

Narrowing Student Retention Gaps through Immersive Block Learning: Findings from a Six-Year Case Study at an Australian University

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Abstract

This study examines whether a radical institution-wide curriculum reform integrating immersive block scheduling with active learning pedagogy can improve student retention at scale. Using a retrospective observational design, we analysed six years of data (2019–2024) related to student retention and attrition at a public Australian university (N = 108,237) across course level, student group, resident status, gender and study mode. Findings reveal increased retention and decreased attrition overall and for all cohorts following the introduction of immersive block learning. Particularly strong outcomes were observed for postgraduate, commencing, international, male, and internal students, indicating that immersive block learning has contributed to a narrowing of student retention gaps across the institution. We posit that reducing cognitive load through focused scheduling while implementing active learning can catalyse measurable improvements to persistence. The results indicate that systemic, research-informed, curriculum-led approaches can improve retention across diverse student populations in higher education.

Keywords: *immersive scheduling; block model; retention; attrition; active learning; curriculum reform*

1. Introduction

Student retention remains a policy and practice priority in higher education (HE). It is typically defined as students' successful continuation from one period of study to the next (Tinto, 2012). Student attrition is widely recognised as a 'wicked problem' characterised by interdependent academic, social and structural factors, making it resistant to narrow, single-focus solutions (Beer & Lawson, 2018). At the same time, retention carries significant financial and reputational implications for students and institutions, and so is frequently positioned as a key performance

indicator in national regulatory and quality assurance systems in contexts such as the United Kingdom (UK) and Australia (Department of Education, 2025; Office for Students, 2022).

A large body of research highlights the importance of academic engagement, belonging and coherent learning experiences for student persistence (e.g. Tinto, 2012). Curriculum is a powerful lever for shaping these conditions, given its potential for integrating and aligning learning outcomes, assessment, pedagogy and student support across large cohorts (Kift, 2015; Wilson et al., 2025). System-level curriculum reforms, however, can be complex and contested, requiring coordinated institutional action and academic development to succeed (Roche et al., 2024). Investigating the efficacy of curriculum reforms aimed at enhancing student retention is therefore an important area of HE research, with relevance for HE practice and policy globally.

1.1. Immersive Block Models and Active Learning in Higher Education

Immersive block models are a form of curriculum innovation that have garnered recent attention as an alternative to traditional semester delivery in various international contexts (e.g. Buck & Tyrrell, 2022; Roche et al., 2024). Also known as intensive, accelerated or concentrated delivery, immersive blocks involve study periods scheduled over 4–8 weeks with a full-time load of either one or two units at a time (Roche et al., 2024). Informed by cognitive load theory (Sweller, 1988), block delivery is theorised to enhance focus and academic achievement by reducing cognitive overload from competing subjects and assessments (Goode et al., 2025).

Beyond focused scheduling, recent enactments of immersive block learning also involve fundamental changes to pedagogical approach, and in particular, a concerted shift towards active learning pedagogies (Wilson et al., 2025). Such approaches emphasise problem-solving, discussion and application over didactic lecturing and rote memorisation. Recent studies emphasise that the benefits of immersive scheduling can be best realised when coupled with holistic pedagogical reform (Buck & Tyrrell, 2022; Goode et al., 2022, 2024). For example, at a UK university, combining active and blended learning with immersive block scheduling promoted deeper engagement and academic progression (Buck & Tyrrell, 2022). At an Australian university, qualitative student data emphasised the importance of greater focus, dialogic teaching, and interactive online learning opportunities (Goode et al., 2022, 2024).

Evidence from multiple international contexts shows the positive effects of immersive, active learning on university student success and engagement (Buck & Tyrrell, 2022; Wilson et al., 2025), including for students from underrecognised or ‘equity’ backgrounds such as low socioeconomic status or studying with a disability (Roche et al., 2025). Yet, evidence linking block delivery to institution-wide changes in retention remains limited. A program-level study reports increased retention (Edward et al., 2024), while another multi-institution analysis has found that block delivery is not a significant predictor for retention (Artis & Overton, 2010).

1.2. Contribution and Research Questions

Overall, the literature on student retention and immersive block learning is scarce, and further investigation is required to explore whether reported gains in success (pass) rates can translate into higher retention rates at a whole-of-institution scale. This paper aims to respond to this gap by undertaking an exploratory investigation of retention and attrition rates in traditional semesters and immersive block delivery at an Australian university. Using six years of institutional data, we explore the questions: Are there improvements to student retention and attrition following the introduction of an immersive block model? Are outcomes different according to course level, student group, resident status, gender, or study mode?

2. The Southern Cross Model

This investigation reports on the Southern Cross Model (SCM), an immersive block model implemented progressively across 2021–2023 at an Australian public university (Roche et al., 2024). The university serves approximately 19,000 students, with over 65% of domestic students identifying with Australian government-defined ‘equity’ groups such as low socioeconomic status or first-in-family to attend university.

In the SCM’s immersive scheduling approach, units are delivered over six, 6-week terms in a calendar year. A full-time student typically enrolls over four terms from March to October, and completes a maximum of two units at a time (a total of eight units per year, which is typical in Australian universities). As discussed above, the SCM not only involved scheduling changes, but also a concerted shift towards active learning pedagogy across the university (Chickering & Gamson, 1991). Together, the SCM’s scheduling and pedagogical approaches are designed to support *focused learning*, with reduced cognitive load compared to traditional semesters, *guided learning* that engages students in scaffolded self-access learning alongside interactive classes, and *active learning* that emphasises discussion, collaboration and formative feedback (see Roche et al., 2024 for a fuller discussion of the SCM’s core principles).

3. Methodology

This study employs a quantitative retrospective observational methodology (Human Research Ethics approval #2022/054). Data on student retention and attrition from 2019–2024 were extracted from dashboards developed by the university’s Business Intelligence and Quality unit.

Students were categorised according to course level (undergraduate, postgraduate), resident status (domestic, international), gender (female, male), study mode (internal, external, mixed), or student group (commencing, continuing), where ‘commencing’ refers to students in their first year of a program and ‘continuing’ refers to students in a subsequent year.

Retention and attrition rates were calculated for each cohort in each year according to the following formulae: Retention rate = Retained students / (Total students – Completed students); Attrition rate = Attrited students / Total students. Both are lagging measures; ‘retained’ students are those who returned to study at the institution in the calendar year after they were last enrolled, and ‘attrited’ students are those who neither returned to the institution nor completed their program in the year after they were last enrolled. Therefore, data categorised as ‘2024’ refer to students who were enrolled in 2024 and returned or attrited in 2025. Treating retention/attrition as binomial outcomes, we also computed two-sided 95% confidence intervals for each cohort in 2019 and 2024 using Wilson score intervals (per Wallis, 2022). This allowed comparison of a ‘baseline’ year of semester delivery prior to the disruptions of the COVID-19 pandemic, with a recent year where the whole university was in immersive block delivery.

4. Results

As shown in Table 1, upward trends for retention and downward trends for attrition are evident for every cohort in the sample. Overall, retention increased by 10.7% points and attrition decreased by 10.2% points from 2019 to 2024. The largest gains were observed for international (retention +30.2% points; attrition -26.1% points) and postgraduate students (+22.4; -18.7). Substantial improvements also occurred for internal (+18.2; -16.2), male (+16.0; -15.2) and commencing (+13.4; -13.4) students, bringing outcomes for contrasting cohorts into closer alignment. The 95% confidence intervals indicate that all improvements are statistically significant at $p < 0.05$, with the potential exception of retention for mixed mode students.

Table 1. Retention and attrition across student cohorts, 2019–2024. Source: Retention & Attrition Dashboard, Southern Cross University, January 2026.

Cohort		2019 (95% CI)	2020	2021	2022	2023	2024 (95% CI)	Change (% pt)
Overall (N = 108,237)	RR	68.7 (68.0–69.5)	73.3	73.5	73.7	76.3	79.4 (78.7–80.1)	10.7
	AR	25.5 (24.9–26.2)	21.3	20.9	20.5	18.0	15.3 (14.8–15.8)	-10.2
Undergraduate (n = 74,557)	RR	72.7 (71.9–73.6)	74.5	73.4	73.2	75.9	78.1 (77.3–79.0)	5.4
	AR	23.1 (22.4–23.8)	21.6	22.4	21.9	19.3	17.5 (16.8–18.2)	-5.6
Postgraduate (n = 33,680)	RR	59.6 (58.2–61.0)	69.9	74.0	75.4	77.3	82.0 (80.8–83.1)	22.4
	AR	30.5 (29.4–31.7)	20.6	17.1	16.4	15.3	11.8 (11.0–12.6)	-18.7
Commencing (n = 46,402)	RR	64.8 (63.7–65.9)	70.2	71.1	69.6	72.9	78.2 (77.2–79.2)	13.4

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	AR	32.5 (31.5–33.5)	27.3	26.8	27.9	24.1	19.1 (18.3–20.0)	-13.4
Continuing (n = 61,835)	RR	72.6 (71.7–73.6)	76.3	75.7	77.9	79.8	80.8 (79.8–81.8)	8.2
	AR	20.1 (19.3–20.8)	16.9	17.1	14.8	13.4	12.1 (11.5–12.8)	-8.0
Domestic (n = 82,018)	RR	75.8 (75.0–76.6)	75.3	72.8	73.4	76.3	78.4 (77.5–79.2)	2.6
	AR	20.0 (19.3–20.7)	20.5	22.1	21.0	18.2	16.6 (16.0–17.3)	-3.4
International (n = 26,219)	RR	51.9 (50.5–53.4)	64.5	77.6	74.8	76.3	82.1 (80.8–83.3)	30.2
	AR	38.4 (37.1–39.6)	24.2	15.6	18.3	17.3	12.3 (11.4–13.2)	-26.1
Female (n = 70,493)	RR	73.4 (72.5–74.3)	75.1	74.4	74.6	77.7	80.3 (79.5–81.1)	6.9
	AR	21.4 (20.7–22.1)	19.9	20.5	19.8	16.8	14.5 (13.9–15.2)	-6.9
Male (n = 37,623)	RR	61.7 (60.5–62.9)	70.1	72.0	71.8	73.5	77.7 (76.4–78.9)	16.0
	AR	32.0 (31.0–33.1)	23.8	21.8	21.7	20.4	16.8 (15.9–17.8)	-15.2
External (n = 49,602)	RR	71.9 (70.7–73.0)	72.0	70.9	70.2	72.8	76.0 (74.9–77.0)	4.1
	AR	22.6 (21.6–23.6)	23.0	22.8	22.9	20.6	17.2 (16.4–18.0)	-5.4
Internal (n = 37,251)	RR	60.2 (59.1–61.2)	63.7	70.7	71.2	73.5	78.4 (77.2–79.6)	18.2
	AR	32.5 (31.5–33.4)	26.4	22.5	21.4	20.6	16.3 (15.4–17.3)	-16.2
Mixed (n = 21,384)	RR	87.9 (86.6–89.1)	88.3	82.8	84.3	87.9	90.1 (88.9–91.2)	2.2
	AR	10.4 (9.3–11.5)	10.1	14.5	13.2	9.1	7.9 (7.0–8.9)	-2.5

Notes. RR = retention rate. AR = attrition rate.

5. Discussion and Conclusion

Comparing retention and attrition across a multi-disciplinary public university in 2024 with baseline results in 2019 (the last ‘business-as-usual’ year of semester delivery before the COVID-19 pandemic), both measures improved by more than 10% points. Significant improvements were also observed for almost every sub-cohort and measure. The magnitude of

the changes contrasts sharply with Australia-wide trends, where retention among commencing Bachelor students in Australian universities from 2019–2023 rose by just 0.16% (Department of Education, 2025). This indicates that the immersive block model, incorporating both scheduling changes and a pedagogical shift towards active learning, likely had a core role in lifting outcomes at scale across the university.

A notable implication is that this form of learning may be a promising alternative to traditional semester delivery, particularly in contexts with highly diverse cohorts seeking to study alongside multiple other commitments. For these students, enhancing focus and reducing cognitive overload may contribute meaningfully to their academic success – and ultimately persistence throughout a degree. Although these drivers are not conclusively evident from the data, this is consistent with evidence of increased academic achievement in prior studies of immersive block learning approaches combining focused scheduling with active learning pedagogies (Buck & Tyrrell, 2022; Goode et al., 2022, 2024; Loton et al., 2022).

Comparing the cohort-level results, international and postgraduate cohorts exhibited the largest gains. For postgraduates, immersive learning with high-quality self-access materials may support the independent yet guided study that these learners often prefer, while providing clear structure and timely feedback (Evans et al., 2018; Goode et al., 2025). Undergraduate students may find the adjustment to more independent forms of study more challenging, dampening the impact of the immersive block model. However, it is also encouraging to see that retention and attrition were affected positively after the immersive block model was introduced.

For international students, reducing concurrent subjects may alleviate language- and context-related cognitive load; this appears corroborated by a recent mixed-methods study in the same immersive context (Goode et al., 2025). It is possible that more modest changes for domestic students reflect factors extrinsic to curriculum. While international student visa conditions restrict paid work, rising cost-of-living pressures are associated with higher paid work hours alongside study for Australian residents (Senate Select Committee on the Cost of Living, 2024), which can lead to attrition. Given the likelihood that external students have high work and caring responsibilities, this may also explain, in part, why external student retention did not increase as strongly as for internal students after the immersive block model's introduction. Meanwhile, the finding related to greater retention gains among male students compared to female students aligns with results from a UK university where an immersive block model was postulated to assist male students to better organise and manage their time and effort (Turner et al., 2021).

Overall, the institution-wide adoption of an immersive block model aligned with active pedagogy was associated with substantial improvements to retention and attrition, far exceeding national outcomes. A narrowing of retention gaps between contrasting cohorts also occurred, signalling the potential of immersive block learning for supporting more equitable learning, particularly among diverse student populations seeking to study alongside other commitments.

5.1 Limitations and future directions

Although this study provides promising indications of the potential of immersive block learning as a curriculum reform strategy for raising student retention, a number of caveats should be considered. First, as a retrospective observational study of a highly complex phenomenon (Beer & Lawson, 2018), causal inference is limited. Various factors which may have been influential were unmeasured, including admissions requirements, institutional support initiatives, pandemic effects, and student circumstances. Second, employing more robust statistical techniques would strengthen the insights offered by this exploratory study. And, as a single-institution case study, the generalisability of the study outcomes – particularly to institutions with different student demographics – remains unclear. Future research could extend the analytical techniques used, conduct more granular analyses (e.g. at a discipline level), and explore multi-institution comparisons. Student voices should also be gathered and analysed to better explain the observed trends. Nonetheless, with more universities moving to block models globally, this research will not only become more achievable, but also more important. Institutions considering innovative models of education must be able to better understand their impacts, and how improvements to such models can benefit the student cohorts they serve.

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