
Student Success

ISSN: 2205-0795

Volume 9, Issue 2, pp. 49-61

March 2018



First year students' perceptions of academic literacies preparedness and embedded diagnostic assessment

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Abstract

This paper reports findings from the second stage of a mixed-methods study of embedded academic literacies and diagnostic assessment—specifically first-year nursing students' perceptions of the MASUS procedure. We found overwhelming support from participants (85%) in favour of embedded diagnostic assessment. The main reasons for this were receiving constructive, individualised feedback and insights into expectations and requirements. This was important as over a quarter of participants said they had “no idea” about the academic literacy requirements of university when they commenced their program and 60% had not formally studied for at least seven years. Those without recent study experience or with prior poor academic performance expressed high levels of anxiety about academic literacy requirements and lacked confidence in their writing abilities. These findings indicate how stressful the process of mastering academic literacies is for many first-year students' and highlight the potential benefits of embedding for retention and engagement.

Please cite this article as:

Palmer, L., Levett-Jones, T., & Smith, R. (2018). First year students' perceptions of academic literacies preparedness and embedded diagnostic assessment. *Student Success*, 9(2), 49-61. doi: 10.5204/ssj.v9i2.417

This article has been peer reviewed and accepted for publication in *Student Success*. Please see the Editorial Policies under the 'About' section of the Journal website for further information.

Student Success: A journal exploring the experiences of students in tertiary education



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Introduction

Alternative entry pathways into university and the equity agenda of widening participation means that many commencing students are now from diverse, non-traditional, backgrounds. For these students, academic literacies requirements can be a significant barrier to progress (Fleming & Stanway, 2014; Murray & Nallaya, 2014). While there are complex factors impacting on progression and retention (Maher & MacAllister, 2013; Merkley, 2016) there is increasing support for embedding academic literacies within the curricula of disciplines (Chanock, Horton, Reedman & Stephenson, 2012; Harris & Ashton, 2011; McWilliams & Allen, 2014; Thies, 2012) and post entry diagnostic assessment (Fox, Haggerty & Artemeva, 2016; Read, 2008; Read, 2016) as strategies to improve student engagement and success. The need to maximise retention is particularly acute for nursing students, given that so many are from diverse, lower socioeconomic backgrounds (Hillege, Catterall, Beale & Stewart, 2014). There are also significant personal costs and workforce implications of high attrition rates from nursing programs (O'Donnell, 2009). In Australia, overall bachelor level student attrition rates are at their highest since 2005, attrition from nursing programs is 34% and more students are commencing university with Australian Tertiary Admissions Rank (ATAR) scores of 60 or below¹ (Department of Education and Training, 2014; Heath Workforce Australia, 2014, p.19).

In addition to potential benefits for retention and engagement, focussing on academic literacies development has been identified as especially important for nursing students because of the implications for patient safety (Hillege et al., 2014). As several authors have noted, graduate nurses need to think critically, communicate effectively and be able to evaluate

and incorporate evidence from research into their clinical practice (Borglin & Fagerstrom, 2012; Jefferies et al., 2017). For all these reasons, we commenced integration of academic literacies education into a first semester, first year course in the Bachelor of Nursing program at a large regional university. This included diagnostic assessment using a procedure called 'Measuring the Academic Skills of University Students' (MASUS). Developed by Bonnano and Jones (2007), the MASUS is composed of four elements; use of source material, structure and development of answer, writing style and grammatical correctness. Students' written work was MASUS rated twice during their first semester, once at the beginning with a piece of non-assessable writing, and again at the end of the semester for the final written assessment. The course content included concepts such as critical thinking, clinical reasoning, types of health and nursing literature and an introduction to evidence-based practice and reflective practice. The embedding of academic literacies was integrated in both lectures and tutorials alongside this content. For more details on the approach we took to integration, diagnostic assessment and the findings of the first stage of the study see Palmer, Levett-Jones, Smith and McMillan (2014). This paper presents the findings of our follow-up study of the same cohort of students, in their second semester, in which we focussed on their views and perceptions of the integrated academic literacies education and MASUS procedure that they had experienced the previous semester.

Background

Academic literacies have been conceptualised in a number of different ways; including as a set of generic skills in which students' supposed deficits are the main focus, through to pluralities of practices which take into account different genres, writing styles, student

¹ In Australia, the ATAR is a ranked score for university entry based on a student's position relative to other students. The highest ranking is 99.95. An ATAR of 60 means that a student is in the 60th percentile.

identities, the social context of learning and critical examination of disciplinary discourses and expectations (Coffin & Donohue, 2012). More inclusive models of academic literacies education combine the best elements of these approaches (Schneider, Zammit & Roper-Armstrong, 2017; Wingate, 2015; Wingate & Tribble, 2012). Wingate (2015) identifies four useful principles that ideally characterise such a model. The first is that the focus should substantially be on the styles and genres of writing that the discipline encompasses, with particular attention given to reading, understanding and using knowledge sources. The second and third principles relate to the availability of instructional materials to all students, not just those who may be identified as 'at risk' and embedding. The fourth principle is collaboration between subject tutors and writing advisors. We sought to incorporate these principles into our approach to academic literacies. For example, we introduced students to the MASUS early in the semester as one way of teaching genres, use of literature, writing styles and expectations relating to structure. Students practiced rating samples of writing and this provided the opportunity for them to explore, discuss and critique particular genre elements. In this way, the MASUS procedure itself was also embedded and contextualised within the content of the subject that students were learning.

The literature on embedding and diagnostic assessment reports a range of positive student outcomes. De Maio and Desierto (2016) found that embedding was viewed positively by business students, slightly increased their support seeking behaviour and improved the overall pass rate for the course. Embedding has been found to improve student engagement (Fox et al., 2016; Maldoni, 2017). Hillege et al., (2014) report that embedding improved nursing students' writing and course results and that this improvement was transferrable to other subjects. In a previous study, we also found that first year nursing students' MASUS ratings improved during the course of their first

semester (Palmer et al., 2014). However, Read (2016) identifies the need for more research to obtain feedback from students who undergo academic literacy diagnostic assessment post admission to university.

Aims

In this study, we sought to add to this literature by exploring students' perceptions of the combined strategy of embedding academic literacies education and diagnostic assessment using the MASUS, and whether they thought this was effective in developing their academic literacies capability during their first year. The specific research questions were:

1. How do students perceive the relevance of academic literacies?
2. How prepared were they on entry to university for the academic literacies expectations they subsequently encountered?
3. To what extent do students believe they improved during their first year? If not why not?
4. What are students' opinions of the embedded academic literacies diagnostic procedure (MASUS) and feedback that they experienced in first semester?

Methods

The study was granted ethical approval by the University of Newcastle Human Research Ethics Committee. All 458 first-year undergraduate nursing students who were enrolled in their second semester of study were invited to participate in the anonymous survey using the electronic survey tool QuestionMark Perception™. The 20-item survey comprised demographic, closed and open-ended questions. A face validation process was conducted with a sample of potential

participants prior to sending out to the full cohort.

Participants

Of the 458 first-year students invited to participate in the study, 165 completed the survey (response rate=36%). All participants had experienced embedded academic literacies education and the MASUS diagnostic assessment during their previous semester (Palmer et al., 2014). The demographic profile of participants was diverse except for gender and nationality. The majority (85%) were female while only four percent were international students. Just over half were over 30 years old. Nearly a third had gained admission through the university's enabling programs, nearly a quarter were enrolled part-time and only 11% had entered straight from high school. Nearly 60% had not undertaken formal study of any kind for seven years or more.

Analysis

Open-ended written survey questions were analysed utilising the qualitative content analysis and inductive category development approach and process of Mayring (2000). Responses to each question were combined in Microsoft Excel, read thoroughly and carefully by the primary researcher, organised and assigned preliminary categories. Colour coding was used to assist in the identification and

tracking of responses to particular categories. This was needed where participants gave more than one response to an open-ended question. Any responses that did not answer the question or did not make sense were removed. Preliminary categories were revised and refined in a step-wise feedback loop process and a formative check of reliability was undertaken by the two co-researchers. After continued checking and revision a summative check of reliability was undertaken, followed by a frequency count of responses in each category. These are presented either as percentages or numbers of responses, depending on whether the question was closed or open-ended. When quoting participants' responses, no changes to their grammar, spelling, punctuation or written expression were made.

Results

Research question 1: Relevance to nursing degree

A surprising 74% of responses were positive about the relevance of academic literacies. The reasons for this were grouped into six categories, which are detailed in Table 1. The most frequent reason given was the link to critical thinking and being better informed about evidence-based practice.

It is central to critical reasoning skills, evidence based practices and communication skills.

Table 1: Reasons for positive view of relevance of academic literacies

Category	Number of responses
Critical thinking and being informed of best practice evidence	42
Demonstrating knowledge and understanding	26
Communicating effectively and safely in the clinical setting	25
Setting a professional standard	15
Useful for post-graduate study or future career	5
Demonstrating honesty and accountability	3

Table 2: Reason for academic literacy self-rating on program entry

Category	% of participants
Very unprepared: “No idea” about academic literacy requirements	26
Well prepared: Because of prior degree or recent school	25
Many years since prior study: “Feeling rusty” or “things have changed”	27
Reasonably prepared because of enabling program: Still some way to go	12
Not prepared despite enabling program: Reality a shock	9

In contrast, 15% of participants were more equivocal. These respondents thought academic literacies were only relevant to a certain extent and received too much emphasis compared to clinical skills.

Ugh!!! Being the lazy person I am I can see the relevance in academic literacy and giving credit to the source in an essay. However I can't see how sitting for hours on end trying to write the ever elusive perfect essay gives the practical skills required for nursing. I would much rather being doing the practical stuff to gain the required knowledge than sitting with my head in a text book or pouring over journal articles

Finally, seven percent of students could see no relevance at all for academic literacies in a practice discipline. They expressed frustration with the emphasis that academic literacies received and how much of a struggle it could be to meet the requirements.

I feel really it is not relevant. As nurses our clinical knowledge should be marked not our academic writing.

There are times I find it very fusterating, your spelling and grammer and referencing can mean a difference between a pass or fail. I have never been very academic and struggeled through out my school years, I can talk about topics by [but] putting it to paper is challenging for myself.

Research question 2: Preparedness on entering the undergraduate program

Students were asked to reflect on their academic literacy skills on commencing first year, to rate these on a scale of zero to 10 and explain their reasons for that rating. Over half of participants (54%) rated themselves at five or below, and only 10% self-rated at eight or higher. The reasons for this were grouped into five categories, which are detailed in Table 2.

Just over a quarter of participants said that they had given themselves a low preparedness rating because they had “no idea” about academic literacies and what the requirements were on entering university. These students lacked confidence, were worried and quite negative about themselves and their abilities. They were struggling and often had a prior history of only just passing or failing courses.

I had no understanding of academic literacy before starting university.

From year 10 my academic work was always just to scrape through.

I have never been good at academic, I struggle putting pen to paper, knowing what to wright and how to make it sound intellegent, I am terrible at speller and grammer, hence lacking confidence

I started nursing in 2010 and i failed most of my subjects in first semester. Prior to [this] i

had been a stay at home mum it has also been over 10 years since I dropped out of school due to being pregnant

I have never been a good writer.

In contrast, a quarter of participants explained their reasons for their self-rating in very positive terms. Well-prepared because of previous study (Higher School Certificate, or other degree or course), they were articulate, capable and able to explain their strengths and prior achievements in detail. Self-belief and confidence were evident in their responses.

English was always my best subject in school and I got a mark in English for the HSC in the high 80s.

I have had the benefit of being able to naturally write well since childhood.

I have completed a degree in psychology so I am well practiced in at essay writing and using APA referencing.

The third group were more cautious in their self-rating. With varying degrees of confidence, they explained it had been many years or decades since they had done any formal study and things were different now. They described themselves as being "rusty" and lacking practice or having lost skills because of the passage of time. Some observed that, with practice, they were learning and improving, while others focused on issues they were not confident about. Participants also spoke of their prior work experiences and the differences between the skills they had acquired there compared to the skills needed to succeed at university. They also referred to gaps between any previous study and what was required for their degree. For many of these participants, it had been decades since they were involved in any form of study; with the longest being 32 years, but over 10 years was common.

Having finished high school more than 10 years ago I was rusty with my writing skills.

It has been over 20 yrs since I attended high school, and even back then it wasn't something that was at the fore front of my learning.

Being a mature age student it has been along time since leaving school and I have not been required to use higher thinking reading and writing skills.

I hadn't written an essay for about 8 years. I hadn't had to do anything academic for so long that it took a little while to get back into that headspace.

Even when they possessed prior qualifications, participants were still somewhat cautious about their academic abilities. Nevertheless, they had been able to identify their learning needs and were fairly confident of being on the right track, even if there was still some way to go.

I did complete a Diploma from TAFE after I left school, completed it in 2000. Since then I have worked full-time in my industry and have not studied during this time. I did doubt myself at first but being a mature aged student, I believe I have adapted very well.

I have a prior degree which has informed me of the importance of academic literacy. I have also had postgraduate academic experience. Due to the time frame since my last exposure to such content, it has taken me some time to build up my confidence regarding academic writing, hence, I still have considerable room for improvement.

A fourth group of participants (12%) referred to their enabling programs and felt reasonably well prepared by them. They were a bit overwhelmed but quietly confident and even proud of their progress. Most said they were able to carry what they had learned in their enabling program through to their nursing degree. Despite feeling overwhelmed at first, these participants thought that they were improving with the help they had received.

Table 3: Reason for current academic literacy self-rating (in semester 2)

Category	% of responses
Constant practice and hard work paying dividends	23
External and internal signs of improvement: marks getting better and feeling more confident	22
Receiving good feedback (from MASUS)	14
Feeling of improving but “only a bit” and “still a long way to go”	14
Not improved and still really struggling	9
Improved due to guidance, support, encouragement and praise	5
Did not need to improve (already pretty good)	2

I was taught to write while doing open foundation and those skills have stayed with me.

I had completed the Newstep program and started a different degree at [at another university] so I felt that I had at least been introduced to it prior to commencing. Although I had been introduced to it I still had plenty of places to improve and with the assistance and feedback from an excellent tutor I was able to do this and see the result.

However, a smaller group (nine percent) said that their enabling program or prior school study did not really prepare them and they got a shock when they came to university.

Even though I had achieved high band 4's and 5's in my Higher School Certificate, the style of reading, writing, thinking and analysing the information within my Bachelor of Nursing degree is completely different. I believed I had done well in my first assessment task, but results showed that i was only just receiving a passing grade. The results scared me to know how different High School is to University...

I always thought of myself as a competent writer until I started this degree.

Research question 3: Improvement and mastery by the end of first year

Participants were then asked to rate their current academic literacies capability on a scale of 0 to 10 and explain the reason for that rating. The results of this were that only 23% now rated themselves between zero and five and 36% rated themselves at eight or higher. This represented a considerable improvement compared to their program entry self-ratings. The reasons for the current ratings were expressed in seven categories, which are detailed in Table 3.

Participants who rated themselves higher this time said it was because they were working hard on their academic literacies and had a plan. Others said they relied on external and internal signs such as improved marks or a feeling of confidence and mastery. It was important that they now knew more about what was expected of them and were now paying close attention to expectations and becoming more aware of them. Receiving good feedback, help, advice, guidance, encouragement and support were also reasons for improvement.

I know what is expected... half of the battle is understanding what is required.

Table 4: Reasons for positive responses to MASUS

Category	No. of responses
MASUS gave constructive positive individual feedback on strengths and weaknesses.	73
Insight into expectations and what markers were looking for	26
MASUS is simple and clear, easy to interpret and understand	17
Validated skills and imparted confidence	8

With each assessment my grades have improved so I am taking on board the corrections made to my writing.

I had a wonderful tutor... I feel her encouragement and praise made a huge difference.

Participants who still gave themselves a low rating said they had only improved a bit and were not confident yet. Others cited issues such as health problems, feeling that they were trying hard but getting nowhere. Others felt that their assessment markers were inconsistent and hence the outcomes of the marking process could be capricious.

[Rating is still] Poor because of the mental health condition I have where I struggle to focus and recall information.

It is dependent on who is marking the work, each tutor has their own preferences which can go either way in the result.

Research question 4: Perceptions of embedding the MASUS

Students were asked about their opinions of the embedded MASUS diagnostic procedure. On the question of whether they thought this would enable them to obtain better results at university, 70% said unequivocally that it would or had already done so. An additional 15% said that it would if combined with more feedback and support. However, 15% of participants did not think the MASUS had been useful or were confused about it or did not recall

it. For the 85% who indicated that the MASUS either had been or potentially would be helpful, there were four main reasons for the positive responses.

The majority of responses indicated that the MASUS was helpful because it gave detailed individual feedback that identified strengths and weaknesses and focused on areas needing improvement, but in a positive way and without the added stress of it being a formal assessment.

Told me where I was at.

The feedback is always good even if it's bad.

It showed me areas that I needed to focus on and I was able to apply this to my next assessment task.

It was specific to my own writing style and I got individualised feedback.

It allowed reflection on writing, and where to improve in my writing, but what my strengths were.

The second most frequently stated reason for approving of the MASUS was that it provided a guide as to expectations and what the markers were looking for. It gave direction and a framework to enable students to critically examine their own work.

It allowed me to see what they were looking at, and how they were looking at it.

Thirdly, the MASUS was perceived as helpful because it is simple, clear, concise, methodical,

easy to understand, and with a logical structure that was relatively quick to use.

I found most helpful about the MASUS the fact that it broke down all the areas of academic literacy so that it was easy to understand what areas I was weaker in.

Finally, the MASUS was perceived as helpful for some because it validated that they were on the right track and gave them confidence and encouragement.

It boosted my confidence and helped ease my worries of not being smart enough for university.

It let me know how I was going, which was encouraging after such a long time

The 15% of participants who were somewhat more equivocal about the MASUS raised a number of issues. Firstly, the quality of feedback was important. For the MASUS to be useful the feedback needed to be specific, tailored to the individual and constructive. Some students experienced the feedback as being vague or lacking in depth.

As I received [top rating] I received minimal feedback. It would have been nice to be given some areas to focus on for improvement.

There was also the issue of how to improve, where to go to find help and that practical follow up strategies were needed. This was also seen as very important.

It felt left to my own devices to improve from there.

Finally, 15% students said that the MASUS was not helpful and identified a number of reasons for this. These included that their results had not improved thus far or that they found the MASUS confusing or did not take it into consideration when preparing their assignments because it was one more thing to be stressed about. Some raised the issue of assignment marking criteria being confusing or

inconsistently applied by markers having a greater impact on their results.

Discussion

Research question 1: Relevance to nursing degree

A large majority of participants perceived academic literacies in a positive light. They were able to articulate several reasons for this, making links to critical thinking, understanding the literature of the discipline, using evidence in clinical practice and communicating effectively and professionally in clinical contexts. This result confirms the usefulness of an embedded approach to developing skills which are required elements of nursing practice standards and are necessary for patient safety, as identified by Jefferies et al. (2018). This was pleasing as we had sought to emphasise the wider professional applicability of academic literacies, such as the relevance to evidence-based practice, as part of our embedding strategy.

Read (2016) argues that one of the strengths of the MASUS is its capacity to address the professional needs of disciplines such as nursing and engineering, where students' connection with their discipline often begins while they are studying, as part of their work integrated learning, or placement activities. When the MASUS is effectively embedded it enables conversations about disciplinary expectations to take place and for the focus to move beyond grammar to wider considerations of how students will be expected to perform in specific disciplinary inherent requirements, such as communication and (for nursing) clinical reasoning.

There is also increasing support in the literature for better links between academic literacies and disciplinary knowledge and for more critical evaluation of the rules, conventions, practices and knowledge structures which characterise them (Clarence & McKenna, 2017). Participants

who did not perceive the relevance of certain practices such as essay writing (for example) or who had valid concerns about the nature and impact of particular academic literacy expectations, expressed their disquiet about these issues in their survey responses. This reinforces how important it is to ensure that assessment tasks are discipline specific in genre, meaningful and relevant to post-graduation professional clinical practice (Gimenez, 2008).

Research question 2: Preparedness on entering the undergraduate program

Our findings highlighted the different ways in which students from diverse backgrounds experience the academic literacies expectations of their nursing program. Only 37% of participants indicated that they felt well or reasonably well prepared. This is in contrast to Mabokang (2017) who found that overall, students perceived themselves to be well prepared—more so than the evidence from other sources, such as course results, suggested they actually were. Lack of preparedness has been linked with attrition (Jansen & van der Meer, 2016) and is one of the reasons why some universities undertake system-wide post entry language assessment (Read, 2008). What our study shows is a wide variation between those who were confident in their abilities compared with those who said they had no understanding of academic literacies when they commenced university. One of the reasons that we did not correct the spelling or grammar in any of the quotes we included in our results, was to highlight this very issue. This, combined with the possibility that some students may be overestimating their preparedness, provides strong support for universities to address under-preparedness in ways that effectively meets the needs all students, no matter what their background.

Our findings also showed that students with low perceptions of their preparedness were lacking

in confidence. Lack of confidence, especially for those who have not done any formal study for many years, is not surprising. However, such low self-perceptions, especially when couched in negative, almost defeatist language, made confronting reading and do not bode well for their prospects for success. These are students who may not be well served by the equity agenda, post admission to university. They were apprehensive about not being able to master academic literacy requirements and feared that over-emphasis on them would impact unfairly on their success. It was difficult to read their stories and struggles without being profoundly moved by them and feel inspired to do better on their behalf. Their stories give human faces to the attrition statistics and illustrate the importance of understanding the context of learning from the students' perspective as well as critical examination of literary practices to ensure they are less arbitrary and more explicit and transparent (Clarence & McKenna, 2017).

Research question 3: Improvement and mastery by the end of first year

At the end of the first year, students self-rating of their academic literacies capability improved substantially. Aspects of this; such as quality feedback, improved marks and support and encouragement could reasonably be associated with using the MASUS procedure for diagnostic assessment and embedding literacies in the curriculum. This finding is supported by other studies which showed improvement in students' literacy ratings or their course results (Hillege et al., 2014; Holder, Jones, Robinson & Krass, 1999; Palmer et al., 2014; Sacre et al., 2009).

However, our findings also showed that at the end of their first year some students were still lacking confidence in particular areas, or felt they were not improving. This suggests the need for a whole of program approach to academic literacies, which extends beyond the first year. In recent decades, universities have been

increasingly expected to focus on the employability of their graduates and produce graduates who are work ready (Tran, 2016). This is a complex area, comprising multiple strategies, however the MASUS procedure contains elements which lend themselves to the development of some of the graduate attributes that employers are seeking. Therefore, examination of extending and embedding academic literacies instruction beyond the first year of university and exploring links to employability post-graduation are potential aspects for further research in this area.

Research question 4: Perceptions of embedding and the MASUS

The high level of support we found from participants for the strategy of embedding academic literacies within a first-year course was consistent with the findings of De Maio and Desierto (2016) and Jefferies et al. (2017). What this study adds to current literature and work in this area is depth and specific detail about the reasons why students find this approach useful, particularly when combined with the MASUS procedure. Our results showed that even students who entered the program with a recent successful track record of prior learning, valued the opportunity to receive individualised feedback and insight into particular requirements and expectations that contextualised diagnostic assessment provided. Further; transparency, reassurance, encouragement, clear and specific guidance about areas students could focus upon and a plan for future development were all perceived as beneficial. While embedding has strong support in the literature (Jansen & van der Meer, 2012; Jefferies et al, 2017; McWilliams & Allen, 2014;) it is helpful to understand as we develop these innovations what specifically students find useful, so these aspects can be retained, irrespective of the different types of integration strategies being employed.

Limitations

This study was limited by its focus on first year nursing students and its relatively small sample size. However, the demographic profile of participants was sufficiently diverse to enable the findings to be cautiously generalised to other disciplines with similar profiles. Our strategy for embedding academic literacy diagnostic assessment involved the MASUS, so the findings may have been different had other diagnostic procedures been used. Further research using in-depth qualitative approaches and longitudinal studies are recommended to follow students beyond first year and also to identify correlations with key demographics such as entry path, years since prior study and gender. There is also a need to explore issues such as the impact of inconsistencies in academic literacies expectations, making disciplinary conventions more explicit and transparent and further development and evaluation of models of embedding.

Conclusion

This study provides strong support from students' perspective for the benefits of embedded academic literacies when combined with the MASUS diagnostic assessment. In accordance with Wingate's (2015) model, this was demonstrably the case for all students, not only those who might be deemed, because of background and prior experiences, to be at higher risk of disengagement and attrition. Students who experience academic literacies integration are also able to articulate the relevance of academic literacies to their discipline and for their future professional development. This is important for practice disciplines such as nursing, where patient safety is a critical issue. While this study involved undergraduate nursing students, the findings are potentially useful for other disciplines, particularly for those with highly diverse student cohorts.

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