Approaches to Digital Learning and Technology Use Policy

A Digital Learning Framework for the Prep School at Brighton College (Singapore)

Overview

This policy establishes a shared, evidence-informed approach to digital learning within the Prep School at Brighton College (Singapore). It defines the professional expectations for the use of technology in teaching and learning from Pre-Nursery to Year 6. At BCS, technology is understood as a professional tool, not a default classroom presence. Its use is guided by the principle that digital tools should enhance thinking, feedback, creativity, and collaboration, rather than simply increase efficiency or replace established pedagogical practices.

This approach is grounded in research from cognitive science, which demonstrates that pupils learn most effectively when they engage in active thinking, retrieval, practice, and dialogue (Mayer, 2021; Sweller et al., 2011). These processes depend on attention, interaction, and meaningful engagement. Technology must therefore support these processes, rather than compete with them or reduce cognitive effort. In the Prep School, this principle is particularly important. Younger pupils learn through talk, play, physical interaction, and social collaboration. These experiences are fundamental to cognitive and social development. Technology must complement these modes of learning, not displace them.

For this reason, digital technology is used selectively and purposefully. It is introduced only where it clearly enhances learning and is always balanced with non-digital approaches. We do not use technology for extended passive use, and digital activities are designed to require active engagement and thinking. In the Early Years (Pre-Nursery to Reception), technology is used purposefully and in a developmentally appropriate way, always with adult guidance and mediation. Teaching remains grounded in play-based, social, and physical experiences. Technology compliments these experiences where it meaningfully enhances learning and does not replace them. From Year 1 onward, technology is introduced gradually and in a developmentally appropriate manner. Its use remains teacher-directed, structured, and purposeful. Pupils are supported in developing digital fluency, independence, and responsible digital habits in ways appropriate to their age and developmental stage.

To support consistent, evidence-informed practice, the Prep School adopts the PICRAT framework (Kimmons et al., 2020) as a professional model for evaluating technology's impact on learning. This ensures that digital tools are used to amplify or transform learning, rather than simply replace traditional methods.

All digital practice is underpinned by safeguarding principles, including age-appropriate access, active supervision, data protection, and the explicit teaching of safe and responsible online

behaviour. Any concerns regarding pupil use of technology must be reported in accordance with our safeguarding procedures.

1. Purpose

This policy sets professional expectations for the use of digital technology in teaching and learning at Brighton College (Singapore) Prep School. Its purpose is to ensure that technology is used deliberately and appropriately to support learning, while maintaining a strong focus on cognitive engagement, attention, and developmentally appropriate practice. In the Prep School, pupils' learning is shaped by interaction, play, discussion, and physical experience. Technology must complement these approaches, not replace them. The use of digital tools is therefore carefully managed to ensure they enhance, rather than diminish, the quality of teaching and learning.

This policy provides a shared framework for staff, ensuring consistent use of technology across the Prep School. It supports teachers in making informed professional decisions about when and how technology is appropriate, taking into account pupils' ages, developmental stages, and learning needs. The policy also establishes expectations for digital citizenship, safeguarding, and responsible use of technology. It ensures that pupils develop the knowledge, skills, and habits required to use technology safely, thoughtfully, and effectively.

Finally, the policy aligns Prep School practice with our Whole School Digital Strategy and Cognita's Digital Learning frameworks, ensuring a coherent and consistent approach to digital learning across the College.

2. Pedagogical and Research Foundations

Our approach to digital learning is grounded in research from cognitive science, developmental psychology, and educational technology. This body of research demonstrates that pupils learn most effectively when they are actively engaged in thinking, retrieval, practice, and meaningful interaction (Mayer, 2021; Rosenshine, 2012; Sweller et al., 2011).

These processes depend on attention and working memory, both of which have limited capacity. Learning is strengthened when cognitive load is carefully managed, enabling pupils to focus on essential information. Activities that divide attention, encourage multitasking, or introduce unnecessary complexity can hinder understanding and reduce retention (Sweller et al., 2011). These considerations are particularly important in the Prep School, where pupils are still developing attention, self-regulation, and cognitive capacity.

In primary-aged pupils, learning is also deeply social and interactive. Talk, discussion, and collaboration play a central role in developing understanding. Dialogic teaching approaches, which emphasise structured talk and interaction, have been shown to support higher levels of thinking and learning (Alexander, 2020). Similarly, early learning is closely linked to physical activity, play, and social experience, which are fundamental to cognitive and emotional development (Shonkoff & Phillips, 2000).

The use of technology must therefore be carefully considered and balanced with these forms of learning. Digital tools can support teaching by providing feedback, enabling collaboration, and allowing pupils to represent their understanding in different ways. However, they can also increase cognitive load, introduce distraction, and encourage passive engagement if not used purposefully.

Evidence from large-scale international studies shows that technology's impact on learning outcomes depends on how it is used. Moderate, structured use of technology that is closely aligned with learning objectives can support progress, whereas excessive or unstructured use is not associated with improved outcomes (OECD, 2015; OECD, 2021). This reinforces the importance of using technology selectively and with clear pedagogical intent. Research also indicates that the most effective use of technology supports interaction, feedback, and higher-order thinking rather than passive information consumption (Education Endowment Foundation [EEF], 2023). Technology is most beneficial when it enhances teaching rather than replaces it, and when it supports pupils in actively engaging with their learning.

Recent guidance from the Early Years Screen Time Advisory Group (EYSTAG, 2026) reinforces that purposeful, adult-mediated technology use is appropriate in early years settings when it complements play-based learning and does not displace essential developmental activities such as peer play, physical activity, and direct interaction. The primary concern is not technology use itself, but ensuring it does not replace the social and physical experiences fundamental to early development (EYSTAG, 2026). A large-scale survey of 335 UK early years practitioners found that tablets, digital cameras, programmable toys, and interactive whiteboards are now embedded across EYFS settings to support child-led, exploratory learning (Jack & Higgins, 2019), suggesting that purposeful technology use is consistent with contemporary UK early years practice.

Across the Prep School, the following principles underpin effective learning:

- learning is most effective when pupils are actively engaged in thinking
- attention and working memory must be protected
- talk, interaction, and collaboration support understanding

- feedback and practice are central to progress
- technology should support, not replace, these processes

These principles should guide all decisions about the use of technology in the Prep School.

3. Professional Decision Framework: PICRAT

To support consistent, evidence-informed decision-making, the Prep School adopts the PICRAT framework (Kimmons et al., 2020) as the College's shared model for evaluating the educational impact of technology use. The PICRAT model recognises that the effectiveness of digital technology is determined not by the tool itself, but by how it is used in a learning task. It therefore considers two key dimensions: the nature of pupils' engagement with technology and the extent to which technology changes the learning process.

The first dimension focuses on the pupil's relationship with technology:

- Passive – pupils receive or consume information
- Interactive – pupils respond, practise, or engage with content
- Creative – pupils design, produce, or construct new understanding

The second dimension considers the impact of technology on the task:

- Replace – technology substitutes a traditional method with no functional improvement
- Amplify – technology improves efficiency, feedback, or access
- Transform – technology enables learning that would otherwise be difficult or impossible

This framework provides teachers with a professional lens for evaluating whether technology meaningfully enhances learning, rather than simply digitising existing practice. In the Prep School, the emphasis is on ensuring that technology supports active engagement and thinking. Research indicates that learning is strengthened when pupils actively process information, practise skills, and receive feedback (Mayer, 2021; Rosenshine, 2012). As such, the most effective uses of technology are those that require pupils to respond, create, and reflect, rather than passively consume information.

3.1 Using PICRAT in Practice

PICRAT should be used as a reflective tool during planning. Teachers should consider:

- How are pupils engaging with the technology?
- Does this task require thinking or primarily consumption?
- What does the technology add that could not be achieved without it?

If technology does not improve the quality of thinking, feedback, or representation, it should not be used. Teachers should aim for uses of technology that are:

- Interactive or Creative in terms of pupil engagement
- Amplifying or Transformative in their impact on learning

Furthermore, teachers should avoid using passive technology that replaces existing learning methods, as such approaches are unlikely to improve learning outcomes. For example, completing a digital worksheet or copying notes onto a device does not enhance understanding and may reduce cognitive engagement.

In the Prep School context, this principle is particularly important. Younger pupils benefit from structured, purposeful tasks that require active thinking. Technology should therefore be used to promote engagement, feedback, and creativity, rather than passive screen time. The PICRAT model is not intended as a checklist, but as a professional tool to support reflective practice. Teachers should use it to evaluate their choices and ensure technology enhances, rather than dilutes, the quality of teaching and learning.

3.2 Examples of PICRAT in Practice

Learning Task	PICRAT Evaluation
Pupils copy text from the board or slides into a digital document	Replace – no improvement in learning or thinking
Pupils watch a video without questioning or follow-up	Passive – minimal engagement
Pupils complete a structured retrieval quiz with immediate feedback	Interactive / Amplify – supports practice and reinforcement
Pupils watch a video and respond to structured questions or prompts	Interactive – requires active engagement with content
Pupils annotate a text digitally, responding to prompts and questions	Interactive – requires active engagement with content
Pupils answer hinge questions during a lesson using polling tools to check understanding	Interactive / Amplify – supports formative assessment
Pupils use a shared document to draft and peer-review writing	Interactive / Amplify – supports feedback and collaboration
Pupils manipulate variables in a simulation to explore ideas in maths or science	Interactive / Transform – supports conceptual understanding
Pupils analyse and interpret data using spreadsheets and visualisation tools	Interactive / Transform – supports analytical thinking

Pupils record their reading, speaking, or explanations and review them	Creative / Amplify – supports reflection and improvement
Pupils create a digital presentation, video, or story to explain their learning	Creative / Transform – enables deeper understanding and communication

4. Expectations for Teaching Practice

The effective use of technology in the Prep School is grounded in high-quality teaching. Digital tools should support, but never replace, the core elements of effective pedagogy, including explanation, questioning, practice, and feedback. Teachers are expected to make deliberate, informed decisions about when and how technology is used, ensuring it contributes meaningfully to learning.

4.1 Intentional Planning

The use of technology must be explicitly linked to learning objectives. Teachers should be able to articulate how a digital tool improves the learning experience, whether through enhancing feedback, enabling collaboration, or supporting pupils in representing their understanding in different ways.

Where technology does not provide a clear pedagogical advantage, non-digital approaches should be prioritised. The presence of technology alone does not improve learning; its value depends on how it is used within a carefully designed lesson.

4.2 Active Learning and Cognitive Engagement

Technology should be used to promote active engagement with learning. Tasks should require pupils to think, respond, create, and reflect, rather than passively receive information. Extended periods of passive screen use should be avoided, and opportunities for interaction, discussion, and application should be built into tasks to ensure pupils remain cognitively engaged.

This approach is supported by research demonstrating that active processing, retrieval, and practice are central to learning (Mayer, 2021; Rosenshine, 2012).

4.3 Focus and Cognitive Load

Maintaining pupils' attention is essential for effective learning. The presence of devices can divide attention and increase cognitive load if not carefully managed. Teachers should establish clear classroom routines that define when technology is used and when it is not. During explanation, questioning, and discussion, devices should be stored, closed, or turned off to allow pupils to focus fully on the learning.

Digital tasks should be designed to minimise unnecessary complexity and avoid multitasking, ensuring that pupils' cognitive resources are directed towards learning rather than managing technology (Sweller et al., 2011).

4.4 Structured and Supported Use

In the Prep School, technology use is primarily teacher-directed. Pupils are still developing independence and self-regulation, and therefore require clear guidance and structured tasks.

Teachers should provide carefully selected resources and scaffolded activities, particularly when pupils are using technology for research or extended tasks. Unstructured or unsupervised use of technology should be completely avoided. This approach supports pupils in developing both subject knowledge and digital fluency in a controlled and purposeful way.

4.5 Dialogue and Interaction

Learning in the Prep School is inherently social. Talk, discussion, and collaboration are central to developing understanding. Technology should support, rather than replace, these forms of interaction. Opportunities for dialogue, questioning, and collaborative work should remain at the heart of lessons, whether or not technology is being used.

Digital tools can be particularly effective when they enable collaboration or provide opportunities for pupils to share and discuss their work. However, they should not reduce opportunities for verbal interaction or teacher-pupil dialogue.

4.6 Gamification in Learning

Gamification refers to the deliberate use of game design elements, such as structured challenges, progress pathways, feedback systems, and goal-oriented tasks within learning activities to support pupil engagement and motivation (Deterding et al., 2011). In the Prep School, gamification should be used as a pedagogical design approach, not as the simple addition of rewards, points, or entertainment.

The purpose of gamification is to strengthen pupils' engagement with learning by:

- encouraging sustained effort and persistence
- providing clear goals and feedback
- supporting structured progression towards mastery

However, gamification does not inherently improve learning. Its effectiveness depends on whether it enhances pupils' thinking, understanding, and engagement with content, rather than distracting from it (Sailer & Homner, 2020). As with all uses of technology, gamification must be applied selectively and only where it demonstrably improves the quality of learning.

Research on gamification in education shows mixed but context-dependent outcomes. Meta-analyses indicate that gamification can have a small to moderate positive effect on engagement and achievement, particularly in primary and lower secondary settings when aligned with learning objectives (Sailer & Homner, 2020; Zeng et al., 2024).

Gamification is most effective when it:

- requires active cognitive engagement
- provides immediate and meaningful feedback
- supports progression through increasingly challenging tasks

These features align with established principles of learning, including retrieval, practice, and feedback (Rosenshine, 2012; Mayer, 2020). However, research also highlights significant limitations. Gamification that relies heavily on extrinsic rewards such as points, badges, or leaderboards can reduce intrinsic motivation and shift pupils' focus away from learning (Deci et al., 2001; Sailer et al., 2017). Competitive structures, particularly public ranking systems, may negatively affect lower-attaining pupils and reduce their sense of competence (Hanus & Fox, 2015).

This aligns with Self-Determination Theory (Deci & Ryan, 2000), which demonstrates that motivation is strongest when three core psychological needs are supported:

- Autonomy – a sense of choice and control
- Competence – a sense of success and progress
- Relatedness – a sense of belonging and collaboration

Gamification is therefore most effective when it supports these needs, rather than replacing them with external incentives.

4.6.1 Alignment with PICRAT

Gamification must be evaluated through the PICRAT framework to ensure it enhances learning:

Passive (Replace)
Gamification that rewards completion without requiring thinking (e.g. points for watching videos) does not improve learning and should be avoided.

Interactive (Amplify)
Gamification that requires pupils to apply knowledge, make decisions, and receive feedback can strengthen learning when it improves practice and engagement.

Creative (Transform)
Gamification that enables pupils to explore, design, and construct understanding represents the most effective use, particularly where it supports problem-solving and deeper thinking.

In all cases, gamification should be used to amplify or transform learning, not to replace effective teaching with a superficial activity.

4.6.2 Principles for Effective Use

In the Prep School, gamification should:

- focus on mastery, progress, and learning, rather than competition
- require pupils to think, apply, and reflect, not simply complete tasks
- provide immediate, specific feedback linked to learning
- support progression through appropriately challenging tasks
- allow pupils to experience success at their level of development
- be time-limited and purposeful, avoiding excessive screen use

Gamification should not:

- rely on public leaderboards or ranking systems
- reward speed at the expense of understanding
- prioritise rewards over learning processes
- replace teacher explanation, questioning, or feedback
- reduce opportunities for dialogue, collaboration, or reflection

4.6.3 Role of the Teacher

Teachers are responsible for ensuring that gamification enhances, rather than distracts from, learning.

They should:

- define the learning purpose of any gamified activity
- ensure tasks require active thinking and engagement
- monitor pupil response, including motivation and wellbeing
- provide ongoing feedback and support
- adapt or discontinue gamified approaches where they do not improve learning
- Gamification must never replace professional judgement, high-quality teaching, or formative assessment.

4.6.4 Key Principle

Gamification is a tool to support engagement, not a solution in itself. Its value depends entirely on how effectively it promotes thinking, feedback, and meaningful learning. Where gamification does not demonstrably improve learning, it should not be used.

5. Managing Technology in the Learning Environment

The use of technology in the Prep School is developmentally appropriate and carefully structured. Expectations vary across phases to reflect pupils' ages, developmental stages, and increasing independence. Across all year groups, technology is used selectively and purposefully to support learning, rather than as a constant classroom presence.

5.1 Early Years (Pre-Nursery to Reception)

In the Early Years, our approach follows Development Matters (DfE, 2021), which supports the use of resources, including technology, where they meaningfully enhance learning, alongside a strong emphasis on play, interaction, and hands-on experience.

Technology is used purposefully and always with adult guidance. Current practice includes:

- Children using iPads to take photos and videos to document their learning
- Accessing Busy Things, an interactive EYFS platform, on iPads and interactive screens
- Engaging with their digital learning portfolio platform to view and reflect on their documented learning
- Using interactive screens for mark-making and early writing
- Using Bee-Bots to explore sequencing, direction, and early programming concepts
- Adult-guided internet searches to support Understanding of the World (e.g. looking at images of animals)
- Listening to Tonie boxes for stories, songs, and audio content to support language and listening skills

All technology use is adult-mediated, purposeful, and time-limited. Research demonstrates that adult scaffolding is essential for technology to support learning in the early years — active adult engagement and facilitation significantly improve outcomes compared to independent or passive use (Lauricella et al., 2015). Classroom-based research supports the specific tools used in our setting: iPad use in UK nursery and reception settings has been shown to stimulate children's motivation, concentration, and collaborative interaction when well-planned and curriculum-aligned (Flewitt, Messer & Kucirkova, 2015), and Bee-Bots have been shown to produce statistically significant gains in computational thinking in preschool settings when used with intentional curriculum design (Papadakis & Kalogiannakis, 2020). Technology is never used as a substitute for play, direct interaction, or hands-on exploration.

5.2 Key Stage 1 (Year 1–2)

From Year 1, technology is introduced gradually and in a highly structured way. Its use is always teacher-directed and closely aligned to specific learning objectives. At this stage, pupils are developing basic digital skills alongside core literacy and numeracy. Technology is used in short,

purposeful activities that support learning, such as practising key skills, receiving immediate feedback, or representing understanding in simple ways.

Teachers maintain full oversight of device use, with clear routines for when technology is used and when it is not. Extended device use is avoided, and learning remains primarily focused on talk, interaction, and physical activity.

5.3 Key Stage 2 (Year 3–6)

In Key Stage 2, pupils develop their use of technology while continuing to work on structured, purposeful tasks. Technology supports a wider range of learning activities, including research, collaboration, and creative work. Pupils begin to use digital tools to organise their ideas, present their understanding, and engage in more complex tasks.

Teachers continue to provide guidance and structure, ensuring technology supports learning rather than distracts from it. The emphasis remains on active engagement, critical thinking, and the development of subject knowledge.

5.4 Balance with Physical and Social Learning

Across the Prep School, technology is used alongside, not instead of, other forms of learning. Talk, play, physical manipulation, performance, and discussion remain central to the curriculum. Technology should complement these experiences by extending opportunities for feedback, collaboration, and creativity. It should not replace embodied, social, and creative forms of learning that are essential to pupils' development.

5.5 Classroom Routines and Structure

The effective use of technology depends on clear and consistent classroom routines. Teachers are responsible for establishing expectations that support focus and purposeful use. This includes clearly defined points within a lesson, whether technology is used or not. Devices should not be used during explanation, questioning, or discussion unless they directly support the learning activity.

Active supervision is essential. Teachers should circulate, monitor student activity, and intervene as needed to ensure technology is used appropriately and effectively. When devices are not in use, they should be stored out of sight in the charging stations.

5.6 Digital Citizenship and Wellbeing

Digital citizenship is taught explicitly through the PSHE curriculum and reinforced across all areas of learning. While dedicated lessons provide the foundation, all teachers share responsibility for modelling and developing safe, responsible, and balanced use of technology.

Pupils are supported in understanding how to use technology safely, respectfully, and thoughtfully. This includes developing awareness of online safety, appropriate communication, and the importance of managing screen use and attention. As pupils progress through the Prep School, they are encouraged to reflect on their use of technology and develop habits that support both learning and wellbeing.

5.7 Use of Generative AI

Generative Artificial Intelligence (GenAI) is an emerging technology that can support teaching and learning when used appropriately. In the Prep School, it should be used only by staff, in accordance with the Cognita AI Policy and the GenAI guidelines for staff.

Pupils are not permitted to use GenAI in any part of their learning in the Prep School. Pupils should remain the primary thinkers, and technology should not replace the cognitive processes required for learning.

6. Professional Responsibilities

The effective use of technology in the Prep School relies on teachers' professional judgement and expertise. Digital tools do not in themselves improve learning; their impact depends on how they are used within well-designed teaching.

Teachers are therefore expected to make deliberate, informed decisions about technology use, ensuring it supports learning rather than distracts from it. This includes considering how technology affects pupils' attention, cognitive load, and engagement, particularly among younger learners who are still developing self-regulation and independence.

The PICRAT framework provides a shared professional model for evaluating technology's impact on learning. Teachers should use this framework to reflect on their practice and ensure technology is used to promote active engagement, feedback, and creativity rather than passive consumption.

Teachers also play a central role in modelling effective and responsible use of technology. Pupils develop their habits and attitudes towards technology through observing adults, and consistent modelling is essential in establishing expectations around focus, behaviour, and digital responsibility.

The use of technology must always be accompanied by active supervision. Teachers are responsible for monitoring pupil use, providing guidance, and intervening as necessary to ensure technology is used appropriately and effectively.

Professional development is essential to maintaining high-quality digital practice. Teachers are expected to engage in ongoing learning, reflect on their use of technology, and deepen their understanding of how digital tools can support teaching and learning.

Finally, digital citizenship is a shared responsibility across the Prep School. While explicit teaching occurs through the PSHE and Computing curriculum, all teachers contribute to developing pupils' understanding of the safe, responsible, and balanced use of technology.
All teachers are expected to:

- use the PICRAT framework to inform planning decisions
- model focused, responsible, and purposeful use of technology
- manage and maintain active oversight of pupil use of technology
- make deliberate decisions about when technology is appropriate
- share effective practice across the Prep School
- engage in ongoing professional development
- support pupils in developing digital citizenship and responsible use

7. Evaluating Impact and Practice

The effectiveness of this policy will be evaluated through its impact on teaching and learning. The focus is not on compliance, but on ensuring that technology use supports high-quality teaching, promotes pupil engagement, and enhances learning outcomes. Evaluation will be embedded within the College's existing processes for reviewing teaching and learning. This includes lesson observations, learning walks, and professional dialogue, where the use of technology will be considered in relation to its impact on pupil thinking, engagement, and understanding.

Pupil voice will also form an important part of this evaluation. Gathering pupils' perspectives on how technology supports their learning can provide valuable insight into engagement, focus, and the development of digital habits. Teachers are encouraged to reflect on their practice, using the PICRAT framework to assess how effectively technology supports learning. This reflective approach supports continuous improvement and helps ensure that digital tools are used in purposeful, impactful ways.

At a strategic level, the use of technology will be reviewed in relation to the College's Digital Strategy and the Cognita Digital Maturity Scale. This ensures classroom practice aligns with broader priorities, including developing digital fluency, promoting digital citizenship, and effectively integrating technology across the curriculum. The policy will be reviewed regularly to ensure it reflects current research, emerging technologies, and the College's evolving needs. This includes consideration of developments such as Generative AI and their implications for teaching and learning. The overall aim is to support a culture of reflective, evidence-informed practice, where the use of technology is continually evaluated and refined to maximise its impact on learning.

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