



Professional Learning
Research
Innovation

Learning in Practice

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About the Barker Institute:

- Provides a centre for research, reflective practice, professional learning and innovation in education
- Is a resource hub that facilitates the ongoing development of learning for teachers, allowing them to stay abreast of emerging practice, constantly striving to refine the quality of teaching and learning
- Looks to develop collaborative ventures with other institutions and providers, initiating research and innovation combined with the implementation of new projects and programs for the benefit of students, staff and the broader community
- Shares current research and issues with parents, professional bodies and educators around the globe through ongoing symposia, forums, lectures and conferences

About the Learning in Practice Journal:

As a leader in Christian education, Barker College aims to both demonstrate and inform best practice. This journal was developed to showcase a range of initiatives and research projects from across the School. It explains the rationale behind innovations in practice and archives pivotal developments in Barker's academic, co-curricular and pastoral realms.

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Abstract

Educational ideology has made the shift from a teacher-centred to a student-centred approach. Strengthening this shift is the development of Web 2.0 technologies that for the first time are able to facilitate 21st century teaching and learning practices. Blended learning provides an environment that fosters the requirements of a student-centred education, allowing schools to draw on the best features of both online and face-to-face (F2F) learning, where the student is placed at the centre of the learning process. This paper provides a summary of the BL@Barker strategic plan, designed to facilitate blended learning at Barker College.

Shifting educational ideology

The mainstream model of education is a remnant of the industrial revolution of the early 1800s where the objective was to create a system that could prepare large numbers of students for a predictable career in the most economically-efficient way (Toffler, 1980). The majority of these students were expected to fill positions as factory workers, in trades or other careers that required a basic education. Learning was therefore focused on recalling facts rather than understanding content. To achieve this goal, inspiration was drawn from the success of the industrial factory model which favoured efficiency and standardisation (Leland & Kasten, 2002). Students were grouped by age and sometimes gender, placed in a classroom organised into rows of desks and taught a standardised curriculum all at the same pace.

The aim of education today

Today we see a vastly different environment. Educational institutions face the challenge of preparing students for a less-certain job market. Indeed, students may find themselves entering careers that did not even exist at the time of their schooling (Frey & Osborne, 2017). In dealing with these circumstances, social and political ideology asks that students are exposed to a deeper and broader education, where students gather, evaluate and understand content and concepts, not only recall information (Kong et al., 2014). Students are required to develop non-cognitive skills and 21st Century competencies like the Four Cs: communication, collaboration, creativity and critical thinking (Partnership for 21st Century Skills, 2013). In short, education today is expected to provide learners with the opportunity to unlock and achieve their full potential independently (Prain et al., 2013). The challenge, however, is that this ideological change is fast outpacing systemic change. It is widely recognised that these needs are at odds with a system that was designed to standardise education (Horn & Staker, 2015). In order to meet these new goals, education must therefore shift from the *teacher-centred* model to a *student-centred* approach (Adams Becker et al., 2017).

Student-centred education

Student-centred ideology relies on active and deep learning where students are directly involved and invested in the discovery of their own knowledge. Through collaboration and communication, students engage in experiential learning that is authentic, holistic and challenging. There is increased responsibility and accountability on the part of the student allowing greater autonomy and ownership over their learning. The student is not solely dependent on the teacher; rather, the two parties demonstrate a mutual respect for one another, collaborating and learning together. As a partner in learning, teachers intentionally create organised and cohesive experiences to assist students to make connections to key concepts (Nave, 2015). Student-centred learning encourages a reflexive approach to the teaching and learning process on the part of both teacher and learner (Lea, Stephenson, & Troy, 2003). Through the development of the metacognitive process, students reflect on their thinking in a curriculum and assessment environment built on meaningful performances of understanding in real-world contexts.

The challenge for teachers is to adapt this approach into a school environment designed for teacher-centred learning. Horn and Staker (2015) identify a number of relevant issues. First, teachers often juggle to differentiate a lesson to a room full of mixed ability students, while students are left waiting for individual direction and assistance. Second, a student-centred approach is competing with a system that puts the emphasis on time spent in class, rather than mastery of material. To cater for a mixed ability class and meet syllabus expectations, a teacher will find that they must simply move on to the next phase of their program, even if a portion of the students do not fully grasp the content. Finally, in an era where curriculum is expansive and broad, deep learning becomes challenging. These issues can put an enormous strain on both teachers and students (Sandholtz, 1997). Schools that move to a student-centred approach therefore face the challenge of rethinking the core structure of teaching and learning. Rather than adapt the factory style model of education to suit student-centred learning, many schools are leveraging the features of blended learning to transform education practices (Horn & Staker, 2015).

Blended learning

In essence, blended learning is an approach that combines the best elements of online learning and face-to-face (F2F) learning (Figure 1), creating an environment that supports and advances student-centred learning.



Figure 1: Blended learning diagram

In online learning, individual students learn any time, in any place, on any path and at any pace; in F2F learning, students experience fundamentals of social learning theory. Meta-analyses (Bernard, Borokhovski, Schmid, Tamim, & Abrami, 2014; Means, Toyama, Murphy, & Baki, 2013) have shown that student achievement can be considerably higher in blended learning environments when compared either to fully F2F or fully online courses.

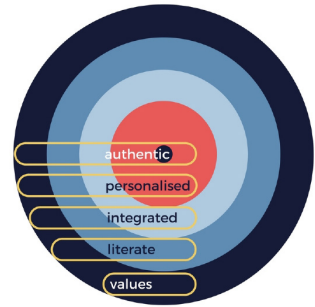
While there are many approaches to blended learning, there is evidence to suggest institutions should craft their own model to fit their unique circumstances and goals (Horn & Staker, 2015; Tan, Yeen-Ju, & Neo, 2015). It is for this reason that in mid-2016, an eLearning committee was established to explore what blended learning can look like at Barker College. Through these meetings, research and consultation, the BL@Barker strategic plan was proposed.

BL@Barker plan

The BL@Barker plan is summarised below:

1. A learner-centred approach remains an overarching theme at Barker College, recognising that learners may include students, teachers and the community.
2. The school constructs a style of blended learning, adapted from Horn and Staker's (2015) *flex* model. This will define blended learning at Barker College in the following manner:
 - i. Classes operate in a F2F environment, with sequenced online resources and activities providing a backbone throughout the course.
 - ii. Where appropriate, the teacher will use online material to provide more flexibility in the style, pace, place and time of individual student learning. Direct instruction continues to play an important role in F2F lessons, but should be strengthened by online content.
 - iii. F2F lessons should focus on activities where teachers and students initiate projects and discussions to enrich and deepen learning.
3. A BL@Barker model is adopted (Figure 2), allowing teachers to conceptualise the intentions of blended learning and to evaluate current practice. This model is built upon five interrelated concepts:
 - i. Values: teaching and learning in a blended learning environment should uphold the Barker College values.
 - ii. Literate: blended learning should indirectly foster digital literacy skills.
 - iii. Integrated: the use of ICT should enrich the learning experience, providing opportunities that would be otherwise impossible or impractical. These tasks should be integrated within a cohesive online environment.
 - iv. Personalised: where possible, blended learning should seek to personalise the teaching and learning for every learner, allowing some control over time, place and learning style.
 - v. Authentic: blended learning encourages tasks which challenge learners in real-world contexts, fostering communication, collaboration, creativity and critical thinking.

Figure 2: BL@Barker Model



Description of this environment

The BL@Barker plan may be described through a number of components, beginning with the learning management system (LMS). The plan calls for an LMS that is capable of providing an online course approach, whilst allowing integration with related ICTs. It is for this reason that the plan recommends that the current LMS is replaced with a system that fully meets these criteria. Within the LMS, online courses should be structured to present the key learning phases within a unit program. Course pages will be situated within the online course, providing learners with instruction and activities to demonstrate their understanding. Blended learning can be achieved in a number of different types of activities, some of which are listed in Figure 3. Whilst the online course structure will be the backbone of the course, F2F lessons will be essential to add depth, enrichment and ongoing feedback and assessment.

Level of Learning	Types of blended learning activities
Creating Designing, constructing, planning, producing, inventing	Programming, filming, animating, video/ blogging , mixing, web publishing, webcasting , directing or producing – used to create a film, presentation, story, program, projects, media products, graphic art, vodcast, advertisement, model.
Evaluating Checking, hypothesising, critiquing, experimenting, judging, testing	Debate or panel (using webcasting , web conferencing, online chat or discussion), investing (online tools) and reporting (blog, wiki, presentation), persuasive speech (webcast , web document, mind map-presentation mode), commenting/moderating/reviewing/posting (discussion forums , blogs , wiki , chat room, twitter) as well as collaborating and networking.
Analysing Comparing, organising, deconstructing, interrogating structuring	Surveying/polling , using databases, relationship mind maps, online SWOT analysis, reporting (online charts, graphing, presentation or web publishing), mashing and meta-tagging.
Applying Implementing, carrying out, using, executing, editing	Simulation games or tasks, editing or developing shared documents (wiki , video and sound tools), interview (eg. making podcast), presentation or demonstration tasks (using web conferencing or online presentation tools), illustration (using online graphic, creative tools).
Understanding Recognising, listing, describing, identifying, retrieving, naming, locating	Building mind maps, blog journaling, wiki(simple page construction), categorising and tagging advanced internet (Boolean) searches, tagging with comments or annotations, discussion forums , show and tell (with audio, video webcasting).
Remembering Recognising, listing, describing, identifying, retrieving, naming, locating	Simple mind maps, flash cards, online quizzes , basic internet searches (fact finding, defining), social bookmarking, Q&A discussion forums , chat, presentations.

Figure 3: Taxonomy of blended learning tasks (Churches, 2008)

Benefits of BL@Barker

Teaching and learning at Barker currently occupies the space between and including F2F and blended learning (see Figure 1). This means that learners may encounter entirely F2F classes, F2F supported by eLearning, as well as blended learning. The BL@Barker plan first and foremost aims to provide a unified vision for the way ICT is used to improve the teaching and learning experience.

Once blended learning is embedded into the Barker infrastructure, a number of correlated benefits will come into play:

- **Visibility:** Learning will be made visible, allowing students to see their learning sequence and pathway anywhere, any time (Horn & Staker, 2015). Learners absent from F2F lessons for a period of time may continue to advance through the online component of the course, minimising disruption.
- **Interaction:** Teachers will develop deeper connections with learners as more time can be dedicated to F2F discussions, individual instruction and applications of content (Krause, 2007; Stevens, 2016).
- **Personalisation:** Learners can have greater control of the time, place, pace and style of learning, allowing a more personalised learning experience (Leana, 2011; Ronfeldt, Farmer, McQueen & Grissom, 2015). Learners will benefit from having time to view, review and revise content at their own pace (Hew & Cheung, 2014; Song, & Kapur, 2017).
- **Mastery, extension, enrichment and learning support:** Mastery paths can be activated, directing students to relevant content and assessment based on their level of understanding, ensuring learners advance once an understanding of content has been established (Hattie, 2009; Horn & Staker, 2015). Individual extension, enrichment and learning support can all be factored into this environment.
- **Assessment and goal setting:** Teachers can manage formative and summative assessment through the blended learning environment, allowing learners to track their growth and formulate associated learning goals, guided by research around the growth mindset model (Dweck, 2010; Masters, 2013), and formative assessment (Black & Wiliam, 2009).
- **Analytics:** Teachers will have access to powerful analytics that can be used to identify individual student needs, or to evaluate the effectiveness of teaching strategies.
- **Cohesion:** Learners will experience a more cohesive online environment, where content, tools, and tasks are seamlessly integrated into the learning sequence. Learners and teachers will save time and avoid frustration when accessing and distributing resources, providing opportunities for a deeper exploration of content. Overarching instructional design will also allow learners to have a clear understanding of course requirements and writing structure, whilst creating a common language for teachers across the campus (for example, the way writing strategies are delivered), placed within the structure of the chosen approach to learning (for example, TfU or PYP).
- **Collaboration:** Online courses foster collaboration amongst teachers of a course, where the best resources for each lesson may be shared within the faculty (Jokinen & Mikkonen, 2013). Additionally, teachers, learners and the wider community may be given access to online courses, where appropriate, allowing a collaboration that transcends time and place, and may provide more authentic learning experiences.

- **Flexibility:** Teachers will be granted greater flexibility to work with individuals and groups as required, drawing on the power of the LMS to manage individual learning paths. Learning can occur in both traditional and non-traditional physical learning spaces.
- **Digital literacy:** Teachers and learners will be indirectly learning digital literacy and digital citizenship through blended learning activities.
- **Professional learning:** Teachers can complete professional learning and development through internal or external blended learning courses. This can be used to engage teachers in target areas for the School, such as the chosen approaches to learning or the Writing Across the School (WATS) and formative assessment programs.

Conclusion

The BL@Barker plan provides the community of Barker College with a clear educational vision for implementing blended learning: to provide authentic learning experiences for every learner, every day. The BL@Barker model places an emphasis on authentic and personalised learning experiences, combining 21st century skills and learner-centred approaches. The model ties into the Barker approaches to learning as well as other significant trends such as formative assessment, writing and growth mindset. The model can be used to assess any learning activity and provide a target for teachers in their delivery of content. Finally, this plan urges innovation in content delivery, assessment and feedback, advising educators to ensure each learner is empowered, informed and prepared for their future.

References

- Adams Becker, S., Cummins, M., Davis, A., Freeman, A., Hall Giesinger, C., and Ananthanarayanan, V. (2017). *NMC Horizon Report: 2017 Higher Education Edition*. Austin, Texas: The New Media Consortium.
- Bernard, R. M., Borokhovski, E., Schmid, R. F., Tamim, R. M., & Abrami, P. C. (2014). A meta-analysis of blended learning and technology use in higher education: From the general to the applied. *Journal of Computing in Higher Education*, 26(1), 87-122. doi:10.1007/s12528-013-9077-3
- Black, P., & Wiliam, D. (2009). Developing the theory of formative assessment. *Educational Assessment, Evaluation and Accountability*, 21(1), 5.
- Churches, A. (2008). Bloom's digital taxonomy. Available at: <http://edorigami.wikispaces.com/file/view/bloom%27s+Digital+taxonomy+v3.01.pdf>
- Dweck, C. S. (2010). Even geniuses work hard. *Educational Leadership*, 68(1), 16-20.
- Frey, C. B., & Osborne, M. A. (2017). The future of employment: How susceptible are jobs to computerisation? *Technological Forecasting and Social Change*, 114, 254-280. doi:10.1016/j.techfore.2016.08.019
- Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. London: New York: Routledge.
- Hew, K. F., & Cheung, W. S. (2014). *Using blended learning: Evidence-based practices*. Singapore: Springer Singapore.
- Horn, M. B., & Staker, H. (2015). *Blended: Using disruptive innovation to improve schools*. John Wiley & Sons.

- Jokinen, P., & Mikkonen, I. (2013). Teachers' experiences of teaching in a blended learning environment. *Nurse Education in Practice*, 13(6), 524-528. doi:10.1016/j.nepr.2013.03.014
- Kong, S. C., Chan, T., Griffin, P., Hoppe, U., Huang, R., Kinshuk, Institutionen för medieteknik (ME). (2014). E-learning in school education in the coming 10 years for developing 21st century skills: Critical research issues and policy implications. *Journal of Educational Technology & Society*, 17(1), 70.
- Krause, K. (2007). *Griffith University Blended Learning strategy*. Document number 2008/0016252.
- Lea, S. J., Stephenson, D., & Troy, J. (2003). Higher education students' attitudes to student-centred learning: beyond 'educational bulimia'? *Studies in higher education*, 28(3), 321-334.
- Leana, C. R. (2011). The missing link in school reform. *Stanford Social Innovation Review*, 9(4), 30-35.
- Leland, C. H., & Kasten, W. C. (2002). literacy education for the 21st century: It's time to close the factory. *Reading & Writing Quarterly*, 18(1), 5-15. doi:10.1080/105735602753386315
- Masters, G. N., & Australian Council for Educational Research. (2013). *Reforming educational assessment: Imperatives, principles and challenges*. Camberwell, Victoria: Australian Council for Educational Research.
- Means, B., Toyama, Y., Murphy, R., & Baki, M. (2013). The effectiveness of online and blended learning: A meta-analysis of the empirical literature. *Teachers College Record*, 115(3), 1-47.
- Nave, B. (2015). *Student-centered learning: Nine classrooms in action*. Cambridge, Massachusetts: Harvard Education Press.
- Partnership for 21st Century Skills. (2013). *21st century student outcomes*. Retrieved from http://www.p21.org/storage/documents/P21_Framework_Definitions.pdf
- Prain, V., Cox, P., Deed, C., Dorman, J., Edwards, D., Farrelly, C., Yager, Z. (2013). Personalised learning: Lessons to be learnt. *British Educational Research Journal*, 39(4), 1-23. doi:10.1080/01411926.2012.669747
- Ronfeldt, M., Farmer, S. O., McQueen, K., & Grissom, J. A. (2015). Teacher collaboration in instructional teams and student achievement. *American Educational Research Journal*, 52(3), 475-514.
- Sandholtz, J. H. (1997). *Teaching with technology: Creating student-centered classrooms*. Teachers College Press, Teachers College, Columbia University, 1234 Amsterdam Ave., New York, NY 10027.
- Song, Y., & Kapur, M. (2017). How to flip the classroom – "Productive failure or traditional flipped classroom" pedagogical design? *Journal of Educational Technology & Society*, 20(1), 292-305.
- Stevens, M. (2016). Space for all: Middle level students in blended learning environments. *Voices from the Middle*, 24(2), 50.
- Tan, H., Yeen-Ju, & Neo, M. (2015). Exploring the use of authentic learning strategies in designing blended learning environments. *Journal of Science & Technology Policy Management*, 6(2), pp. 127-142. doi:10.1108/JSTPM-01-2015-0004
- Toffler, A. (1980). *The third wave*. New York, NY: Bantam Books.



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