

2023

## The Block: A catalyst for ongoing innovation

Loretta Konjarski

Victoria University, Australia, [loretta.konjarski@vu.edu.au](mailto:loretta.konjarski@vu.edu.au)

John Weldon

Victoria University, Australia, [john.weldon@vu.edu.au](mailto:john.weldon@vu.edu.au)

Susan Ashley

Colorado College, United States, [sashley@coloradocollege.edu](mailto:sashley@coloradocollege.edu)

Traci Freeman

Endicott College, United States, [tfreeman@endicott.edu](mailto:tfreeman@endicott.edu)

Jai Shanata

Cornell College, United States, [jshanata@cornellcollege.edu](mailto:jshanata@cornellcollege.edu)

*See next page for additional authors*

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### Recommended Citation

Konjarski, L., Weldon, J., Ashley, S., Freeman, T., Shanata, J., Yamanishi, M., Lotz, E., Gilde, C., & Ganzel, A. (2023). The Block: A catalyst for ongoing innovation. *Journal of University Teaching & Learning Practice*, 20(4). <https://doi.org/10.53761/1.20.4.13>

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## The Block: A catalyst for ongoing innovation

### Abstract

This paper will contribute to our understanding of the Block, its pedagogical rationale and value, and explain why, apart from pandemic conditions, these might constitute a compelling alternative to traditional academic calendars. Current research highlights the need for further research on the nature of the Block, driven by an increased global focus on student outcomes and retention in Higher Education. This paper offers five case studies from institutions that have adopted a version of the Block at some time over the last 50 years. The authors seek to define the features that comprise block courses whereas the nature and functionality distinguish blocks from other intensive formats. A survey of the limited literature on this topic was based on theoretical underpinnings offered by one-course-at-a-time delivery, scholarship of teaching and learning on compressed education, and experiential learning. Using the research question, "Other than scheduling alternatives, what does the block offer HE institutions?", this project uses research that is qualitative in nature drawing on a controlled comparison of case studies which enables a cross-institutional evaluation. The case studies explain why each institution adopted the Block, how these schedules work, and discusses the challenges and affordances of teaching in this intensive format. First findings of this cross-institutional exploration suggest that blocks are unique in their delivery, often experiential in nature, and effective in their outcomes. The various versions of the Block described within, provide ongoing transformative models of teaching philosophy, curriculum, student success, and more.

### Practitioner Notes

1. Addresses the implementation of curricula (block) as a means of delivering courses as a response to institutional needs;
2. Highlights the benefits of the Block initiative for student engagement;
3. Demonstrates that there are many ways of delivering the Block (one course at a time) that could suit most institutions;
4. Builds upon the research available on the block delivery and its benefits and challenges;
5. Utilises a case study approach to demonstrate the various methods of block delivery

### Keywords

Block model, intensive, teaching and learning, scheduling, experiential, innovation

### Authors

Loretta Konjarski, John Weldon, Susan Ashley, Traci Freeman, Jai Shanata, Meghan Yamanishi, Erin Lotz, Christian Gilde, and Alice Ganzel

## Introduction

In 2020, the global pandemic caused havoc in higher education. In an effort to manage this disruption, many institutions revisited their academic calendars, adopting alternate formats, such as the Block, to create small class cohorts and reduce the number of online courses that students had to manage at one time (McKie, 2022; McMurtrie, 2021).

Blocks are distinguished from other time-shortened schedules by their relatively brief duration, contact hour requirements (Davies, 2006), and the fact that students usually undertake block subjects one-at-a-time, (Tatum, 2006). Blocks are typically three-to-four weeks long, which further differentiates them from other compressed or intensive courses, which are often between six and eight weeks. Unlike accelerated courses, blocks generally have the same number of contact hours as traditional 12-or 16-week semesters. Class sizes are small, and there is a focus on in depth, participatory, social constructivist approaches to study (Gose, 1995; McCluskey et al., 2019). They often require students to meet frequently, even daily, and for extended periods of time, often well beyond a 50 or 75- minute class periods (Davies 2006). Another defining characteristic of blocks is that students in a block schedule take courses one-at-a-time rather than concurrent with other courses (Tatum, 2010).

A small number of institutions had previously adopted versions of the Block at various points since the 1970s, seeing the potential of the format not only to revolutionise timetabling but also to act as catalysts to major reforms in pedagogy, student motivation, engagement and outcomes, community building, and experiential education (McCluskey et al., 2019; Turner et al., 2021).

Using the research question, “other than scheduling alternatives, what does the Block offer Higher Education (HE) institutions compared to other academic calendars?”, this article discusses cases, from five institutions that explain why each adopted a version of the Block, how these work, and what challenges and affordances they bring. The authors seek to define the characteristics of the Block, contribute to our understanding of their pedagogical rationale and value, and explain, apart from pandemic conditions, why these features might be compelling alternatives to traditional academic calendars. However, the authors also understand that this is a limited study and as such hope it will inspire further research, rather than being an end in itself.

The table below introduces the reader to the five institutions studied and provides basic institutional information for comparison.

	<b>Number of Undergraduate Students</b>	<b>Student to Faculty Ratio</b>	<b>Type (Private or Public)</b>	<b>Campus/Residential</b>	<b>Commuter/Remote</b>	<b>Responses to Covid - change of delivery</b>
<b>Colorado College</b>	~ 2300	10:1	Private	✓		Online only for 1.5 years
<b>Cornell College</b>	~ 1,050	13:1	Private	✓		Online only for .5 year
<b>Prescott College</b>	~ 300		Private	✓	✓	Online only for .5 year
<b>University of Montana Western</b>	~ 1300	✓	Public	✓		Online only for 1.5 years
<b>Victoria University</b>	~28,000	✓	Public		✓	Online only for 1.5 years

Table 1. Characteristics of Case Institutions – this table compares basic similarities and differences in the types of schools studied

Campus/Residential– indicates students generally live and study on campus

Commuter/Remote – indicates students generally live off campus

The table below details the varying nature of the Block in the five institutions.

<b>Institutions</b> and their nomenclature for block structure	<b>Initial Incorporation of the Block</b>	<b># of blocks Per Academic Year</b>	<b>Typical # of Contact Days Per block</b>	<b>Additional Block Formats or Timeframes</b>	<b>Direct Instruction Hours Per Day in 5-day Week</b>  *Additional Classes/Hours for Labs	<b>Entry Points</b>  Students may enroll in courses at these transition points
<b>Colorado College</b>  'The Block Plan'	1970	8	18	9-Day 'Half Block'  3-Week Winter Block  Summer Blocks  7-Week Double Blocks	2.5 Hour *	Summer; Sem1 Block 1; Sem 2 Block 5.
<b>Cornell College</b>  'One Course At A Time'	1978	8	18	Summer Blocks	2 to 5.5 Hours	Sem 1 Block 1 & Sem 2 Block 1
<b>Prescott College</b>  'the Block'	1970	8	14-18	Summer Blocks  3 Block Suites  8-Week Sessions	4 Hours* in 4- Day Weeks;  Traveling Field Courses 7-Day Weeks	Sem 1 Blocks 1 & 3, Sem 2 Blocks 1 & 3.
<b>University Of Montana Western</b>	2005	8	18	Semester Length Courses	3 Hour	Sem 1 Block 1 &

'Experience One'				Summer Blocks		Sem 2 Block 1
<b>Victoria University</b> 'The VU Block Model'	2018	8	11	Summer Blocks Winter Block	3 Hour*	Summer Block (Early Start), Sem1 Blocks 1 And 3; Sem 2 Blocks 1 & 3

Table 2. Block Characteristics – this table compares the composition of blocks at each institution

## Methodology

This paper is predominantly qualitative in design using case studies and data from each institution, and as such can be referred to as a multi-method research design (Denzin & Lincoln, 1994). Case studies can assist us gather information and allow us to assess and understand complex real-life situations (Harland, 2014). Additionally, we can learn from the experiences of others, even if it is not firsthand (Eisner, 1991).

This paper was developed in response to numerous enquiries made during the pandemic by practitioners from higher and secondary institutions, to practitioners at the participating block-based institutions in regard to how and why they adopted the Block. While researching in response to these enquiries, the authors found little existing discussion of these questions and so this paper was conceived as a beginning to such research and as a prompt to further investigation.

### Method

Five institutions, four from the United States of America and one Australian institution, all delivering courses via the Block, responded to a series of questions/statements. In order that the responses to these questions might be based in experience, the authors only included institutions that had at least four years' experience of teaching on the Block, as this would allow for both the practical implementation of the program and reflection as to its effectiveness, or otherwise.

A call for expressions of interest was issued to a wider group of universities with the five included in this paper being the respondents to that call. A series of workshops was then held to discuss the kind of questions most often asked by institutions interested in the Block and from these, four lines of enquiry were drafted, further workshopped and finalised that best captured the thrust of these enquiries. These questions are listed below:

- a. Give a brief overview of your institution
- b. Explain why your institution adopted the Block

- c. Describe how the Block works at your institution
- d. List the challenges and affordances your institution has encountered implementing and working with the Block

The authors of this paper then took those lines of enquiry back to their respective institutions, and via discussions with colleagues, and consultation with archives and research answered them. Each author was given access to a shared-document and a timeline in which to complete the work. A controlled comparison was performed to compare and contrast the challenges and successes each of the institutions experienced and continue to experience. All data and case studies were collected in 2021. All the authors collaborated on the final draft.

## **Why and how each institution adopted a version of the Block**

The following section briefly profiles each of the institutions discussed in this paper and details why they adopted the Block and how they implemented it.

### ***Colorado College (CC)***

CC did not adopt the Block (in a form known as The Block Plan) to join a trend, address a crisis, or follow an administrative mandate (Ashley, 2021). The idea of moving from semesters to a modular system first surfaced at CC during the fall of 1968, a time of national unrest during which many U. S. universities, including CC, faced demands to end *in loco parentis*, abandon grades, and modernize the curriculum. The faculty approved the change in 1969 and implemented it the following year.

The Block Plan at CC addressed two primary concerns: time and commitment. Too many classes at once meant that academics and students had to manage competing classroom obligations. Small classes, taken one-at-a-time, permitted focus and promoted closer academics-student and student-student collaboration. The basic module of 3.5 weeks, however, raised widespread concerns about the time it took to absorb and retain material in some subjects. In response, CC initially decided to offer several different formats but eventually settled on single 3.5 week blocks as the main course structure.

The Block Plan became the College's trademark. It continues to rank among the top reasons students come to CC (Colorado College, 2019). For their part, academics value the enhanced opportunities to experiment with pedagogies, take classes off campus, and to encourage active, collaborative learning (Ashley, 2021).

### ***How The Block works at Colorado College***

At CC, students take, and academics teach, one course at a time for 3.5 weeks or, more rarely, a two-block course for seven weeks. At the end of each block, there is a 4.5 day 'block break,' which allows academics to complete final grades and prepare for the next block and gives students time to rest and recharge. As students only enrol in one course at a time, academics determine when, where, and how long classes meet. They typically hold classes from 9am to noon Monday through Friday. Many classes leave campus for field study for a few hours, days, or the entire block. By common understanding, academics do not schedule classes or labs after 3:00 pm so that students have time to engage in sports, co-curricular activities, and adjunct courses.

The academic year at CC consists of fall and spring semesters, a January term, and a summer session. Fall and spring semesters have four blocks each. Most academics at CC teach five 'in the classroom'

blocks and one thesis or independent research block. They may also receive off-loads for administrative work, course development, and research. Many academics at CC are productive scholars, substantially exceeding the at least one peer-reviewed paper required to achieve tenure.

### ***Cornell College***

Founded in 1853 and situated in Mount Vernon, Iowa, Cornell College is a national private liberal arts college. Three quarters of Cornell's students are from outside Iowa, representing 44 states and 13 foreign countries. Domestic students of colour comprise one-fifth of the student body. Throughout the semester, 92% of Cornell's student population live on campus. Of these 99.5% of students receive financial assistance.

### ***Why Cornell College adopted the Block***

In the 1970s, Cornell actively sought "new approaches to liberal education. He encouraged faculty to suggest innovations in teaching, curriculum, and community life" (Thomas, 2004). A series of curricular reviews and experimentations over a number of years led to the College encountering Hiram College's intensive, sequential academic calendar and its later implementation at CC. For a discussion of Hiram College's experimentation with block teaching, which may well be the first such foray, see Brown, K., (1940), *A Campus Decade, The Hiram study Plan of Intensive Courses*.

Cornell had employed an optional three- to four-week Interim Term since January 1972, a proto-block that was highly successful with academics and students due to the innovative methods and topics of instruction it allowed (Thomas, 2004, p. 87). This experience gave the College cause to believe the Block Plan could effect the kind of transformative change they were seeking. Over the next two years, contingents of academics, staff, and students were dispatched to CC to observe and report back on the The Block Plan and how it could be adapted for Cornell (Cornell College, 1978; Thomas, 2004), as well as speaking with academics from Hiram College, which had employed an intensive study plan previously. In early 1978, the academics approved the transition to a modified version of what they called the "Colorado Plan", and so the "One Course at a Time" schedule (OCAAT) was born.

### ***How the Block works at Cornell College***

OCAAT classes run for 18 consecutive weekdays per block with students taking 4 classes per semester. Students have at least four days' break between blocks, when no academic material has been assigned. Outside of pandemic years, many courses are taught partially or entirely off campus: in the community, in the field, and abroad. Students may also use one or more blocks to pursue for-credit internships and research opportunities. Semester-long quarter-and half-credit classes may be taken concurrently with block classes, for music ensembles, play production, language conversation, career exploration, etc. Academics teach only one block class at a time, and no more than six of eight blocks per year.

A total of 33 class hours are available in weeks 1-3, of each block, and generally 20 hours are available in the three days of week four. Academics determine how many of these hours will be classroom-based depending on the approach they choose to adopt, the level of practical work and pre-class preparation required, and on excursions and other experiential requirements. Classes feature ample ways for students to engage with their peers and/or academics outside of class hours, both formally and informally.



### ***Prescott College (PC)***

PC is a privately funded college that has utilised a version of The Block Plan since its founding in 1966. Pedagogy at PC has always employed experiential learning within an interdisciplinary curriculum. Many of PC's students study from a distance while a close group of around 300 undergrads use the College, as their classroom. PC's acceptance rate is high and student descriptors span many continuums. The predominant student demographics include a female majority and 30% students of colour. Sixty per cent are eligible for financial assistance. First year students live on campus.

#### ***Why PC adopted the Block***

PC students have long engaged in one 3.5-week block course, followed by three semester courses each term. Block courses often involve travel to both domestic and international locations where the subject matter is applied in its most appropriate setting. Regardless of where courses are held, invariably students are tasked with learning theory, practicing skills, and applying their learning. All classes are highly practical, hands-on, personally relevant, and socially connected such that PC is the only higher education institution where the entire college is accredited by the Association for Experiential Education.

In response to the Covid 19 pandemic, PC decided to move entirely to blocks for all undergraduate classes, believing it would allow the institution to safely keep students in face to face study while so many other institutions were forced to go online. This approach made sense as part of a larger strategy to mitigate the pandemic's potentially devastating effect on small colleges (Baker et al., 2020; Bennett et al., 2020) allowing academics to encourage student engagement during an unprecedented and stressful time.

PC students returned to campus in fall of 2020 taking four consecutive block courses in both fall and spring for a total of eight blocks, with academics required to teach six blocks throughout the academic year. The sequential blocks allowed students and academics to engage with smaller peer groups. PC's small size allowed administrators and academics to pivot quickly to this all-block model. Additionally, strong ties between the academic leadership of the college and the risk management team steeped in outdoor education experience brought confidence to respond as needed to the fast-changing landscape of the global pandemic (Copeland et al., 2021; Grubic et al., 2020).

#### ***How the Block works at PC***

At PC, all block courses are worth four credit hours and most students enrol in 16 credits, or four blocks, each term. Additional four-week block courses are available in the summer term. Like many of its block-college peers, PC's blocks range from 14 to 18 days in length depending on whether the class is campus-based or travel-based. While all blocks are spread over a nearly four-week period, Campus-based classes generally run four hours a day, four days a week. Community events, academics meetings and office hours occur on Wednesdays to accommodate this schedule and allow a mid-week break in coursework for students to focus on homework and projects. Students and academics immersed in field-based block are exempt from Wednesday meetings.

### ***The University of Montana Western (Montana Western)***

Montana Western is a small, public campus in the American Midwest with approximately 1,300 students: 86% are white and; 60% of whom are women (The University of Montana Western

[UMW]: Institutional Research, 2021). Montana Western is the only public university in the USA delivering block using the Experience One approach. Montana Western is an open-enrolment public campus, with many students having a job and engaging in sports (Anderson, 2022).

Montana Western uses an experiential classroom approach, which together with its focus on hands-on learning makes it a leader in formative learning, as reflected in the Institution's mission: "As a leader and innovator in experiential education, The University of Montana Western educates undergraduate students through immersive practices in their field of study..." (The University of Montana Western: The Mission Statement, 2021, para. 1).

### *Why Montana Western adopted the Block*

Montana Western adopted the Block during a time of crisis. Established in 1893, this University was originally set up as a place for educating teachers (The University of Montana Western: Catalog, 2021). However, in the 1990s Montana Western had so few academics that many were forced to teach all courses related to their discipline. Around the turn of the last century, Montana Western experienced further challenges. Enrolment fell to approximately 1,100 students (Ripley, 2015); tuition funding declined; and Montana Western was forced to endure efficiency restructurings and decreases in State funding (Baker, 1993). With limited resources, and in an effort to differentiate Montana Western in the market, a number of academics and administrators actively searched for an alternative and more attractive model for the school.

After much research, Montana Western chose to adopt the Block, the scheduling and delivery model designed by Colorado College (Thomas, 2003) in hope the experiential, small-class (average class-size limit is 25 students) one-course-at-a-time learning model might prove attractive to students. After a successful trial period, UMW fully implemented the block schedule in 2005 (The University of Montana Western: Catalog, 2021).

### *How the Block works at Montana Western*

Montana Western's block model, Experience One (X1), involves students taking one, four-credit course at a time, for 18 teaching days, over 3.5 weeks (The University of Montana Western: Experience One, 2021). Most students take four courses or a total of 16 credits per semester.

X1 is driven by a focus on experiential learning, which involves students in hands-on, in depth, competency-based learning in their discipline. Emphasizing the study priorities for students allows academics to adopt engaging pedagogical approaches, such as in-class and out-of-class projects, excursions and nature trips, simulations, and group work, and to take classes out into the field.

### **Victoria University (VU)**

VU is a public university located in the Western Suburbs of Melbourne, Australia. Although relatively large in size compared to the other institutions discussed in this paper, VU is the second smallest university in that city, in terms of enrolment. It is also one of the newer universities in the area, having been established in the early 1990s to serve the western region of Melbourne.

VU is openly committed to a policy of diversity and inclusion with a diverse student population representing over 90 different cultures and 200 languages, more than half of whom are mature-age and over 30% of whom are first in family (Victoria University, 2021).

### *Why VU adopted the Block*

In 2016, VU articulated an institutionally transformative “vision for a new first-year experience which puts its students’ needs at the core” (Krause, 2016, p. 1) in order to address retention, student satisfaction, pass rates and enrolment issues. This vision aimed to make it easier for students to transition to university, to better integrate university study into their lives and to engage students more actively in their studies by departing from the traditional large lecture to “smaller, more interactive classes, tutorials and seminars”. (Krause, 2016, p. 2) Research that outlined the importance of commitment to institutional change (Kift, 2008; Tinto, 2009), student engagement, and High Impact Practices (HIPs) (Chickering & Gamson, 1987; Kuh, 2008), underpinned this vision and paved the way for the success of this project.

As part of the whole of institution transformational change, a First Year College (FYC) was created and charged with developing a First Year Model (FYM) of teaching focused on delivering this vision for VU’s (4,500+ annual) commencing students from 2018 onwards. The commitment to moving away from the traditional lecture model entailed the invention, discovery, or creation of a new model to take its place. Months of extensive modelling and consultation failed to deliver anything suitable. In May 2017, the Block was encountered via a YouTube video (TED, 2013). The Block was further explored via research visits to Colorado College and Quest University in Canada, both of which institutions championed a commitment to small, interactive and engaging classes. Detailed reports were presented to the University Council, and in 2018 VU committed to pilot the block schedule within the FYC. The success of the pilot led to the progressive roll-out of the model to all undergrad and graduate programs over the next four years.

### *How the Block Works at VU*

The main difference between VU’s version of the Block (titled: The VU Block Model) and those observed at the other institutions discussed in this paper is that VU’s model runs for 11 rather than 18 sessions over three and a half weeks. This is due to VU largely being a commuter campus (the norm in Australian higher education) meaning students visit campus mainly during class hours. VU employs a flipped classroom approach, supported by a robust Learning Management System, which allows students to focus on content acquisition outside of class and on the practical application of that in class. Lectures are eschewed; each three-hour seminar follows a social constructivist approach where students are encouraged to research and create their own knowledge. All assessment is submitted and graded within each block and results are provided to students on the first Monday of the next block.

Academics at VU nominally teach between 10 and 14 courses a year, although research and other allowances often see them teaching much less than this. VU delivers blocks during morning, afternoon and evening sessions, and so it is not uncommon for academics to teach more than one offering of the same course at a time.

## **Discussion**

The adoption of a plan as radical as the Block forces an institution to question every part of its operation. To move successfully to that model requires institution-wide commitment. Timetables, reporting timelines, admissions, libraries, student support, accreditation processes and so on must be reimagined, recast and perhaps reinvented in order to work successfully under this new regime (Nerantzi et al., 2020; Swain, 2016). For academics, this is clearly seen in the changes they are

forced to make in terms of pedagogy and curriculum design, development and delivery and the impact of these on student outcomes. The transition to the Block, therefore, is a catalyst for change.

To work successfully, however, the relationship between an institution and the Block cannot be totally catalytic; there must also be an element of co-evolution. The Block is not an off the shelf proposition, just as each institution must adapt to the Block, so must each adapt it to suit their particular circumstances. One of the most oft heard objections to the Block is, “It might work for you, but it won’t work for us/our cohort/an institution like ours/, etc.” That it has been shown to work at a range of institutions: small to large, highly selective to open access, liberal arts institutions and schools with professional programs, residential and non-residential, traditional and non-traditional student populations, should go some way towards countering this concern.

### ***Approaches to Curriculum Design***

That there are no competing timetable issues means that class times and locations can be shaped to best suit the needs of both students and area of study. The U.S. institutions discussed herein, which run only one block course per day, have used this freedom to create experiential, field-based, and community-engaged approaches to learning, often taking classes off campus for an entire block. Such experiential learning experiences “transform real-life situations into reliable knowledge” (Stoller and Cavin, accessed 2022). Academics, in these institutions enjoy significant autonomy, and they structure and deliver their classes in ways simply not possible on the semester model where competing priorities lock students and academics into rigid locations and times. PC for example has a three-week wilderness expedition as part of their Adventure Education course; students from Cornell can participate in civic engagement opportunities during a block; and students from CC might find themselves studying Shakespeare in Stratford on Avon.

At a university the size of VU, such freedom is not possible as that institution runs three block sessions daily, meaning academics are often required to teach more than once a day. Nevertheless, it too has reimagined its pedagogy via a flipped approach which sees classroom time spent on active knowledge creation rather than a passive transmission of content. Lectures are no longer relevant or delivered; instead a seminar-based participatory model is used.

A commitment to the idea that what was needed was “a Higher Education infrastructure better than the one we inherited, one in which HIPs are built into the college experience for all who enrol, rather than a supplement or innovation on the margin” (Kuh et al., 2017 p.10) coupled with a team-design approach similar to that articulated by Bass (2012) led to the involvement of the whole institution in the design and development of curriculum and the ancillary systems which support that and the student.

Curriculum design was no longer the responsibility of individual academics. Instead, a team-based approach to curriculum design was adopted, as proposed by Bass (2012). In this approach, teams consisting of academics, learning designers, librarians, learning support and students were assembled and charged with building engaging and interactive courses that “enshrined the student experience firmly and positively as [their] central focus” (McCluskey et al., 2019).

As noted later in this discussion, this approach can lead to perceived or real increases in workload for academics. Dixon et al., (2018) report that academics teaching on the Block felt that they had less time for planning and designing units. This led to them using time outside of teaching normally reserved for research as teaching preparation time. Additionally, the intensive nature of block

teaching led to greater fatigue and this has potential to impact the quality of course design, delivery and preparation.

### ***Intensity and Pacing***

On the semester model students and academics have 12-16 weeks to survey a topic broadly, to assess student work, and to provide feedback. In moving to the Block, it can be tempting to crunch a 12-week course into 3.5, but such curricula become crowded, distractingly busy and shallow (Kops, 2014; McKie, 2022; Scott, 2003). Instead, what is observed at the institutions discussed herein, is a genuine recognition that academics “need to adapt their teaching methods and be equipped to the distinct challenges” (Dixon & O’Gorman, 2018 p.585) the Block presents. In doing so, the very act of “education redesign” helps improve the offer (McKie, 2022). This education design and adaptation of teaching methods involves academics engaging in what Giardano (2011) and Daniel (2000) assert are essential to success in teaching in such courses: “active teaching and peer-based instructional methods founded on constructivist theories” (Giardano, 2011, p.9).

Also essential is extensive and careful organization of the course; clear, measurable, goals and objectives; and variety in teaching methods. These two authors report that virtually all instructors who teach on time-compressed schedules agree that breadth is sacrificed in favour of depth. Students tend to report satisfaction with time-compressed courses, “an increased sense of community with and responsibility to their peers” (Giordano, 2011, p.27), and often report greater closeness to the instructors in these courses. Daniel concludes that “overall advantages of intensive courses include convenience, superior test scores, stimulate [*sic*] discussion, and result in creative teaching techniques. Disadvantages involve fatigue, stress, and lack of time to prepare and study.” (p. 306)

Head-to-head comparison of block versus semester would be useful in addressing this objection. Indeed, there is a robust literature in neuropsychology comparing “massed” versus “distributed” practice suggesting the superiority of distributed practice. However, there are several issues that belie this literature as conclusive: (1) Often studies employ memory tasks (which are easier to quantify) rather than assessing depth of understanding, and (2) the outcome tasks usually consist of well-defined problems (there IS a correct answer) rather than assessing the logic and soundness of the reasoning of the subjects. A true experimental design comparing calendars is exceedingly difficult as it would require the same instructor teaching the same content in the same way and using identical assessment instruments, varying only the time schedule (e.g., semester versus quarter, or semester versus the Block). More importantly, students would need to be randomly assigned to one calendar or the other.

That being said, all the institutions surveyed agreed that content-heavy courses such as science and math, which may also include labs and practicals, are harder to do well on the Block than in other systems. There is an acknowledgement that students simply do not have the same amount of time to process information, practice new skills in varied contexts, and receive feedback on their learning on the Block as they do on the semester model. To address these limits, all institutions surveyed employ a form of student academic support services and or run adjunct classes in parallel to their block program. How effectively the Block performs in disparate disciplines has long been a point of, if not contention, then at least discussion as noted by Dixon & O’Gorman, (2018).

### ***Academics***

Academics teaching on the Block need ongoing support in the same way that students do, if they are to create engaging, active, and effective learning environments. Block institutions tend to provide

professional development to existing and new staff, cognisant of the fact most academics will have learned their trade on the semester model and so may not be as familiar with the ways in which teaching on the Block is different. This is emphasised by VU Vice Chancellor, Professor Adam Shoemaker: “You can’t just assume that people will be able to do this just because they’re interested in it...” One has to demonstrate to the professional accrediting bodies, for instance, that there’s no degradation of quality (McKie 2022).

Most recently, as PC switched to the Block during the pandemic, development sessions focused on feedback and appropriate assessment techniques for both block and remote teaching. Furthermore, academics shared strategies for keeping students engaged during long sessions in a classroom or on Zoom (Raygoza & Norris, 2020; Rottman & Rabidoux, 2017). Block-based institutions constitute a particular community of practice, wherein academic and professional staff alike are involved in an ongoing exploration of the ways intensive study works.

While there are benefits to be gained from this idea of an explorative, community of practice approach to their work, some block-based academics have raised concerns about the increases in workload this can bring. This coupled with fast turnaround of feedback and assessment, and the constant updating of block-based Learning Management Systems compared to traditional semester mode delivery is seen as a negative imposition. (Oraison et al., 2020). Petersen et al. (2020), found that academic staff did not always feel fully supported, in terms of professional development, in the move to the more intense, active learning approach block teaching requires. Much of the research into the Block and block teaching has been in context of the student experience - there is a clear need for further research into the impact of such work on those who are tasked with teaching in the block. (Dixon et al., 2018).

### ***Timetabling***

At those institutions that require academics to teach only one course per block, there is a nominal timetable, but as there are no competing priorities, academics are able to vary that schedule, and the location as classes, as necessary to take full advantage of real time experiential learning opportunities, guest speakers, etc as they present themselves. This is simply not possible on the semester model.

VU often requires academics to teach two iterations of a course per block and so such freedoms are unavailable there. However, the combination of small class sizes and a much larger student body means that a course may run in every block across an academic year so that there is no competition for spaces, no chance of a course clash, and the opportunity for students who fail a course, or who have to withdraw for a block, to pick it up again almost immediately.

Further, PC, CC and VU take advantage of the fact that a block works like a mini-semester, to provide non-traditional admission points to students, throughout the year rather than only at the start of each semester. This offers extra enrolment opportunities to students who miss out on a semester one start, realise late they wanted to enrol, or who have started a course but decide to change course or institution. Such flexibility is simply not possible on the semester model. In VU’s case alone, this has resulted in university starts for several hundred students a year over the past five years who might otherwise have had to wait an extra semester, or year, to enrol (Victoria University, 2022). The modular nature of block allows for timetabling to be an ongoing evolution, adapting to the needs of disciplines and students. VU, for instance, is considering six-or eight-week blocks for postgraduate students (McKie, 2022).

## **Effectiveness of the Block: a valid alternative to the semester model?**

All five institutions suggest that attendance, student satisfaction, and grades are improved after moving to the Block, but the authors of this paper acknowledge that there is still a great deal of research to be done on the Block, its effectiveness and validity as an alternative to the semester delivery.

From the delivery of its first block in 1970, CC administrators gathered information about the operation and effects of the new system. The earliest assessments showed that students attended class more frequently and, judging by the dramatic decline in academic warnings and suspensions, performed better (Heist & Taylor, 1979). Regular evaluations, including multi-year studies concluded in 1979 (Colorado College, 1994, 1995; Heist & Taylor, 1979) highlight the enhanced opportunities for interdisciplinary teaching, experiential learning, and pedagogical innovation The Block Plan offers CC students. These positive patterns have held over the last fifty years.

Having said that, little research was undertaken into the nature of the Block, its pros and cons and how it compares to the semester model, since its introduction to CC in 1970. This is perhaps unsurprising, given the very small number of institutions using a version of the Block and their relative isolation from each other. An increase in interest in the past five years has seen this change as more Higher Education institutions, driven by student demand for better outcomes, look for ways transform their approach to learning and teaching (Turner et al., 2020).

As discussed earlier, Montana Western's viability, as a going concern, was in question until the Institution implemented Experience One (Thomas, 2014). After Experience One was implemented, the institutional enrolment increased noticeably over the years (Storey, Ulrich, & Ripley, 2014). A 2008 National Survey of Student Engagement (NSSE) revealed that student engagement was considerably better at Montana Western than at similarly classified institutions in Montana and nationwide (NSSE, 2009) and that a majority of students regarded Experience One positively (Thomas, 2014).

After almost twenty years of delivering a block experience, Montana Western's data suggest that this approach seems to work, as exemplified by the following: (a) The retention increased 9%; (b) the four-year degree completions improved by 37%; (c) the University noticeably improved its position in college rankings; and (d) academics receiving awards for their innovative approaches (Thomas et al., 2018).

Cornell College noticed an immediate and dramatic increase in class attendance upon introduction of the Block; in a 1979 survey of academics completed at the end of the first year of OCAAT, 86% of academics reported attendance rates of 90% or better (Cornell College, 1979). This dropped somewhat the following year to 76% reporting 90% or better attendance (Vaughan & Wylie, 1980); a follow-up study in 1986 found similar figures, with 78% of academics reporting 90-100% attendance rates (Vaughan & Carlson, 1986).

Similarly, class preparation and assignment completion improved dramatically, with a consequent decrease in the number of students who were placed on academic probation and suspension. As a Cornell College researcher put it in a report on the 1986 research,

[T]he OCAAT structure is a powerful impetus to go to class and to do all (or almost all) of the work in a course. Missing a day of class is like missing four-fifths of a week under the

former semester system. There can be no excuses for lack of preparation or late work due to the demands of work in other courses. . . . A side effect is that students learn very quickly not to procrastinate. (Vaughan, 1988, p. 3)

Even during the COVID pandemic, a poll at a recent academic faculty meeting suggests that this trend persists, with almost 95% of instructors reporting 80% or better attendance in their most recently taught block (Shanata & Yamanishi, 2022).

Condensing the whole of undergraduate studies into blocks at PC is too new to longitudinally measure its success for both students and the institution. The pandemic, however, allowed the College to quickly transition to a unique model that united the on campus and online in ways not realized previously. The ability for academics to teach across the full slate of programs within the institution would not have been possible without the shift from a 4+12 week term to a 4+4+8 week term. Additionally, retention has increased since instituting accelerated master's pathways. This is something that could not happen as seamlessly without shifting to the schedule where bachelors and masters classes share sessions.

VU has enjoyed considerable success via the introduction of The VU Block Model in 2018. In 2021, after four years of running the Model, VU graduates were rated as having the most employable skills by the national Quality Indicators for Teaching and Learning (QILT) Employer Satisfaction Survey (ESS) (QILT 2020). In the same year, the Model won the Australian Financial Review Higher Education Award for Teaching and Learning Excellence (Hare, 2021). Also that year the First Year College received the Australian Award for University Teaching Award for innovation in curriculum design and pedagogy practice. (AAUT 2021).

### **Limitations**

There are obvious limitations to this study and these must be taken into account when attempting to generalise more widely from this discussion. The pool of institutions included, at five, is limited. However, the number of institutions engaging in block delivery, globally, is rising, and it is hoped this paper will spur further research into the Block and its effectiveness or otherwise.

### **Conclusion**

It is clear that for the five institutions featured in this paper, the Block is a mode of delivery that has revolutionised the approach to the student experience, to pedagogy and to the way they deliver higher education. How and why each institution adopted the Block is important; why they have continued to do so is equally as important.

Block delivery differs somewhat at each institution, but the one commonality they all share is that 'one course at a time' is its key feature. All also share the experience of taking a fresh look at how they teach, how they design courses, and how they engage students and the student experience (McCluskey et al., 2019; Turner et al., 2021). At CC, Cornell and VU, evidence suggests immediate and ongoing improvement in retention, grades, attendance, and student satisfaction.

There is much to be done to continue to evaluate and to develop the Block. The authors of this paper encourage further research in all aspects from student satisfaction and student experience, attrition, knowledge retention, to how the Block works for academics and professional staff.



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