



CASE STUDY OF BEST PRACTICE: INNOVATIVE PEDAGOGY AND INTEGRATED TECHNOLOGY

Mark Stuart McInnesⁱ

University of New England,
Australia

Abstract:

This case study examines the design and implementation of an innovative Year 6 Humanities and Social Sciences (HASS) Civics and Citizenship lesson within an Australian primary school context. Drawing on multiliteracies pedagogy and gamification, the project integrates digital technologies—including Padlet and curriculum-aligned virtual tours—to foster student engagement, agency, and multimodal meaning-making. Informed by theories of multiliteracies, digital pedagogy, and ethical technology integration, the lesson moves beyond didactic instruction towards a student-centred, collaborative learning environment that reflects the complexities of contemporary digital societies. The project is situated within a broader discussion of algorithmic capitalism, teacher professional agency, and the ethical responsibilities associated with educational technology use, including student wellbeing, data privacy, and cognitive load. Using a bottom-up innovation lens supported by change management theory, the case study highlights the conditions required for sustainable pedagogical innovation, including leadership endorsement, peer collaboration, and ongoing professional learning. The findings suggest that when pedagogical intent leads technology selection, innovative practices can enhance conceptual understanding, critical thinking, and inclusion without compromising student safety or equity. This paper contributes to Australian educational discourse by offering an evidence-informed, ethically grounded model for integrating innovative pedagogy and technology in primary civics education.

Keywords: innovative pedagogy; multiliteracies; gamification in education; digital pedagogy; civics and citizenship education

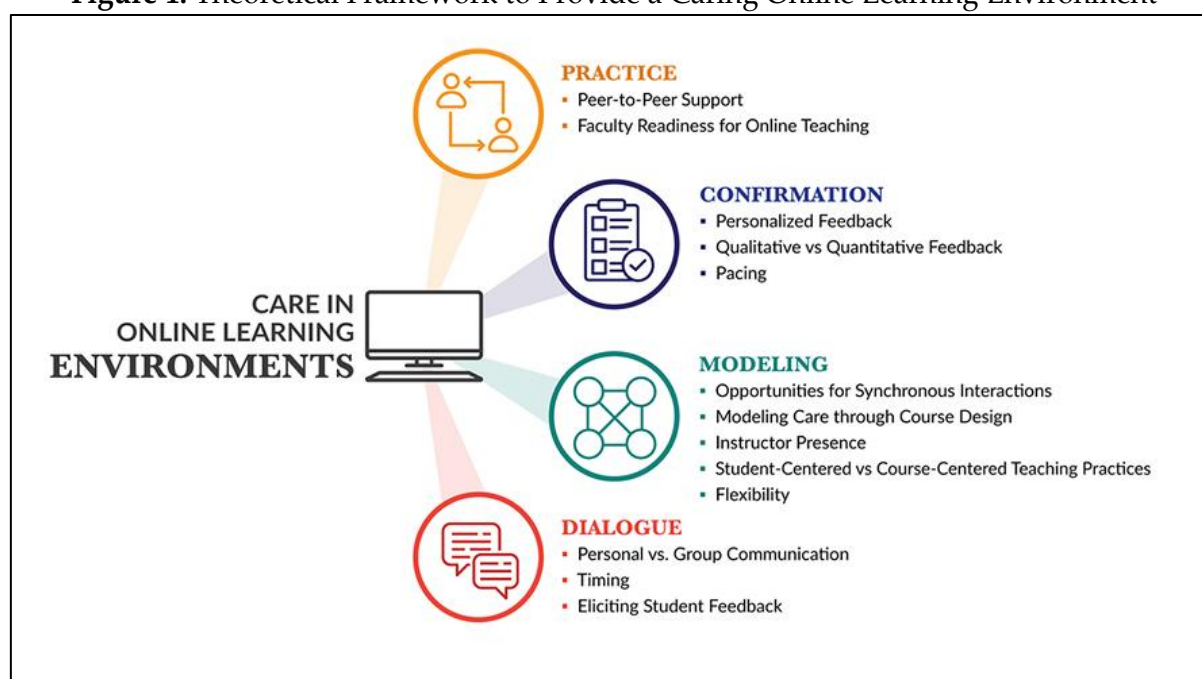
1. Introduction

Peters (2020) suggests that innovation relates to the increased use of technology in the delivery of pedagogical approaches. However, expanding on his definition, he stipulates that, due to the unprecedented expansion of technology, we now live in an algorithmic

ⁱ Correspondence: email markmcinnes@hotmail.co.uk, mmcinnes5@myune.edu.au

capitalism society, and that the digital data created can lead to manipulation and control. Similarly, Kalantzis and Cope (2010) emphasise that society is characterised by knowledge, and that knowledge and creativity should be interconnected in teachers' pedagogical approaches to create a transformative paradigm, rather than a didactic one. Therefore, teachers should embrace technology while using caution to ensure it is used correctly, with care and consideration of the diverse needs of students, as the primary focus when designing and implementing any innovative approach (Robert *et al.*, 2025; Robinson *et al.*, 2020). As shown in Figure 1 is Robinson *et al.*'s. (2020) proposed a theoretical framework to provide a caring online learning environment.

Figure 1: Theoretical Framework to Provide a Caring Online Learning Environment



Note: From "Designing with Care: Towards a Care-entered Model for Online Learning design" by H. Robinson, M. Al-Freih, and W. Kilgore, 2020, The International Journal of Information and Learning Technology, 37(3), 99–108. (<https://doi.org/10.1108/IJILT-10-2019-0098>). Copyright 2020 by Emerald Publishing Limited.

In light of Peters' (2020) description and caution regarding innovation, this project outlines the school's innovation practices and proposes a lesson that incorporates innovative pedagogy and technology. Innovation will be used to teach an Australian class of Year 6 primary students a Humanities and Social Sciences (HASS) Civics and Citizenship lesson, namely "the key institutions of Australia's system of government, how it is based on the Westminster system, and the key values and beliefs of Western democracies" and communicate their findings (Australian Curriculum and Reporting Authority [ACARA], 2025a, AC9HS6K06, AC9HS6S07). Furthermore, this lesson provides an opportunity to integrate curriculum by incorporating digital technologies (ACARA, 2025e; Fleet, 2020; Hussein, 2025). The project reflects an increased awareness of the change management process by viewing the project through a bottom-up innovation lens, while consideration has been given to sustainability allowing the project to be successful beyond an individual classroom, to include leadership support, peer collaboration and shared

professional learning, all consistent with research that promotes a combination of top-down support bottom-up innovation (Fullan, 2007; Roger, 2003; Englund *et al.*, 2017). To support continual improvement, the project incorporates an extended embedded feedback loop. This feedback loop includes formative student feedback, teacher reflection, and peer-sharing dialogue. Careful consideration has been given to the lesson length, with best-practice advice provided to teachers to help ensure the project's success.

2. School Context

The school where the author is situated currently has 652 students enrolled in Kindergarten to Year Six. The school scores highly on the Index of Community Socio-Educational Advantage (ICSEA) with a score of 1051. The ICSEA uses two data sources, including Australian Bureau of Statistics (ABS) census data alongside details of school enrolment records. The two sets of data provide information on parent occupation, education level, language background and socioeconomic status. The ICSEA data range from 500 (extremely low socioeconomic disadvantage) to 1300 (very advantaged). An ICSEA score of 1051 suggests that the school is in a middle-class socioeconomic area (ACARA, 2025b). However, the schools' NAPLAN results are not reflective of the ICSEA score of the school, with all results for Years Three and Five, being either close to or below the expected result (ACARA, 2025c).

The school employs a diverse approach to the use of technology. Firstly, all students have their own iPad from Year Three, which Falloon (2023) describes as a 'gamechanger,' enabling teachers to integrate technology into their students' learning. However, Christ *et al.* (2023) importantly note that the use of iPads has had mixed results concerning students' literacy learning; therefore, caution must be taken when selecting when to integrate technology, including the use of iPads in the education discourse. This caution is especially relevant given the schools below average NAPLAN results for literacy (ACARA, 2025c) The school also employs the use of gamification in mathematics whereby using a digital multiplication tables fluency intervention, namely Times Tables Rock Stars (University of Southampton Educational Psychology Research Group, [USEPRG], 2025) that helps to support students learning and increase engagement in their multiplication fluency (Triantafyllou *et al.*, 2025). However, USEPRG (2025) and Robert *et al.* (2025) highlight the risks of using such innovation, including an overemphasis on speed and competition, which may disadvantage some learners and cause unnecessary anxiety. Teachers being aware of this downside to the use of technology is important because all teachers have a common law duty of care to their students, while also required to comply with the Department of Education policy to ensure that students safety and well-being is a priority, which extends to the appropriate use of technology in education (ACARA, 2025d; Department of Education Western Australia [DoWE], 2019; Fuchs, 2024).

The school also utilises an online assessment tool, namely Brightpath, which samples students' work. The software is used to compare data of results to other students within the class, year group, school, and against other schools (University of Western

Australia, 2019). The use of Brightpath as an innovative technology aligns with Peters (2020) stipulation that knowledge has become the dominant discourse in innovation and is closely aligned with the neoliberal view of education as a commodity, which is supported by Kalantzis and Cope (2010), who suggest that we have become an economy based on knowledge.

While the use of Times Tables Rock Stars and Brightpath is a school-wide initiative, the application of innovative pedagogy and technologies varies among teachers. The differential in the use of innovation in the classroom ecology can be attributed to what Lun Wu *et al.* (2023) describe as teachers being the gatekeepers of technology. This notion of gatekeeping directly influences a teacher's choice of technology integration and how students learn. Lun Wu *et al.* (2023) and Francom and Moon (2018) posit that the digital literacy confidence of individual teachers influences this choice. This notion of being gatekeepers of technology aligns with Kalantzis and Cope (2010), who suggest that teachers dictate the form of communication patterns in their classrooms, for example, the use or lack of use of technology, the use of textbooks, and whether students work collaboratively or independently.

3. Innovative Pedagogy

Therefore, this project will outline how innovative pedagogy that values the human capacity of students and their ability to be creative will be used to teach a Year Six class of students a civics and citizenship lesson from the Australian curriculum focused "*on the key institutions of Australia' s system of government, how it is based on the Westminster system.*" (ACARA, 2025a). The lesson plan, as outlined in Appendix A, will teach students in Year Six the key differences between the Houses of Parliament in the United Kingdom and Australia, and how the Australian system of government is modelled on the Westminster system. The lesson will be the fourth lesson in a sequence of several HASS lessons. Two innovative pedagogical approaches will be employed in the lesson to create an engaging and interactive classroom environment, where students will be provided with learning experiences that foster a sense of belonging (Hussein, 2025; Howell, 2019; Kalantzis & Cope, 2010; Laid & Adlaon, 2025). This engagement and sense of belonging will occur through the lesson content and the innovative way it is delivered. Therefore, providing students the opportunity to gain a deeper understanding of the content, while also developing their critical thinking skills, providing them the best opportunity to fulfil the learning outcomes to their highest ability (Duchesne *et al.*, 2021; Howell, 2019; Kalantzis & Cope, 2010; Laid & Adlaon, 2025).

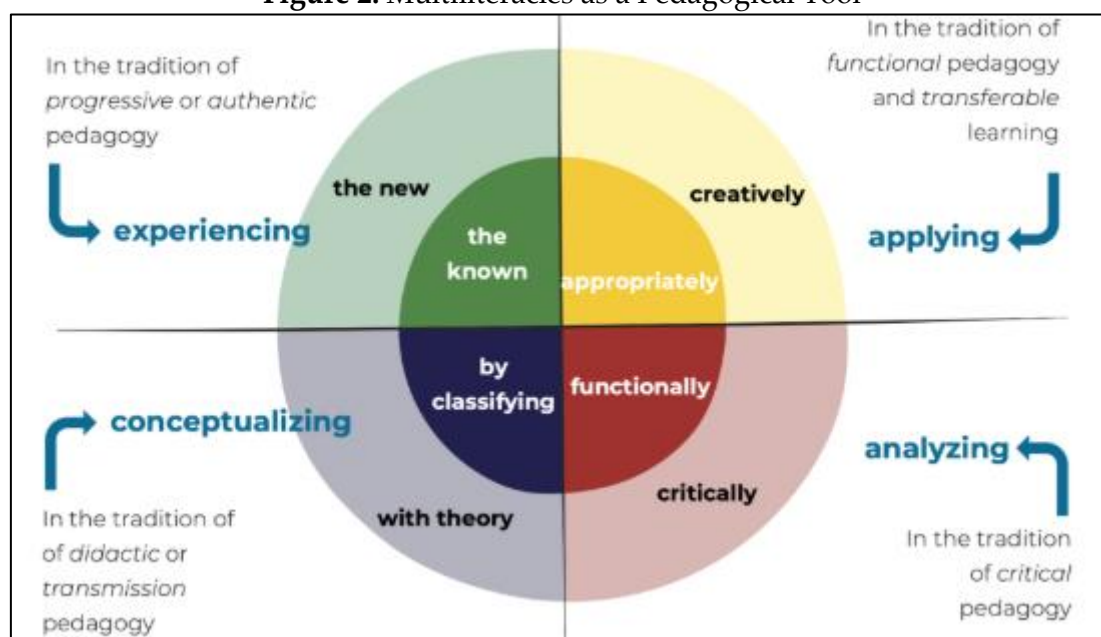
4. Multiliteracies Pedagogy

The first innovative pedagogy is the conceptual framework of multiliteracies pedagogy, first introduced in the seminal work of The New England Group (1996) (Cazden *et al.*, 1996). This seminal work remains important today and can be considered innovative pedagogy due to the significant increase in the use of technology both outside and within

schools. Despite its initial inception almost thirty years ago, it remains innovative due to the essential skills that students must acquire and the inclusion of digital formal learning in the intended curriculum (ACARA, 2025d). In the 21st century, students must become knowledgeable about a diverse range of texts and digital practices (ACARA, 2025d; Cazden *et al.*, 1996; Cope & Kalantzis, 2009; Hout *et al.*, 2025; Howell, 2019; Kalantzis & Cope, 2010; Tan & McWilliam, 2009).

Multiliteracies pedagogy has four defined components of situated practice, whereby the students makes meaning in relation to the real world, overt instruction, which is the scaffolding provided by the teacher to enable students to develop mastery of the content, critical framing, placing the learned content into a social context and transformed practice where the students become the developers of their futures through meaning making (Cazden *et al.*, 1996). However, Kalantzis and Cope (2008) later renamed the same principles as experiencing, conceptualising, analysing, and applying, respectively, as shown in Figure 2 (Cope & Kalantzis, 2009; Kalantzis & Cope, 2010). Cope and Kalantzis (2009) stipulate that multiliteracies pedagogy is a bottom-up approach to teaching that provides students with agency in their learning and in the divergent communities of students' lives.

Figure 2: Multiliteracies as a Pedagogical Tool

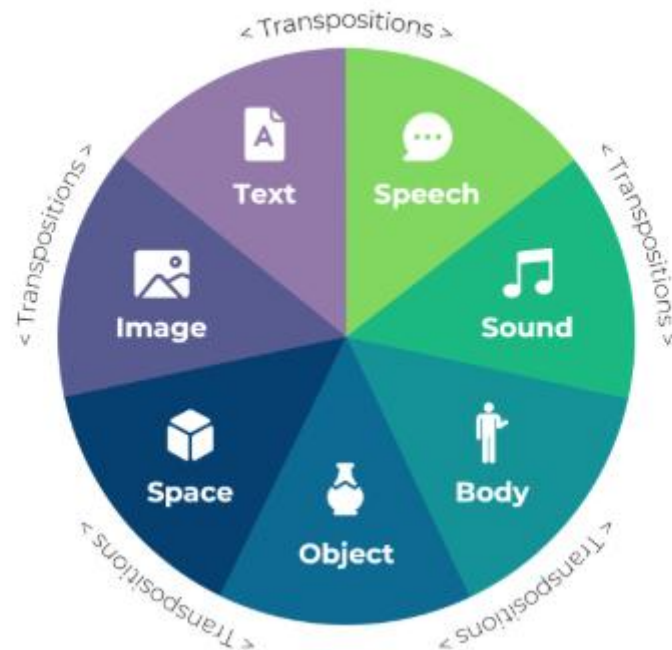


Note: From *New Learning Online: Visual Overview Multiliteracies in Infographics* by B. Cope and M. Kalantzis, 2025 (<https://newlearningonline.com/multiliteracies/visual-overview>). Copyright 2025 by New Learning Online.

Kalantzis and Cope (2010) suggest that the traditional classroom consisted of the transmission of knowledge from teacher to students, which was often undertaken in a rudimentary manner. Employing a multiliteracies pedagogy moves away from such a didactic approach and enables diverse students to engage with multimodal texts that genuinely reflect the complexities of the 21st century (Mirhosseini & Emadi, 2022). Hout *et al.* (2025) support this theory by stipulating that a multiliteracies pedagogy enables

students to engage collaboratively with a diverse range of meanings, such as text, image, and sound, and to participate in multimodal ways through integrated technology, as illustrated in Figure 3. This multimodality is important, as Karkar Esperat (2024) describes multiliteracies as multimodal and includes digital technologies that can help create an inclusive classroom.

Figure 3: Transpositions between Forms of Meaning



Note: From *New Learning Online: Visual Overview Multiliteracies in Infographics* by B. Cope and M. Kalantzis, 2025. (<https://newlearningonline.com/multiliteracies/visual-overview>). Copyright 2025 by New Learning Online.

In the experience of the known section of the lesson, students will be shown images, as shown in Figures 4 and 5, of Westminster Parliament and the Australian Parliament. They will work collaboratively to discuss what they already know about each place, which will provide a diagnostic assessment.

Figure 4: Image of Australia Parliament



Note: From Entrance to Australia Parliament House by S. Also, n.d. (<https://openverse.org/image/42958438-e9af-4f7f-8275-e2031ba65dfd?q=Australia+parliament+house&p=4>). CC BY-SA 2.0

Figure 5: Image of Westminster








Note: From Westminster by Tolomea, n.d. (<https://openverse.org/image/4fe6f2f3-8345-4a3f-b7a3-e2fa371aa3c5?q=Westminster&p=63>) CC BY-SA 2.0

To experience the new and conceptualise it, students will use innovative technology to take virtual tours around the Australian Parliament and Westminster, guided by the teacher. Applying and analysing will occur when students have a choice of how they present their understanding and differences between the two systems of

government by completing a summative assessment challenge, by producing a poem with some artwork, an infographic, or a video presentation. Alternative multimodal forms of presentation are available for consideration in other lessons in the sequence, as shown in Figure 6. However, limiting it to a selection of three will make it easier for students to process, while still affording them choice, which will ensure they have agency over their learning and can use the most suitable multimodal mode of meaning that suits them best (Cope & Kalantzis, 2009; Hussein, 2024; Mirhosseini & Emadi, 2022; Tan & McWilliam, 2009).

Figure 6: Written Text: Genres

A Genres of Written Text (graphemes in two-dimensional array)		Multiform Examples	
Narrative (stories, foregrounds agency)		Cinema, storyboarding, scripting/closed captioning, digital storytelling	
Lyric (sound sequences designed in text, foregrounds reference)		Music, song, poetry recital	
Information (factual writing that foregrounds reference)		Illustrated texts, infographics, tagged/captioned images, diagrams, video – in science, history, geography etc.	
Argument (factual writing that foregrounds interest)		Texts supported by logic models, process visualizations, concept maps etc.	
Algorithm (procedural text e.g. mathematics and code, foregrounds structure)		Mathematics: problems; explanations of reasoning; visualizations of relations and processes. Software: user stories; in-code documentation; UML diagrams	

Note: From *New Learning Online: Visual Overview Multiliteracies in Infographics* by B. Cope and M. Kalantzis, 2025 (<https://newlearningonline.com/multiliteracies/visual-overview>). Copyright 2025 by New Learning Online.

5. Gamification

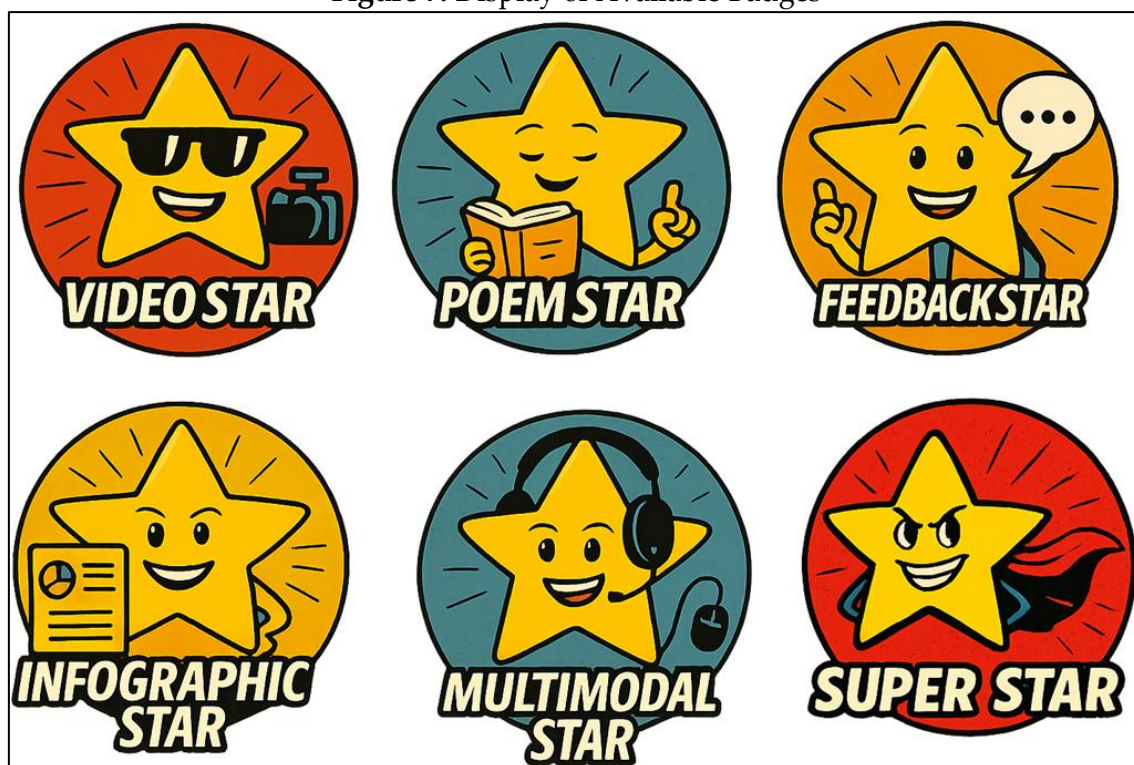
The second innovative pedagogy that will be implemented is gamification. Triantafyllou *et al.* (2025) and Zeng *et al.* (2024) describe gamification pedagogy as a tool that can be used to engage students in their educational journey and support their learning process by incorporating elements of game design into an educational environment. Examples of game design include point systems, leaderboards, and badges (Fuchs, 2024). The term ‘gamification’ was first introduced by Nick Pelling in 2008 and gained worldwide recognition in industry and academia, as cited by Zeng *et al.* (2024). Extensive research indicates that introducing gamification to an educational setting can enhance a student's educational experience by providing an incentive for students to work towards their goals, which can improve engagement and reduce unproductive behaviours (Li *et al.*, 2023; Triantafyllou *et al.*, 2025; Weller, 2020; Zeng *et al.*, 2023). However, Li *et al.* (2023) and Zeng *et al.* (2023) both suggest that the use of gamification has mixed results in

education. A notable concern is the use of gamification as a short-term mechanism, such as for one week. Therefore, to overcome this issue, the project plans to include gamification throughout the sequence of several HASS lessons, recognising Li *et al.*'s (2023) suggestion that a longer-term intervention yields far better benefits in student motivation and supports sustained, deeper learning. Similarly, Fuchs (2024) argues that gamification pedagogy may not be effective if the game elements are not closely aligned with the learning objectives. Therefore, the game elements will be aligned to the learning outcomes of the lesson plan.

Weller (2020) discusses how the element of gaming in pedagogy provides students with a concept of rewards. Zeng *et al.* (2023) go further and posit that the mechanics of gamification play a key role in ensuring the success of gamification pedagogy. The mechanics of gamification are important; for example, consideration was given to using a points system or a leadership board, which Zeybek and Saygı (2023) suggest are the most popular game elements. However, concern was raised that the inclusion of such elements may induce a competitive culture that creates unnecessary pressure to perform and can create anxiety in students (Fuchs, 2024). Such pressure and anxiety would have the opposite effect, discouraging students from engaging and improving their learning, and teachers have a responsibility for their students' well-being when using digital technology (ACAR, 2025d). Therefore, the following game elements, as described by Zeng *et al.* (2023), will be included in the lesson are:

- Challenges: a challenge will be set to students to explain the differences between the House of Parliament in the United Kingdom and Australia, and how the Australian system of government is modelled on Westminster.
- Badges: a series of badges, as shown in Figure 7, to be awarded to students once they accomplish the set challenge. Other badges will be available during the sequence of lessons, for example, commenting and providing peer feedback.
- Feedback: Immediate feedback is an essential part of gamification pedagogy. Therefore, instant feedback will be provided to students with appropriate scaffolding, allowing students to correct mistakes immediately, improving their learning experience (Dehghanzadeh *et al.*, 2023). The use of instant feedback serves as formative assessment.

Figure 7: Display of Available Badges



Note: From the author, (2025). No copyright.

Gamification pedagogy is an important aspect of the lesson and overall sequence of HASS lessons, as it aligns well with the multiliteracies pedagogy that is also used. Zeybek and Saygı (2023), Zeng *et al.* (2023), and Steinkuehler & King (2009) highlight the modal diversity that gamification pedagogy allows, while interaction with diverse modes, coinciding with social interactions, is central to multiliteracies pedagogy (Cope & Kalantzis, 2009; Kalantzis & Cope, 2010).

6. Innovative Technology

Fuchs (2024) suggests that there is increasing pressure on teachers to be more innovative and to integrate technology in their pedagogy to improve educational outcomes. At the same time, Howell (2019) places this use of technology in the term 'digital pedagogy' that incorporates teachers' being digital content creators whereby higher order thinking in students is created through collaborative learning, technology innovators that determines the type of learning, for example discovery learning which fits well with the multiliteracies pedagogy framework, and digital fluency whereby teachers develop their technology skills. Howell's (2019) suggestions support Fuchs (2024) as certification of the pressures to keep up with the technology available in the 21st century, which is ever evolving. In addition to the pressure of being knowledgeable and competent in digital technology, teachers also have a responsibility to teach digital technology to their students as part of the intended curriculum and as part of the general capabilities of the curriculum (ACARA, 2025d; ACARA, 2025e). Despite these challenges, Peters (2020)

argument about the difference between a good education and an effective education must be considered when deciding what technology to integrate into the classroom environment. Therefore, pedagogical decision making must be clarified to address the scope and length of the lesson design, with a greater emphasis on pedagogical intent rather than the breadth of technological applications (Englund *et al.*, 2017).

Wang *et al.* (2025) suggest that technology in education has the potential to be transformative, with a strong focus on collaboration and student engagement. While Blume & Bündgens-Kosten (2023) recognise how digital pedagogy can provide greater equity and inclusion for heterogeneous students. Therefore, teachers must aim to develop a high level of digital pedagogy and be adaptable to their environment. However, it is recognised that teachers have varying levels of digital pedagogy, which will affect the integration of technology. This differential in the use of innovation in the classroom ecology can be attributed to what Lun Wu *et al.* (2023) describe as teachers being the gatekeepers of technology. This notion of gatekeeping directly influences a teacher's choice of technology integration and how students learn. Lun Wu *et al.* (2023) and Francom and Moon (2018) posit that the digital literacy confidence of individual teachers influences this choice. This notion of being gatekeepers of technology aligns with Kalantzis and Cope (2010), who suggest that teachers dictate the form of communication patterns in their classrooms, for example, the use or lack of use of technology, the use of textbooks, and whether students work collaboratively or independently. In the advent of an algorithmic capitalism society influenced by digital knowledge, technology must be embedded into pedagogical approaches to ensure that students feel connected to their learning, providing agency in their educational journey (Kalantzis & Cope, 2010; Robert *et al.*, 2025). Frost and Ackrill (2025) support Kalantzis and Cope's (2010) stipulation that creativity and knowledge can be integrated through learning by design, suggesting that technology can be a critical aspect of curriculum design processes that include curriculum, pedagogy, and assessment criteria to provide a purposeful pedagogy. Such a curriculum design leads to a more effective understanding for students. In considering teachers' digital pedagogy, this project lesson incorporates two forms of innovative technology, namely, the Web 2.0 tool Padlet and the use of virtual tours, as both are sufficiently easy to use and navigate for both teachers and students (Weller, 2020).

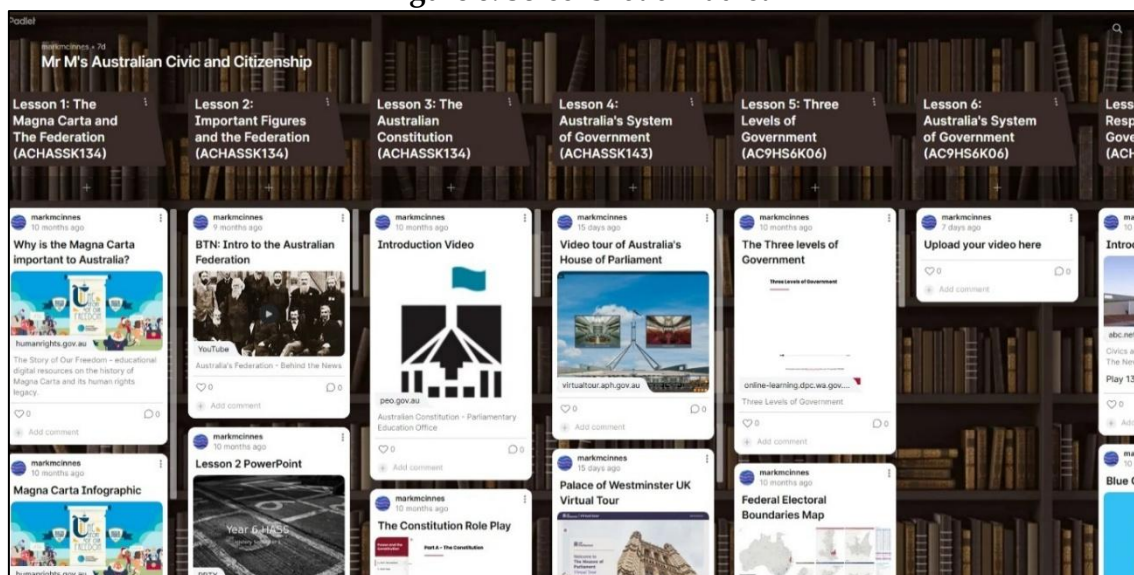
7. Padlet

Watson (2012) describes Web 2.0 as a system that is based on the online integration of participation, sharing and collaboration, while Moudatsaki *et al.* (2025) propose that Web 2.0 promotes a new ideal way of student participation through different online tools, including content sharing sites, which Padlet can be considered as. Padlet is a Web 2.0 tool, which Weller (2020) and Kobayashi (2024) as a form of online communication, exemplifying good practice in integrating technology into educational discourse. In contrast, a traditional discussion board within a learning management system (LMS) is text-based with limited multimodal functionality. An LMS is not as engaging as Padlet and requires technical skills to create, which may be limiting for teachers, whereas Padlet

is immediate and is both synchronous, occurring live and asynchronous, occurring at any time (Cope & Kalantzis, 2009; Kalantzis & Cope, 2010; Karkar Esperat, 2024; Peters, 2020; Wang *et al.*, 2025; Weller, 2020). In comparison to LMS discussion boards, Padlet is designed to be easy to use and encourage engagement through its multimedia functionality, including videos, websites, images, and text, which align with the multimodal learning principles of multiliteracies pedagogy (Cope & Kalantzis, 2008; Kalantzis & Cope, 2010; Jill *et al.*, 2025; Wang *et al.*, 2025; Weller, 2020). Consideration was also given to the use of the online Web 2.0 tool Zoom. However, as Varkey *et al.* (2022) highlight, it only has synchronous capability, limiting its usage with students to designated class time and does not have the same multimodal aspects as Padlet. Furthermore, Hidayat (2022) suggest that Zoom is a better tool for online distance learning rather than in an asynchronous environment.

Padlet provides an asynchronous learning environment that Varkey *et al.* (2022) posit fosters a student-centred learning environment that promotes the flow of ideas and encourages critical thinking. The way Padlet will be used for the lesson in this project, and the overall sequence of HASS lessons, is that all learning materials will be provided to students on the platform, as shown in Figure 8. These learning materials include videos, infographics, PowerPoint presentations, links to websites, and virtual tours, supporting the multiliteracies pedagogy approach (Alhadi & Mugaddam, 2024; Jill *et al.*, 2025; Karkar Esperat, 2024; Metha, 2021; Wang *et al.*, 2025).

Figure 8: Screenshot of Padlet



Note: From the author, (2025). (<https://padlet.com/markmcinnes/mr-m-s-australian-civic-and-citizenship-coabjmetekmdbfjz>). No copyright.

As active participation can strengthen memory retention and incorporate critical thinking, students will work in pairs during and in small groups (Blume & Bündgens-Kosten, 2023; Laid & Adlaon, 2025). Students will access the virtual reality tours from the Padlet tiles and complete a challenge, namely, plan and create a video, write a poem with a piece of artwork, or design and create an infographic that explains their new learning

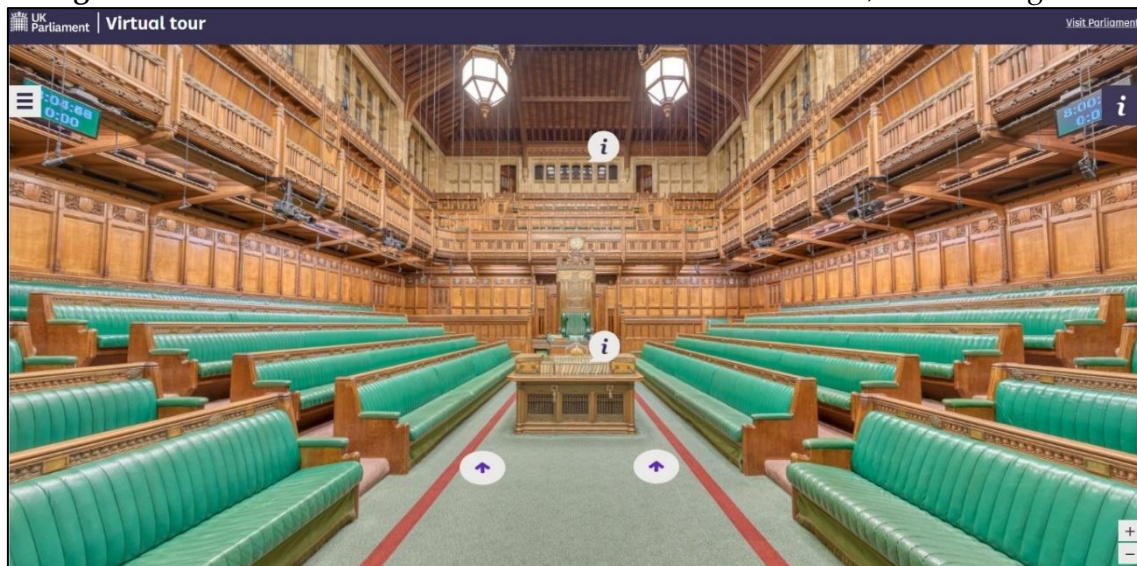
of Australia's Parliament system of government and how it is based on the Westminster system in the United Kingdom. Each student will add their completed challenge to the Padlet board to share their work with the entire class. Each challenge, which integrates the spatial contiguity principle, whereby learning is enhanced when related words and pictures are placed together, is a key consideration. The multimedia principle, when learning is improved due to pictures and words, not just words alone as described by Varkey *et al.* (2022), incorporates the pedagogies of multiliteracies and gamification, promoting collaborative learning, which has the advantage of acquiring additional new knowledge and inspires students to post to the wall of the Padlet due to its design and multimodality (Arochman *et al.*, 2024; Jill *et al.*, 2025; Mehta *et al.*, 2021; Varkey *et al.*, 2022; Wang *et al.*, 2025).

Zapata *et al.* (2025) argue strongly that feedback is a crucial part of learning. To create a social learning environment in line with multiliteracies pedagogy, students will provide peer feedback by commenting on their peers' submitted work on the Padlet wall. Providing peer feedback, it encourages higher levels of responsibility and higher-order thinking, and importantly, the ability to learn additional new knowledge from their peers (Alhadi & Mugaddam, 2024; Kobayashi, 2024; Wang *et al.*, 2025; Zapata *et al.*, 2025). Students will complete exit notes as encouraged by Varkey *et al.* (2022), who suggest that the use of exit tickets in an asynchronous classroom encourages students to employ metacognitive strategies with the learning materials, as they are required to briefly summarise at the end of the lesson in the form of an exit note and provide excellent formative feedback to the teacher.

8. Virtual Tours

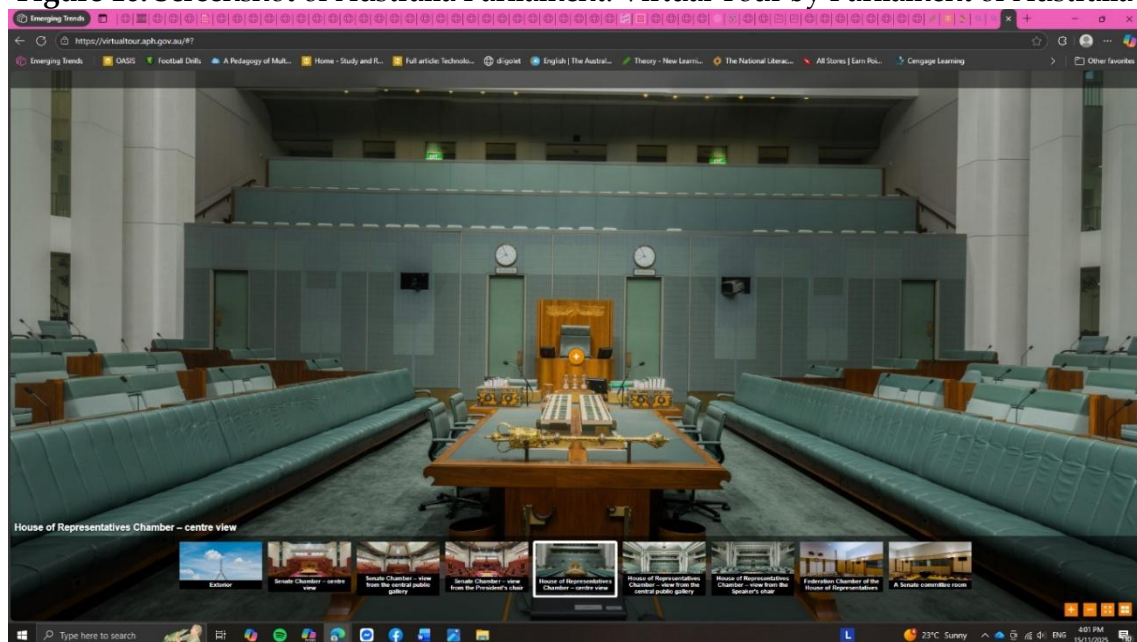
Cliffe (2017) describes a virtual tour as an attempt to place students in a real-world, specific location, as shown in Figures 9 and 10, without the associated costs of attending that location. Providing students with real life applications in their learning, like a virtual tour can provide students with increased engagement, more inclusivity and the benefit of viewing a location in the safe environment of the classroom, while at the same time providing them with an immersive experience and developing their technology skills (Cliffe, 2017; Hussein, 2024; Ng *et al.*, 2023). Careful consideration was given to include virtual tours of locations relevant to the curriculum being learned, as Cliffe (2017) highlights that unless the tour is aligned to the curriculum, it is unlikely to enhance a student's learning experience.

Figure 9: Screenshot of Virtual Tour of Westminster Parliament, United Kingdom



Note: From *UK Parliament: Virtual Tour*, by UK Parliament, 2025 (<https://virtualtour.parliament.uk/palaceofwestminster>). Copyright 2025 by UK Parliament.

Figure 10: Screenshot of Australia Parliament: Virtual Tour by Parliament of Australia



Note: From *Parliament of Australia: Explore Parliament House on a Guided Tour: Go on a Virtual Tour*, by Parliament of Australia, n.d. (<https://virtualtour.aph.gov.au/#?>). Copyright CC BY-NC-ND 4.0 Deed.

In the lesson, the teacher will provide careful, direct instruction to scaffold the students, aiding them in navigating the virtual tours, building on their own abilities, and improving their digital capabilities (Kalantzis & Cope, 2010; Robinson, 2020). Students' will be given the agency to explore the topic in their pre-designated small groups, working collaboratively and taking notes in preparation for their chosen challenge. Allowing students to explore virtual tours in small groups will promote a collaborative learning environment while providing them with the opportunity to gain hands-on

experience without the need to attend the location in person (Cardona *et al.*, 2023; Kalantzis & Cope, 2010).

The use of Virtual Reality VR, as described by Park and Koo (2025), is a technology that provides the user with a sense of immersion and presence in another reality, powered by computer graphics that create a 3D environment. Consideration was given to the use of VR in the lesson, as Robert *et al.* (2025) highlight how VR is becoming more advanced and is regularly used in higher education. However, Park and Koo (2025) raise serious concerns about the use of VR, citing cybersickness as a sensation like motion sickness in users. This consideration is important because the age group of students who will be taught this lesson is only ten to twelve years old, and it is the responsibility of teachers to provide a safe learning environment. Therefore, the use of VR was disregarded. The use of virtual tours is another innovative strategy to enhance students' engagement and motivation to learn content knowledge, thereby improving their learning process (Lin *et al.*, 2022; Kalantzis & Cope, 2010; Peters, 2020).

9. Opportunities and Considerations

While the original proposed lesson in this project demonstrates strong pedagogical alignment, such as the multiliteracies pedagogy and ethically considered integration of technology, namely the use of Padlet, gamification, and virtual reality tours, to be successfully implemented, it must be understood within the broader context of educational change. Innovation within teaching and learning rarely occurs in isolation; rather, it is shaped by institutional culture at a macro level, including the available infrastructure and human factors at meso and micro levels, which influence how change is experienced in school and classroom practices (Englund *et al.*, 2017; Phillips, 2007). At a classroom level, a multiliteracies pedagogy offers significant benefits and opportunities to students, including agency, inclusion, collaborative learning, and engagement achieved through multimodal meaning making (Cope & Kalantzis, 2009; Cope & Kalantzis, 2025). However, the increased neoliberal influence that takes precedent over pedagogical choices in favour of a results-driven market competition has significantly limited teachers' independence to design and deliver the curriculum, undermining inclusive approaches (Allan & Persson, 2016; Barow & Berhanu, 2021; Göransson *et al.*, 2017; OECD, 2023; Mutuota, 2024). Unfortunately, this tension reflects institutional norms that privilege pedagogical approaches that are more text-centred and measurable in relation to academic outputs over creative and multimodal learning. Therefore, teachers are required to justify the use of innovative practices through evidence-based design and a clear curriculum alignment (Englund *et al.*, 2017; Phillips, 2007; Tan & McWilliam, 2009).

Using a change management lens as a framework to view the project represents it as a bottom-up innovation initiated at the classroom level, which requires top-down complementary support to ensure the project's sustainability beyond an individual teacher's practice. Such top-down support could include leadership endorsement, professional learning opportunities for staff, and increased planning time, which would align with best practice research that indicates effective change occurs when top-down

and bottom-up approaches work simultaneously (Englund *et al.*, 2017; Fullan, 2007; Phillips, 2007; Rogers, 2003). Vescio *et al.* (2008) suggest that professional learning communities improve teaching practice through a collective dialogue. To support this assertion, a further critical aspect to ensure the long term success and sustainability of the project is peer collaboration, as professional dialogue provides the opportunity for teachers to negotiate shared understandings of workload, risk, digital competence and pedagogical values that supports the gradual concept change that is needed for technology enhanced teaching (Englund *et al.*, 2017; Fullan, 2007; Vescio *et al.*, 2008; Wenger, 1998).

In relation to the length of the lesson, research on technology-enhanced and active participation in learning activities emphasises the importance of monitoring students' cognitive load, time on task and student understanding of the content that they are undertaking to ensure that the lesson remains manageable and meaningful (Beckman *et al.*, 2029; Tharayil *et al.*, 2028). Beckham *et al.* (2019) clearly argues for lessons that allow for student self-regulation, monitoring student engagement and adjusting the pedagogical instruction accordingly. Therefore, the project has positioned evaluation of pacing and scope as an ongoing process that is informed by student engagement, learning outcomes and professional reflection. If, for any reason, the student begins to lose interest in the content of the lesson, the teacher must draw the lesson to a natural close and revisit the learning outcome during the next timetabled lesson (Beckham *et al.*, 2019; Falloon, 2023; Tharayil *et al.*, 2028).

Teachers must be aware of possible resistance from students who are accustomed to more traditional text-based learning structures and struggle to learn in a new approach to teaching. This resistance can be overcome by supporting students in unlearning passive modes of engagement, which requires explicit meta-instruction that includes clear explanations of the learning intentions, assessment criteria, along with the rationale and benefits of using multimodal and collaborative learning (Maddahi, 2025; Tharayil, 2018). At the same time, Beckman *et al.* (2019) posit that students' understanding of tasks and associated expectations should be closely aligned with their self-regulation and ability to complete set tasks successfully.

Therefore, clarity and feedback is a crucial part of this with a constant feedback loop by means of exit tickets, discussions with students, monitoring students interactions on the Padlet platform with the teacher also providing open and transparent feedback to students (Engeness & Gamlem, 2025; Vescio *et al.*, 2008) are essential components of any innovative lesson design and have been incorporated into this project. Engeness and Gamlem (2025) suggest that, due to the ever-changing digital landscape and the inherent structural and cultural constraints within educational discourse, adaptability is required from both students and teachers. However, Mouta *et al.* (2025) caution that teachers retain professional agency through evidence-informed pedagogical decision-making, the ethical selection of learning technologies, and advocacy for collaborative learning, while continual professional development provides teachers with an opportunity to explore an ever-evolving world of technology within the educational landscape. Recognising that there are both limitations and opportunities when introducing emerging technologies

within education enables it to be enacted responsibly rather than idealistically. This responsible enactment is achieved through a teacher's reflexive practice, professional learning practices, digital pedagogies, institutional support and ethical engagement with peers (Beckman *et al.*, 2028; Englund *et al.*, 2017; Maddahi, 2025; Mouta *et al.*, 2025; Smith *et al.*, 2025; Tharayil, 2018).

10. Emerging Themes and Future Impacts

Educational technology is a fast-paced, emerging trend with increasing complexity as platforms, pedagogical norms, and digital practices continue to grow and evolve in response to social, technological, and institutional changes; they become less predictable, at times confusing teachers (Fuchs, 2024; Howell, 2019). Research suggests that teachers must prepare for the future of learning to be integrated with emerging technologies and must tolerate a certain degree of uncertainty, adopting adaptive, principles-based approaches that do not rely solely on specific tools or platforms (Englund *et al.*, 2017; Phillips, 2007; Falloon, 2023). In response to such uncertainty, the project prioritises a pedagogical intent over novel technologies; therefore, enabling flexibility and transferability as the environment changes. A significant emerging theme in educational discourse is the increasing presence of large commercial providers, commonly referred to as Big Tech companies. These commercial platforms now commonly operate within education as part of a broader, analytical, data-driven ecosystem that relies on analytics, user engagement metrics, and the monetisation of digital activity (Selwyn, 2020; Williamson *et al.*, 2020).

Although digital tools used in the project, namely Padlet, provide valuable opportunities for collaboration, multimodal expression, and social presence, their use also raises ethical concerns related to student privacy, surveillance, and decision-making (Selwyn, 2020; Williamson *et al.*, 2020; Wang *et al.*, 2025). To address these concerns, teachers must engage critically with the selection of technology and also model transparent, safe and ethical digital practices that foreground student wellbeing and informed participation (Robert *et al.*, 2025; Robinson *et al.*, 2020). As the learning analytics and data of Big Tech companies continue to expand at a significant rate, learning analytics data are collected on students, for example, the engagement ratio on the Padlet platform, which can be used in learning environments to inform educational decision-making (Ifenthaler & Schumacher, 2016). However, as Ifenthaler and Schumacher (2016) rightfully argue, this collection of student data also represents a critical concern in the ethical considerations of how it is collected and used.

It is for this reason of Big Tech and the monetisation of data and analytics that Selwyn (2020) argues that far greater learner agency and ethical consideration should be given with respect to the datafication of students' learning. By embedding critical digital and information literacies at the forefront of the project, such as explicitly explaining how the Padlet platform functions, how data is generated and why that tool has been selected, provides students with the opportunity to engage with technology thoughtfully rather than consuming it uncritically (Gikas & Grant, 2013; Selwyn, 2020; Wang *et al.*, 2025).

Using such an approach aligns with Falloon's (2023) stipulation that priority should be given to ensuring students understand the technology that they are using and that ethical participation in digital learning environments is the norm.

Post-pandemic learning created the advancement of blended learning, a flexible approach, and online collaboration that has shaped the future of pedagogical developments, with such approaches becoming increasingly normalised. While the pandemic necessitated emergency remote teaching and learning, it also accelerated the adoption of technology in the classroom (Bond *et al.*, 2021; Williamson *et al.*, 2020). Nevertheless, research indicates that for any innovative practice to be sustained, it requires pedagogical expertise, rather than the use of surface-level technological tools (Englund *et al.*, 2017; Falloon, 2023). By placing relational pedagogy, structured scaffolding, and student wellbeing at the centre of the project, it addresses the issue of surface technological use, ensuring that the technology is used to enhance the learning process rather than driving it (Gikas & Grant, 2013; Jill *et al.*, 2025). Teacher preparedness for the future of technology integration into teaching is less about predicting or rapidly adapting to emerging tools, rather it is more about designing and delivering a pedagogical approach that is ethical and well considered. It should include relational capacities that will help respond to ongoing educational change, while supporting students on their educational journey. The project, therefore, provides innovation in a responsible way that is contextual, evidence-informed, and grounded in care for students and teachers alike (Cope & Kalantzis, 2009; Englund *et al.*, 2017; Phillips, 2007; Robert *et al.*, 2025; Robinson *et al.*, 2020).

11. Conclusion

Innovative pedagogies such as multiliteracies and gamification are integrated with innovative technology, including Padlet and virtual tours, motivating students and engaging them in real-world experiences. By working collaboratively, a critical aspect of multiliteracies pedagogy, it creates high-order thinking and mastery of content knowledge, improving students' academic and social outcomes. Approaching pedagogy in the way outlined in this project enables teachers to develop their digital literacy and provide a safe learning environment for their students while not blocking them from accessing 21st-century Web 2.0 applications. However, careful consideration must be made when planning to ensure that the appropriate technologies and pedagogical choices work together and are delivered in a safe learning environment.

Creative Commons License Statement

This research work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. To view a copy of this license, visit <https://creativecommons.org/licenses/by-nc-nd/4.0>. To view the complete legal code, visit <https://creativecommons.org/licenses/by-nc-nd/4.0/legalcode.en>. Under the terms of this license, members of the community may copy, distribute, and transmit the article, provided that proper, prominent, and unambiguous attribution is given to the authors,

and the material is not used for commercial purposes or modified in any way. Reuse is only allowed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License.

Conflict of Interest Statement

The author declares no conflicts of interest.

About the Author

Mark McInnes brings a unique perspective to inclusive education, shaped by an extraordinary career transition from community service to educational practice. After 25 years in policing, where he dedicated himself to supporting and protecting the community, Mark recognised an opportunity to create even greater impact by working with young people during their formative years. This realisation led him to transition into primary education, where he could intervene earlier in children's lives and help shape positive futures. Mark's passion centres on inclusive education and ensuring every child has the opportunity to reach their full potential, regardless of their abilities, backgrounds, or circumstances. He believes that education is the cornerstone of social equity and that all learners deserve access to quality, supportive learning environments where they feel valued and capable. Currently pursuing a Master of Education (Special and Inclusive) at the University of New England, Australia, Mark combines his extensive community engagement experience with evidence-based pedagogical practice. His research interests focus on inclusive frameworks, relational pedagogy, and practical strategies for embedding equity in mainstream educational settings. Mark's unique journey from policing to education enriches his understanding of systemic support, collaborative practice, and the importance of building trusting relationships to foster student success and wellbeing.

References

- Alhadi, A. K., & Mugaddam, A. H. (2024). Use of Padlet application in Saudi context: Students' perception and classroom application. *Eurasian Journal of Applied Linguistics*, 10(2), 215–225. <https://doi.org/10.32601/ejal.10218>
- Allan, J., & Persson, E. (2016). Students' perspectives on raising achievement through inclusion in Essunga, Sweden. *Educational Review*, 68(1), 82–95. <https://doi.org/10.1080/00131911.2015.1058752>
- Also., S. (n.d.). *Entrance to Australia Parliament House*. Retrieved from <https://openverse.org/image/42958438-e9af-4f7f-8275-e2031ba65dfd?q=Australia+parliament+house&p=4>
- Arochman, T., Margana, Ashadi, Sari, R., Manggolo, N. S. K. H., & Hasani, U. A. (2024). The views of students and pre-service teachers on using Padlet for mastery of grammar and writing skills in secondary education. *Theory and Practice in Language Studies*, 14(10), 3076–3085. <https://doi.org/10.17507/tpls.1410.08>

- Australian Curriculum and Reporting Authority. (2025a). *Humanities and social sciences: Civics and citizenship: Year 6*. (Version 9.0). Retrieved from <https://www.australiancurriculum.edu.au/f-10-curriculum/learning-areas/hass-f-6/year-6?view=quick&detailed-content-descriptions=0&hide-ccp=0&hide-gc=0&side-by-side=1&strands-start-index=0>
- Australian Curriculum and Reporting Authority. (2025b). *My school: Honeywood Primary: School profile*. (Version 9.0). Retrieved from <https://myschool.edu.au/school/52279>
- Australian Curriculum and Reporting Authority. (2025c). *My school: Honeywood Primary: NAPLAN student results*. (Version 9.0). Retrieved from <https://myschool.edu.au/school/52279/naplan/results>
- Australian Curriculum and Reporting Authority. (2025d). *Digital literacy*. (Version 9.0). Retrieved from <https://www.australiancurriculum.edu.au/f-10-curriculum/general-capabilities/digital-literacy?element=1&sub-element=DLIA>
- Australian Curriculum and Reporting Authority. (2025e). *Digital technologies: Year 6*. (Version 9.0). Retrieved from <https://www.australiancurriculum.edu.au/f-10-curriculum/learning-areas/digital-technologies/year-6?view=quick&detailed-content-descriptions=0&hide-ccp=0&hide-gc=0&side-by-side=1&strands-start-index=0>
- Barow, T., & Berhanu, G. (2021). Inclusive education in Sweden: Policy, politics and practice. In N. B. Hanssen, S.-E. Hansén, & K. Ström (Eds.), *Dialogues between Northern and Eastern Europe on the development of inclusion: Theoretical and practical perspectives* (pp. 35–51). Routledge. Retrieved from <https://gup.ub.gu.se/publications/show/304476>
- Beckman, K., Apps, T., Bennett, S., Dalgarno, B., Kennedy, G., & Lockyer, L. (2021). Self-regulation in open-ended online assignment tasks: the importance of initial task interpretation and goal setting. *Studies in Higher Education*, 46(4), 821–835. <https://doi.org/10.1080/03075079.2019.1654450>
- Blume, C., & Bündgens-Kosten, J. (2023). The role of digitality for neurodivergent English language learners: Agency and well-being within and outside the ELT classroom 1. *Arbeiten aus Anglistik und Amerikanistik*, 48(2), 213–237. <https://doi.org/10.24053/AAA-2023-0012>
- Bond, M., Bedenlier, S., Marín, V. I., & Händel, M. (2021). Emergency remote teaching in higher education: Mapping the first global online semester. *International Journal of Educational Technology in Higher Education*, 18, Article 50. <https://doi.org/10.1186/s41239-021-00282-x>
- Cardona, H., Lara-Alvarez, C., Parra-González, E. F., & Villalba-Condori, V. (2023). Virtual tours to facilities for educational purposes: A review. *TEM Journal*, 12(3), 1725–1731. <https://doi.org/10.18421/TEM123-55>
- Cazden, C., Cope, B., Fairclough, N., Gee, J., Kalantzis, M., Kress, G., Luke, A., Luke, C., Michaels. (1996). A pedagogy of multiliteracies: Designing social futures. *Harvard Educational Review*, 66(1), 60–92. <https://doi.org/10.17763/haer.66.1.17370n67v22j160u>

- Christ, T., Wang, C., Chiu, M., & Cho, H. (2019). Kindergartener's meaning making with multimodal app books: The relations amongst reader characteristics, app book characteristics, and comprehension outcomes. *Early Childhood Research Quarterly*, 47, 357–372. <https://doi.org/10.1016/j.ecresq.2019.01.003>
- Cliffe, A. D. (2017). A review of the benefits and drawbacks to virtual field guides in today's geoscience higher education environment. *International Journal of Educational Technology in Higher Education*, 14(28). <https://doi.org/10.1186/s41239-017-0066-x>
- Cope, B., & Kalantzis, M. (2009). "Multiliteracies": New literacies, new learning. *Pedagogies: An International Journal*, 4(3), 164-195. <https://doi.org/10.1080/15544800903076044>
- Cope, B., & Kalantzis, M. (2025). *New Learning Online: Visual Overview Multiliteracies in Infographics*. Retrieved from <https://newlearningonline.com/multiliteracies/visual-overview>
- Dehghanzadeh, H., Farrokhnia, M., Dehghanzadeh, H., Taghipour, K., & Noroozi, O. (2023). Using gamification to support learning in K–12 education: A systematic literature review. *British Journal of Educational Technology*, 55(1), 34–70. <https://doi.org/10.1111/bjet.13335>
- Department of Education, Western Australia. (2019). *Duty of care for public school students policy* (Version 2.8). <https://www.education.wa.edu.au/web/policies/-/duty-of-care-for-public-school-students-policy>
- Duchesne, S., & McMaugh, A. (2019). *Educational psychology: For learning and teaching* (6th ed.). Cengage. Retrieved from https://books.google.com.jm/books?id=RO9xDwAAQBAJ&printsec=frontcover&source=gbs_vpt_read#v=onepage&q&f=false
- Engeness, I., & Gamlem, S. M. (2025). Agency in Digital Education: Empowering Students and Teachers in Technology-Rich Learning Environments. *Education Sciences*, 15(8), 1051. <https://doi.org/10.3390/educsci15081051>
- Englund, C., Olofsson, A. D., & Price, L. (2017). Teaching with technology in higher education: Understanding conceptual change and development in practice. *Higher Education Research & Development*, 36(1), 73–87. <https://doi.org/10.1080/07294360.2016.1171300>
- Falloon, G. (2023). Twelve years of iPads and apps in schools: What conditions support effective practices in K–6 classrooms? *Frontiers in Education*, 8, Article 1122522. <https://doi.org/10.3389/feduc.2023.1122522>
- Fleet, A. (2020). Planning, programming and embedding curriculum. In B. Gobby & R. Walker (Eds.), *Powers of curriculum: Sociological perspectives of curriculum* (pp. 421–442). Oxford University Press.
- Francom, G. M., & Moon, A. L. (2018). Enhancing educational technology confidence among teacher candidates: Benefits of and lessons learned from a 1:1 device university-elementary school partnership. *Journal of Information Technology Education: Research*, 17, 423–440. Retrieved from

- <https://www.proquest.com/scholarly-journals/enhancing-educational-technology-confidence-among/docview/2155998042/se-2>
- Frost, D., & Ackrill, R. (2025). The multiple dimensions of curriculum mapping: Designing a comprehensive outcomes-based framework. *London Review of Education*, 23(1), 17. <https://doi.org/10.14324/LRE.23.1.17>
- Fuchs, K. (2024). Challenges with gamification in higher education: A narrative review with implications for educators and policymakers. *International Journal of Changes in Education*, 1(1), 51–56. <https://doi.org/10.47852/bonviewIJCE32021604>
- Fullan, M. (2007). *The new meaning of educational change* (4th ed.). Teachers College Press. Retrieved from <https://michaelfullan.ca/books/new-meaning-educational-change/>
- Gikas, J., & Grant, M. M. (2013). Mobile computing devices in higher education: Student perspectives on learning with cellphones, smartphones, and social media. *The Internet and Higher Education*, 19, 18–26. <https://doi.org/10.1016/j.iheduc.2013.06.002>
- Göransson, K., Lindqvist, G., Möllås, G., Almqvist, L., & Nilholm, C. (2017). Ideas about occupational roles and inclusive practices among special needs educators and support teachers in Sweden. *Educational Review*, 69(4), 490–505. <https://doi.org/10.1080/00131911.2016.1237477>
- Hidayat, S., Lovita, I. D., Zakiyah, Z., Mimin, & Nurpratiwi, A. (2022). The effectiveness of online learning using Zoom meetings at elementary schools. *International Journal of Technology in Education and Science*, 6(4), 559–568. <https://doi.org/10.46328/ijtes.367>
- Howell, J. (2019). *Teaching with ICT: Digital pedagogies for collaboration and creativity*. Oxford University Press. Retrieved from <https://www.oup.com.au/books/higher-education/education/9780195598391-teaching-with-technologies>
- Huot, S., Loch, S., Nget, R., & Em, S. (2025). Exploring multiliteracies in the digital era: A framework for 21st-century learning. *Cambodian Journal of Educational and Social Sciences*, 2(1), 7–27. <https://doi.org/10.69496/cjess.v2i1.50>
- Hussein, A. A. (2024). Innovative teaching methods enhancing engagement and learning outcomes. *Al-Iraqa Foundation for Culture and Development*. Retrieved from <https://www.researchgate.net/publication/382241063>
- Jill, L., Tan, S., Azman, E., W, & Samsudin, N. (2025). Designing pedagogy for multimodal oral presentation skills through a responsive case study. *International Journal of Learning, Teaching and Educational Research*, 24(9), 252–279. <https://doi.org/10.26803/ijlter.24.9.13>
- Kalantzis, M., & Cope, B. (2008). Digital communications, multimodality and diversity: Towards a pedagogy of multiliteracies. *Scientia Paedagogica Experimentalis*, 45(1), 15–50.
- Kalantzis, M., & Cope, B. (2010). The teacher as designer: Pedagogy in the new media age. *E-Learning and Digital Media*, 7(3), 200–222. <https://doi.org/10.2304/elea.2010.7.3.200>

- Karkar Esperat, T. M. (2024). Multiliteracies in teacher education. *Oxford Research Encyclopedia of Education*. Oxford University Press. <https://doi.org/10.1093/acrefore/9780190264093.013.1890>
- Kobayashi, S. (2024). Enhancing ICT-based international interactions: Impact of Zoom and Padlet on willingness to communicate, international posture, and speaking proficiency. *Technology in Language Teaching & Learning*, 6(2), 1–18. <https://doi.org/10.29140/tltl.v6n2.1248>
- Laid, S. M. T., & Adlaon, M. S. (2025). A systematic review of innovative teaching strategies in science: Exploring hands-on learning, technology integration, and student-centered approaches. *Acta Pedagogica Asiana*, 4(2), 101–114. <https://doi.org/10.53623/apga.v4i2.645>
- Li, M., Ma, S., & Shi, Y. (2023). Examining the effectiveness of gamification as a tool promoting teaching and learning in educational settings: A meta-analysis. *Frontiers in Psychology*, 14, Article 1253549. <https://doi.org/10.3389/fpsyg.2023.1253549>
- Lin, P.-H., Huang, L.-R., & Lin, S.-H. (2022). Why teaching innovation matters: Evidence from a pre versus peri COVID19 pandemic comparison of student evaluation data. *Frontiers in Psychology*, 13, 963953. <https://doi.org/10.3389/fpsyg.2022.963953>
- Lun Wu, M., Zhou, Z., Li, L. (2023). The effects of a gamified online course on pre-service teachers' confidence, intention, and motivation in integrating technology into teaching. *Education and Information Technologies*, 28(10), 12903–12918. <https://doi.org/10.1007/s10639-023-11727-3>
- Maddahi, Y., Near, C., Lee, R., Bakatsias, D., Masters, H., Henderson, S. (2025). From resistance to engagement: Factors that influence student outcomes in team-based learning. *Research Square*. <https://doi.org/10.21203/rs.3.rs-6658854/v1>
- Mehta, K. J., Miletich, I., & Detyana, M. (2021). Content-specific differences in Padlet perception for collaborative learning amongst undergraduate students. *Research in Learning Technology*, 29, Article 2551. <https://doi.org/10.25304/rlt.v29.2551>
- Mirhosseini, S.-A., & Emadi, A. (2022). Words belong to ourselves: Multiliteracies pedagogy in English language education. *The Journal of Educational Research*, 115(1), 75–86. <https://doi.org/10.1080/00220671.2022.2029807>
- Moudatsaki, E., Marín-López, I., & Luque-González, R. (2025). ADHD wiki collaborate programme: Fostering ADHD students' cooperative and social skills using Web 2.0 Tools. *Psicología Educativa*, 31(2), 121–128. <https://doi.org/https://doi.org/10.5093/psed2025a18>
- Mouta, A., Torrecilla-Sánchez, E. M., & Pinto-Llorente, A. M. (2025). Comprehensive professional learning for teacher agency in addressing ethical challenges of AIED: Insights from educational design research. *Education and Information Technologies*, 30, 3343–3387. <https://doi.org/10.1007/s10639-024-12946-y>
- Mutuota, M. (2024). Equity and exclusion in Kenyan schools: Navigating neoliberal education reform. *Journal of Comparative and International Education*. Retrieved from <https://www.ajol.info/index.php/saje/article/view/268897>

- Ng, D., Ng, R. & Chu, S. (2023). Engaging students in virtual tours to learn language and digital literacy. *Journal of Computers in Education*, 10(3), 575–602. <https://doi.org/10.1007/s40692-023-00262-2>
- Organisation for Economic Co-operation and Development. (2023). *Indicators of inclusion in education: A framework for analysis* (OECD Education Working Paper No. 300). Retrieved from <https://www.oecd.org/education/indicators-of-inclusion-in-education-working-paper-300.htm>
- Parliament of Australia. (n.d.). *Parliament of Australia: Explore Parliament House on a guided tour: Go on a Virtual Tour*. <https://virtualtour.aph.gov.au/#>
- Peters, M. A. (2020). An educational theory of innovation: What constitutes the educational good? *Educational Philosophy and Theory*, 52(10), 1016–1022. <https://doi.org/10.1080/00131857.2019.1699992>
- Phillips, R. (2007). Pedagogical, institutional and human factors influencing the widespread adoption of educational technology in higher education. *Australasian Journal of Educational Technology*, 23(4), 1–16. Retrieved from https://www.researchgate.net/publication/267855603_Pedagogical_institutional_and_human_factors_influencing_the_widespread_adoption_of_educational_technology_in_higher_education
- Robert, J., Muscanell, N., McCormack, M., Pelletier, K., Arnold, K., Arbino, N., Young, K., & Reeves, J. (2025). *2025 EDUCAUSE Horizon Report: Teaching and learning edition*. EDUCAUSE. Retrieved from <https://library.educause.edu/resources/2025/5/2025-educause-horizon-report-teaching-and-learning-edition>
- Robinson, H., Al-Freih, M., & Kilgore, W. (2020). Designing with care: Towards a care-centered model for online learning design. *The International Journal of Information and Learning Technology*, 37(3), 99–108. <https://doi.org/10.1108/ijilt-10-2019-0098>
- Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). Free Press. Retrieved from https://books.google.ro/books/about/Diffusion_of_Innovations_5th_Edition.html?id=9U1K5LjUOwEC&redir_esc=y
- Selwyn, N. (2020). *Should robots replace teachers? AI and the future of education*. Polity Press. Retrieved from <https://research.monash.edu/en/publications/should-robots-replace-teachers-ai-and-the-future-of-education/>
- Smith, K., Mansfield, J., & Adams, M. (2025). Learning from a dilemma: The opportunities online teaching provided for teacher growth and development. *The Australian Educational Researcher*, 52, 95–113. <https://doi.org/10.1007/s13384-024-00704-5>
- Steinkuehler, C., & King, E. (2009). Digital literacies for the disengaged: creating after-school contexts to support boys' game-based literacy skills. *On the Horizon*, 17(1), 47–59. <https://doi.org/https://doi.org/10.1108/10748120910936144>
- Tan, J. P.-L., & McWilliam, E. L. (2009). From literacy to multiliteracies: Diverse learners and pedagogical practice. *Pedagogies: An International Journal*, 4(3), 213–225. <https://doi.org/10.1080/15544800903076119>
- Tharayil, S., Borrego, M., Prince, M. (2018). Strategies to mitigate student resistance to active learning. *IJ STEM* 5, 7. <https://doi.org/10.1186/s40594-018-0102-y>

- Tolomea (n.d.). *Westminster*. Retrieved from <https://openverse.org/image/4fe6f2f3-8345-4a3f-b7a3-e2fa371aa3c5?q=Westminster&p=63>
- Triantafyllou, S. A., Georgiadis, C., & Sapounidis, T. (2025). Gamification in education and training: A literature review. *International Review of Education*, 71(4), 483–517. <https://doi.org/10.1007/s11159-024-10111-8>
- UK Parliament. (2025). *UK Parliament: Virtual Tour*. Retrieved from <https://virtualtour.parliament.uk/palaceofwestminster>
- University of Western Australia. (2019). *Research: Impact shaping national and international educational measurement approaches and practices*. Retrieved from <https://researchimpact.uwa.edu.au/research-impact-stories/shaping-national-and-international-educational-measurement-approaches-and-practices/>
- Varkey, T. C., Varkey, J. A., Ding, J. B., Varkey, P. K., Zeitler, C., Nguyen, A. M., Merhavy, Z. I., & Thomas, C. R. (2023). Asynchronous learning: A general review of best practices for the 21st century. *Journal of Research in Innovative Teaching & Learning*, 16(1), 4–16. <https://doi.org/10.1108/JRIT-06-2022-0036>
- Vescio, V., Ross, D., & Adams, A. (2008). A review of research on the impact of professional learning communities on teaching practice and awareness. *Teaching and Teacher Education*, 24(1), 80–91. <https://doi.org/10.1016/j.tate.2007.01.004>
- Wang, Y., Fan, S., Douglas, T., Parks, M., Coleman, B., Muir, T., Richey, S., McCarthy, R., Hicks, D., Li, W., & Brandsema, J. (2025). Padlet adoption to enhance multidisciplinary online and hybrid teaching and learning at an Australian university. *Education Sciences*, 15(9), 1165. <https://doi.org/10.3390/educsci15091165>
- Watson, I. (2012). *The universal machine: From the dawn of computing to digital consciousness*. Copernicus Books. Retrieved from <https://archive.org/details/universalmachine0000wats>
- Weller, M. (2020). *25 years of ed tech*. Athabasca University Press. <https://doi.org/10.15215/aupress/9781771993050.01>
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge University Press. Retrieved from <https://doi.org/10.1023/A:1023947624004>
- Williamson, B., Eynon, R., & Potter, J. (2020). Pandemic politics, pedagogies and practices: Digital technologies and distance education during the coronavirus emergency. *Learning, Media and Technology*, 45(2), 107–114. <https://doi.org/10.1080/17439884.2020.1761641>
- Zeng, J., Sun, D., Looi, C.-K., & Fan, A. C. W. (2024). Exploring the impact of gamification on students' academic performance: A comprehensive meta-analysis of studies from the year 2008 to 2023. *British Journal of Educational Technology*, 55(1), 5–28. <https://doi.org/10.1111/bjet.13471>
- Zeybek, G. & Saygi, J. (2024). Gamification in education: Why, where, when, and how? A systematic review. *Games and Culture*, 19(2), 237–264. <https://doi.org/10.1177/15554120231158625>

Appendix A: Lesson Plan

Learning area	HASS: Civics and Citizenship		
Lesson topic	Australian and Westminster Parliaments		
Date and time	29 November 2025 1000am		
Overall duration (time)	90 minutes		
Curriculum links	AC9HS6K06, AC9HS6S07 and AC9TDI6P07		
Objectives	<p>By the end of this lesson, students will be able to:</p> <ul style="list-style-type: none"> Recognise key similarities and differences between the Australian Parliament and the Westminster system. Navigate and extract information from two virtual tours (AU Parliament & Westminster). Collaboratively analyse information and contribute to group discussion. Communicate their learning through a chosen creative assessment (video, infographic or poem and artwork) 		
Lesson preparation	<ul style="list-style-type: none"> Ensure internet access and devices for students. Preload the two virtual tours onto Padlet Create QR code for Padlet Display images of both Parliaments as prompts for current knowledge. Prepare printed discussion scaffold sheets and comparison charts. Make differentiated templates ready (sentence starters, graphic organisers, extension prompts). 		
Materials	<ul style="list-style-type: none"> Student laptops or iPads Two images of parliaments (Australian and Westminster) Comparison chart handouts Challenge task instructions (video / infographic / poem) Whiteboard & markers 	Resources	<ul style="list-style-type: none"> Virtual Tour of Australian Parliament Virtual Tour of Westminster Parliament Scaffold sheets: "What I Already Know" pair-and-share sheet Venn diagram / comparison chart Examples infographic/video/poem (teacher-provided)
Key terminology	<ul style="list-style-type: none"> Parliament House of Representatives Senate House of Commons House of Lords Democracy 	Key features	<ul style="list-style-type: none"> Structure of Australian Federal Parliament Structure of the Westminster system Purpose of Upper & Lower Houses Physical layout of chambers (symbolism, traditions, design) How virtual tours can show features of government places
Learning strategies & activities: <i>Introductory</i>	<p>(10 minutes)</p> <p>Warm-Up Pair and Share (using the two images)</p> <p>Display both images on the screen.</p>		

	<p>Students work in pairs with the prompt sheet:</p> <p>What do you notice?</p> <p>What is similar / different?</p> <p>What clues tell you this is a place of government?</p> <p>Students write 3–4 dot points of prior knowledge.</p> <p>Quick group share-back: pairs offer observations.</p>
<p>Learning strategies & activities: <i>developmental</i></p>	<p>Teacher explains they will explore how Australia’s Parliament is based on the Westminster system but has important differences. They will use virtual tours to collect evidence to compare both.</p> <p>Scaffolding: How to Use the Virtual Tours (10 min)</p> <p>Teacher models:</p> <p>How to navigate each tour, where to look for descriptions, labels and information icons, how to take notes or screenshots, safe and appropriate online behaviour (links to AC9TDI6P07)</p> <p>Students complete a short, guided practice on their devices.</p> <p>Small-Group Investigation (20 min)</p> <p>Students work in groups of 3–4 using a scaffolded comparison chart.</p> <p>They must gather information from both virtual tours to answer questions such as:</p> <p>Australian Parliament</p> <p>What are the two houses called?</p> <p>What colour is the chamber?</p> <p>What symbols or traditions do you notice?</p> <p>Westminster Parliament</p> <p>What are the two houses called?</p> <p>What colour is the chamber?</p> <p>What traditions or symbols do you see?</p> <p>Comparison</p> <p>What is the same?</p> <p>What is different?</p> <p>Why might Australia have changed parts of the original Westminster system?</p> <p>Teacher circulates, prompting deeper thinking and providing targeted support.</p> <p>Group Synthesis (10 min)</p> <p>Groups prepare a concise summary (either written or verbal) of:</p> <p>“Three similarities and three differences between the systems.”</p> <p>A couple of groups share their findings with the class.</p> <p>Individual Creative Challenge (35 min)</p> <p>Students choose one challenge to demonstrate knowledge (AC9HS6S07 + AC9TDI6P07):</p> <p>Option A: Plan and Create a Short Video</p> <p>Use iMovie or Canva</p> <p>Explain the difference between Australia’s and Westminster’s Parliaments.</p> <p>Option B: Design and Produce an Infographic</p> <p>Use Canva or Google Draw.</p> <p>Include at least 5 facts and 2 visuals from the virtual tours.</p> <p>Option C: Write a Poem and draw piece of artwork</p>

	<p>Provide structure templates (free verse, acrostic, or rhyming). Poem must reference key government features. Students begin creating; final completion may continue next lesson.</p>
Learning strategies & activities: <i>concluding</i>	<p>Exit Ticket (5 min) Students complete exit ticket on Padlet including one of the below: One similarity between the systems One difference One new thing I learned One question I still have</p>
Differentiation	<p>For students needing support / neurodiverse students: Provide visual schedules and clear instructions. Use simplified comparison charts with sentence starters: "One thing I see is..." "In Australia, the lower house is called..." Allow movement breaks. Provide noise-reducing headphones and quiet workspace. Allow use of dictation tools for written components. Offer an alternative task: draw a labelled diagram instead of an infographic/video. For extension / high-capacity students: Add challenge questions: "Why might Australia have adopted a different method for selecting the Senate?" "How might the structure of parliament affect laws?" Allow students to research additional features (e.g., role of the Monarch, history of Westminster). Encourage creation of a persuasive video explaining which system is more representative. Include optional deeper digital elements: animated infographics</p>
Key questions	<p>What are the key features of both parliaments? How does Australia's government structure show influence from the Westminster system? Why is it important that citizens understand how parliament works? How do virtual tours help us learn about places we cannot visit?</p>
Assessment of student learning	<p>Diagnostic Pair and share what already know</p> <p>Formative Pair and share observations Group comparison chart Exit tickets Teacher questioning during tours</p> <p>Summative Individual creative product (video, infographic, or poem), assessed for: Accuracy of information, clear communication, use of correct terminology, evidence of comparison and appropriate choice and use of digital tools.</p>