academic skills required for university after having done HAS 111, and whether or not they felt their skills had developed as a result of undertaking the subject.

Academic reading and writing was discussed by most (85%) of students. After completing HAS 111 students stated that they understood the importance of the structure of academic writing, noting that good structure increased the flow of the essay, ensured the message was clear and that the essay addressed the research/assessment question:

One of my issue[s] ... I'd have an intro and then I'd just have each paragraph and I didn't even understand... everything has a flow. Even just simple things like that, and you don't realise until you get taught how much more clear and coherent it makes your text. *Student #10*

Students highlighted how the standard of writing required for university was very different to secondary school, and realised that it required a lot more structure, preparation and higher order thinking:

I think school essays are just, sort of spewing out whatever you've been told ... Uni is more structured, and you have to be more selective of what you're actually putting into your essays. You have to be careful of what information you're using, in terms of, like the appropriateness of information and how new the information is, who actually wrote it. Where like at school, if you found something on Google ... you could use it, no worries, and the school wouldn't really mind. But, like, if you were to do that at uni, it's obviously not a very justified argument. *Student #17*

One third of students indicated that they had learnt to present their work academically by learning how to reference properly. Students reflected that the importance of evidence-based practice was not taught in secondary education:

I definitely didn't know how to do referencing properly ... we [would] just write and not really cite from others. *Student #5*

Many students (72%) identified that being able to execute an effective literature search to locate scholarly literature and appraise the literature was an important part of academic writing and that were glad that they were taught the skill:

I am glad I learnt that, that emphasis helped me with my other subjects but not only just getting proper information, getting right information ... but also learning how to read it, to look through it and go, 'Actually this is good, but this paper is better, or this paper is missing things and in fact it is not good enough.' *Student #1*

We had it literally on the presentation, a step by step guide ... we were taught how to pick

scholarly article to a certain standard, a university standard. *Student #8*

Students also highlighted that learning effective reading skills helped them make better use of their study time:

I could look at the intro and conclusion and work out whether it was a terrible document or not; saved me reading hundreds of documents. *Student #12*

One student discussed how they were able to refer back to the subject material to assist with assessments on another subject as they could not locate the information anywhere else:

... we had a report around the same time we were doing it [the lecture on reports in HAS 111] ... I couldn't go to Wollongong Uni to find anything but I kept going to the lecture slides. That was the most helpful thing... nowhere else could I find the layout for how to do a report and what to include in a report and then I went to the lecture and that was the only place I could find it. So that was pretty good in that way. *Student #25*

Collaboration and communication

This theme highlighted students' change in their awareness of the importance of working collaboratively both within and outside of the classroom after having done HAS 111, and whether or not they felt their skills had developed as a result of undertaking the subject.

Almost one third of students mentioned gaining an understanding of the need and benefits of working collaboratively with other students in order to gain the most of their university experience:

Just being able to ... put yourself out there and you know, gain new friends, I came to uni and I knew one person in my course ... make new friends and find yourself a solid group ... that's really important through uni. It's not just about the academic side; it's also

about your social side and building your connections. *Student #17*

Students discussed how communication was developed through the lessons and group work:

We had a group task and we had to speak in front of the whole tutorial class, and I thought I did a lot better than I would normally have done. I think the teacher built confidence ... she made us feel comfortable and then seeing other people do it at the same time probably helped a bit as well. *Student #16*

Seeing things explained and done differently by teachers and peers from different disciplines helped students better understand concepts and learn:

... being in the smaller group and people being just kind of as confused as you... our tutorial ... it was quite open and quite hands-on ... if we were struggling with something then we'd all talk about it and come up with a solution. *Student #11*

One student mentioned how working collaboratively had increased their confidence in speaking up about task requirements:

I've been able to open up more and actually ask my tutor exactly what it means instead of holding back and just going off what I think it means. *Student #19*

Confidence in applying skills

This theme captured students' perceptions of increased self-efficacy as they developed academic skills and then were able to put these skills into practice in their other subjects.

The majority (78%) of students felt that HAS 111 increased their knowledge about the expectations of university. Students stated how the subject progressively introduced the fundamental academic skills they required for university, rather than expecting them to develop the skills by themselves:

It takes you back to basics. Not dumbs it down but it actually teaches you rather than expecting you to have the prior knowledge ... it sort of, not walked you through it, and not spoon-fed, but it sort of picked it apart enough for you to understand what is expected of you at uni. *Student #10*

Initially, students were not able to recognise the importance of the subject matter for HAS 111, however, after a few weeks at university, they could see the benefit that it offered:

I just think at the beginning of it, the first couple of lectures and tutorials I was just thinking, 'Why do I need to learn this, I'm sure this is unnecessary?', but then as I gained the experience and stuff of university I was like, 'Wow this subject is completely necessary'. *Student #8*

By developing academic skills throughout the semester, students gained confidence which helped reduce their stress levels:

I'm really stressed by the workload of uni, and I guess just going in there and not knowing what to do, feeling like you're in over your head, but I feel from doing HAS 111 especially, I feel heaps more prepared going in to this semester and heaps more confident. *Student #28*

The majority (85%) of students reported that the skills they developed in HAS 111 were transferable to other subjects in their degree and felt that the subject had given them greater self-confidence for completing assessments in other subjects:

It is really drilled into you ... When you go off and use those skills for your own assignments, you're like, 'Oh, it really does work, it wasn't just the class!' ... it's been really helpful. *Student #11*

That [subject content in HAS 111] was extraordinarily helpful ... I wouldn't have passed psychology if I didn't do that. *Student #12*

The first essay that I wrote for uni [in another subject] was shocking. The second assessment was also an essay, and I got an outstanding comment saying that my tutor said that I had improved the most out of the whole course in my essay writing. *Student #31*

One student stated that the skills gained in HAS 111 were not only transferrable in other subjects, but that they had also helped them to assist other students as a study leader:

... it's really good now because I am a PASS [Peer Assisted Study Session] leader and I am helping first years learn those basic academic skills and I am really grateful that I could help. *Student #9*

Students highlighted that the transition to university was made easier in HAS 111 by allowing them to start assessments tasks in tutorials, allowing them to learn to manage their time and develop their academic skills progressively:

Having the opportunity to do the assignments in class and working through them was, I just think, so helpful. *Student #28*

All students felt the subject was worthwhile in preparing them for the academic skills required for university and also felt that HAS 111 would be worthwhile for all students across all disciplines:

I have to do a big report, and I'm not worried about it because I know how to do it, so you definitely think everyone should do it. Some of my friends didn't even know how to use Turnitin. I had to do a literature review, and you're just expected to know how to do it ... HAS 111 equipped me with the skills that I needed that I didn't get in high school, to complete my assignments to the best of my abilities. *Student #26*

One student also discussed the importance of completing HAS 111 during the first semester of university:

I think everyone should do it in their first semester of uni, no matter what faculty they're in, or it could be adapted to that faculty, the basics of the rest of your academic writing, if you don't have the basics, it's very hard to do. *Student #18*

One student stated that the subject helped with their attrition:

I thought the course was really good and it was really beneficial. It definitely sort of opened my eyes up too. 'Cos like, I definitely thought about deferring, and I was like, "Is it the course I don't like, or is it uni?", but once I sort of got taught how to write, like structure my essays properly, reference, do my searches, I definitely felt heaps better about university as a whole. I think it's definitely beneficial to everyone. *Student #13*

Although the majority of students felt the subject was beneficial, two students felt that the subject could have been delivered in a shorter timeframe:

It was a helpful subject for teaching me in how to get into university, understand the university, way of approaching the assignments ... the things like that ... but I feel is that it was a rather long and tedious way of teaching me those things. Probably there could have been a better way of teaching things: that would be in [a] short[er] time. But it was still very helpful though, definitely going to be using it in future. *Student #1*

Four students also commented that the delivery of the content did not necessarily line up with the other subjects that they were completing concurrently:

I know, when I was doing the subject last semester, it actually clashed with one of my other subjects where I had to write an essay before we learned how to write an essay [in HAS 111]. And I think that if the essay writing part of HAS 111, we should do that in the very beginning because it would help in

the all other subjects so that we can pass all other subjects. *Student #4*

Discussion

Many students enter university ill-equipped for the academic demands of university. Although students look forward to university, they are not all necessarily aware of what is involved or how challenging it might be in reality (Kitching & Hulme, 2013). The transition to university and the university experience can be enhanced by perceived preparedness for university (James, 2016). This study demonstrates students' perceptions of the effectiveness of an interdisciplinary for-credit transition subject in increasing their preparedness for the academic demands of university. Students were interviewed at least mid-way through the following semester after having completed the subject.

One third of students in this study highlighted how their secondary schooling did not prepare them for university, two thirds were not aware of any academic skills needed for university and one third discussed how they did not anticipate the workload. The first year university experience is fundamental to academic success and lower attrition rates (Brook et al., 2014; Jansen & van der Meer, 2012). Without any clear idea of what was expected at university in terms of academic skills and workload (Hassel & Ridout, 2018; Kitching & Hulme, 2013), students arrived at university unprepared for the different learning environment and experienced considerable culture shock (Bewick et al., 2010).

Stress levels are greatest for students transitioning into university, and reduce significantly between semester one and two (Bewick et al., 2010). An important contributor to stress is the lack of academic skills (Bewick et al., 2010; O'Keeffe, 2013). With the mismatch in teacher expectations at university and student ability (Hassel & Ridout 2018), teaching

focused on academic literacy, academic writing and critical thinking is essential to support and prepare students at university (Wingate & Tribble, 2012). The subject, *Essential Academic Skills (HAS 111)*, was an interdisciplinary subject aimed to equip students with the academic skills required for university, by focussing on building a solid skill base. After completing the subject, the majority of students felt that they understood the standard of academic reading and writing required at university and they felt they had acquired the necessary skills for this. Of interest, is that 72% of students realised that their ability to be able to effectively search the academic literature and appraise it were the necessary associated skills that helped them establish an evidence base for their academic writing. It is the addition of the literature searching and appraisal skills that differentiates this subject from many other transition programs which commonly only instruct students on academic reading and writing, oral communication and time management skills (Curtis et al., 2016; Ewing-Cooper & Parker, 2013; McWilliams & Allan, 2014).

Essential Academic Skills (HAS 111) was underpinned by the Learning by Doing Approach (Gibbs, 1988). Students learn most efficiently when they apply concepts, discuss what they have read and practice what they have learnt (Gibbs, 1988). The role of teachers in creating active learning environments is essential and instead of just being the imparter of knowledge, the teachers in HAS 111 acted as facilitators and motivators, fostering a supportive learning environment whilst students learnt (Gibbs, 1988). Students who undertook HAS 111 actively engaged in individual and collaborative activities that allowed them to learn as they constructed knowledge (Gibbs, 1988). This supported students' understanding of the need to work collaboratively both within the classroom and in professional practice. Having concepts explained and tasks performed by peers in

different disciplines, also helped students see skills applied in broader contexts and helped their learning.

One stressor students faced when transitioning to university was adjusting to the change of academic culture without guidance (O’Keeffe, 2013). Students in this study described how the subject progressively introduced the academic skills required for university. Self-efficacy is linked to academic achievement (Bandura, 1977). As students learnt new skills and were able to incorporate these into their learning and utilise these skills in other subjects, they became more confident. Assessments tasks were aligned with the learning outcomes to ensure students could practice and develop their skills (Biggs & Tang, 2011). Although the lecture and tutorial time component for HAS 111 was large (4 hours per week) compared to other subjects that required only three hours per-week, students felt they benefitted from the additional class time in order to start on assessments with direct guidance from lecturers/tutors. Receiving reassurance that they were on the right track to completing their assessment tasks, also increased students’ confidence and self-efficacy. Incorporating a more secondary school style environment into the subject (Kitching & Hulme, 2013) by allowing students to start on assessments in class, helped students transition by providing an environment that was more closely aligned with the one-on-one support and feedback that students were used to in high school (Biggs & Tang, 2011; Hanna et al., 2014).

Students also felt that the skills they had gained in HAS 111 were transferrable to other subjects in their degree. This highlights the utility of an interdisciplinary transition subject in providing secure scaffolding for the rest of their degree. Previous research has shown the success of developing key academic skills for students studying in Medical and Health Sciences (Curtis et al., 2016), and Family and Consumer Services (Ewing-Cooper & Parker, 2013), however, there

has been limited work on interdisciplinary subjects. Contemporary arguments supporting interdisciplinary academic skills programs include that core academic skills are generalisable; it is imperative that students learn to first correctly master the basics; and implementing generalised approaches to academic skills are more cost-effective than discipline-specific programs (McWilliams & Allan, 2014).

One of the key challenges of the implementation of HAS 111 was meeting the expectations of students and staff in other disciplines in terms of aligning content with their other subjects that were being taught concurrently. For example, HAS 111 aimed to teach students to search for and appraise literature first, and then put it together in the form of an essay, report or presentation. However, other subjects had students writing their first essay within the first few weeks of semester, when students hadn’t yet been taught to write an essay in HAS 111. This required reconsideration of when content was delivered in HAS 111, and careful negotiation to see if assessments could be shifted in other subjects. Finding and maintaining that balance across multiple degrees was even more challenging and required a lot of restructuring and refining of HAS 111. Effective collaboration across disciplines is required in order for interdisciplinary subjects to be effectively implemented.

Studies showing the effectiveness of interdisciplinary for-credit transition subjects are limited, particularly in the Australian context. The subject, *Essential Academic Skills (HAS 111)*, is not discipline specific, and the highly scaffolded nature of the subject ensures its flexibility in supporting students studying in different disciplines. This study has added to the literature by demonstrating undergraduate students’ perceived preparedness for the academic demands of university in one

Australian university after completing an interdisciplinary transition subject.

Limitations of this study

Participants were selected from one university in New South Wales, Australia. Although the subject is open to all undergraduate students, the results may not be transferable to other universities. Students self-elected to participate in the study and these results may represent a sample of motivated students and/or students with an interest in the research. The number of students who participated in the qualitative interviews was small compared to the overall number in the course, and it is possible that only those motivated students elected to take part, however, data saturation was reached with each cohort in each year of interviewing. Views of teaching staff were not obtained and could provide additional perspectives. This study is limited to students' perceptions of the effectiveness of the subject and student retention rates and academic achievement were not investigated. A longitudinal study is required to determine if *Essential Academic Skills (HAS 111)* has an effect on overall academic achievement and student retention rates.

Conclusion

Many first year university students are unprepared for the academic demands of university and require support to successfully transition into higher education. Transitions subjects can provide these students with the essential skills to successfully manage this transition, but research on the effectiveness of these are lacking, particularly in the Australian context. This research adds to the literature by demonstrating students' perceptions on the effectiveness of a transition subject in an Australian university. The credit-bearing semester long subject *Essential Academic Skills (HAS 111)* at the University of Wollongong, Australia, helped first year undergraduate

students with their transition to university, using a highly scaffolded approach, which gradually built students' knowledge, confidence and skill set on the essential academic skills required for university. The focus was embedding scholarly literature searching and appraisal skills in order to incorporate evidence-based decision-making into academic writing, as opposed to only focussing on conventional academic writing and structure. It incorporated some secondary school learning styles in order to help student transition. Similar transition subjects could be beneficial in other universities to help support their transitioning students'. Longitudinal research is required to determine the effectiveness of transition subjects on academic outcomes and retention rates.

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Author contributions:

Heike Schütze designed, developed and implemented the subject, *Essential Academic Skills (HAS 111)*, designed and implemented the evaluation study, and oversaw the data collection and analysis. Jenna Bartyn performed the initial coding of the interviews and created the initial code frame, Heike Schütze revised the code frame, cross checked the coding and recoded. Both authors performed the analysis. Both authors drafted the initial manuscript and Heike Schütze substantially revised the manuscript. Both authors approved the final manuscript.

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