



# Building the Future School

**Jake Madden**, Southern Cross University, Australia and Al Yasat Private School, UAE

For the 21st century educator the delivery of learning is not solely centred on the attainment of knowledge and skills. They define the needs of the learner and focus on the pedagogies needed to foster 21st century learning and readiness for college and careers. Once defined, the choice of curricula, learning experiences, types of assessments and teaching strategies are planned. Al Yasat Private School in Abu Dhabi, is one example of a successful twenty-first century school. In this paper, the authors describe the elements of this exemplary K-8 school, outlining how a purpose built learning environment can activate twenty-first century student learning.



In a move away from the traditional school concept where students work in rows and on their own, Al Yasat was built on the foundations of a 21st century learning premise, opening up opportunities for an integrated learning approach. Students working with students in personalised learning spaces opens the door for teachers to transform their teaching, tailoring instruction to students' individual needs and interests. Students use new tools to learn content at their own pace and taking ownership of their learning in the process. Al Yasat is building a culture of personalized real world learning opportunities for success after high school in college and careers.

Through the use of various staff observations, surveys and interviews evaluating the link between improved pedagogical approaches and the use of the new learning environments key findings emerged. Supporting an invigorated coaching, mentoring and feedback loop has seen growth in the organisational learning throughout the school.

### **Introduction**

In recent years it seems every country has revised their curriculum articulating the knowledge and skills that students need for the new global workforce. With the close scrutiny that accompanies changes to current practice, the debate on quality and success follows. The consequence of such scrutiny has seen international comparative studies of student achievement, such as the *Programme for International Student Assessment* [PISA], been used as the performance reference (OECD, 2013; 2010a; 2010b). This focus is such that “a global competition in educational achievement in core subject matter areas like reading, arithmetic/mathematics and science” has emerged (Scheerens, 2013, p.16).

There has been much written on what students need to know and be able to do in the twenty-first century. The establishment of the Partnership for 21st Century Learning (P21) has guided the conversation to ensure that all learners acquire the knowledge and skills they need to thrive in a world where change is constant and learning never stops. Their learning framework is explicit in the fact that twenty-first century learning is to be built on a foundation of basic knowledge taught through the core subjects focusing on a significant set of twenty-first century skills. With the rise of globalization and the increased role of technology in both our personal and work life, students have access to information at a faster rate than ever before. The rise of “just in time” learning



(Herreid & Schiller, 2013) allows the curious mind to find what they need, at the time they need it.

Future employment opportunities necessitate graduates to have strong interpersonal communication skills, be able to collaborate and problem solve. They will require critical thinking skills, be able to show initiative and have strong self-management skills (McCrinkle and Wolfinger, 2010). Furthermore, a 21st century skills set need to involve, information and communication skills, thinking and problem-solving skills, interpersonal and self-directional skills, and the skills to use twenty-first century tools such as information and communication technologies (OECD, 2013).

Like the United Kingdom with the Building Schools for the Future program and in Australia with the Building the Education Revolution including Primary Schools for the 21st Century and Science and Language Centres for 21st Century Secondary Schools, countries around the world are designing and building schools to support the learning needs of the 21st century learner. Importantly, voices like Stephen Heppell are advocating personalised learning and as such, these programs are guiding educators on what learning looks like for schools of the twenty-first century.

Designing future oriented schools that provide authentic learning experiences starts with asking what knowledge and skills students need for the twenty-first century. Renowned educational architects Prakash Nair and Randall Feilding, believe real design needs to address these questions:

- What learning curricula, activities, and experiences foster twenty-first century learning?
- What assessments for learning foster student learning, engagement, and self direction?
- What physical learning environments (classroom, school, and real world) foster twenty-first century student learning?
- How can technology support a twenty-first century collaborative learning environment and support a learning community?

### **Learning Vision**

Teachers at Al Yasat begin each unit with a realistic or real-world focus that both engages interest and generates a list of things the students need to know. Learning experiences are designed to tackle complex problems that requiring critical thinking and help Al Yasat to realise its vision “to



*be an inspirational leading edge school, dedicated to nurturing outstanding role models, responsible global citizens and informed leaders of the future.”* With this in mind, underpinning this vision teachers aim to help students to:

- Work in teams and collaborate.
- Think critically and engage in complex problems
- Develop presentation skills and build oral communication
- Write effectively to communicate and articulate ideas
- Use technology to learn
- Be global minded and take on community service
- Be knowledgeable

To achieve this, teachers build into their curriculum projects, activities and assignments that are designed to elicit the key skills future employers require including collaboration, critical thinking, written communication, oral communication, work ethic, and other critical skills while simultaneously meeting the required content standards.

### **Designing a Future School**

School facilities have evolved from the traditional classroom with one teacher addressing a roomful of students sitting in individual desks all facing forward to the teacher’s desk. In the 1970s there was a shift to open-plan schools with various seating arrangements and sizes of classes (Kowalski, 2002). With many educators believing that learning is best supported with a student-centred approach that sees the teacher as a facilitator of learning, the creation of the flexible learning environments is now gaining momentum.

Wasson, Ludvigsen and Hoppe (2013) state that student centred learning is best achieved in a flexible learning environment which allows students to move around and engage in a range of targeted learning activities. Dufour & Marzano (2015) state that students learn best by actively ‘experiencing’ their learning rather than being passive listeners. This is often referred to as real world learning.

Additionally, flexible learning spaces offer teachers greater opportunity to learn from other teachers. Such environments foster the notion of deprivatizing teaching (Madden, 2012) bringing



the teacher, teaching behind closed doors, into a shared practice arena. In a learning environment where collaborative learning is the norm, teachers have opportunities daily to observe the teaching practice of colleagues, thereby providing many ideas on how their own teaching practice can be improved.

Flexible learning spaces support collaborative learning. Classes work together on problem solving and in turn share learning experiences. Students work in groups and in teams, learning from and with each other, supporting and receiving support from each other and thus learning the value of interdependence.

We know that students who are highly engaged are generally self-motivated and remember what they have learnt (Peterson, Mucinskas & Gardner, 2016). Effective teachers consider individual learning styles and needs and plan tasks that are open, flexible and meaningful.

### **Al Yasat Learning Environment**

Al Yasat was founded in 2014 as a twenty-first century school. The school designed and built by a passionate educator with a vision for nurturing creative and innovative minds. Knowing that a new era of instruction was needed that reflected the learning needed to work and thrive in an ever changing world the physical environment at Al Yasat supports the new teaching practices. Walk into a classroom at Al Yasat Private School, and you will see students at work: writing journals online, doing research on the internet, meeting in groups to plan and make their web sites and their digital media presentations, and evaluating their peers for collaboration and presentation skills.

### **Key Building Elements**

The School Libraries: You may be visiting one of the two libraries and see another teacher's students there working in a team-taught interdisciplinary unit. Such project-based learning activities are designed to engage students in learning more deeply. Al Yasat is not a technology school, but rather aims to infuse both teaching and learning through a digital lense. Active engagement of the school's teacher librarian in teaming with the various grade and subject teachers on planning, resourcing and instructional strategies enriches the teaching and learning process.



Real Life Media: At Al Yasat, a purpose built media center comprising of video editing room, recording studio, photography and a TV studio setup provides the learning space for students to engage in real life learning. Technology that supports engaged learning is rich in multimedia and learning materials and aims to engage children's senses.

Children are given the opportunity to create their own multimedia presentations in various forms with the use of digital photography and video production key elements in the creation of such multimedia. Learning is hands-on and experimental and children are encouraged to challenge themselves and take risks.

Technical Education Spaces:

With the rise of the MakerSpace movement the various technical learning spaces have been introduced to emphasise a more production centred learning where creativity and innovations skills are driving the learning. The focus on authentic learning allows students to solve their own problems and more importantly, share how they solved them. While traditional technical rooms were easily identified as a kitchen or carpentry or even a sewing room, the blended, flexible spaces broaden learning rather than limiting their experiences to a single field.

Classroom Spaces: Teaching in the flexible learning spaces is innovative, child-centred, flexible and makes full use of technology. Students are growing up in a fast-paced 'flattening' world where the jobs they will be doing have, in many cases not been thought of and the technology that they will be using has yet to be invented. If children are to 'learn how to learn' they need to be given opportunities to use such tools as robotics and learn about the responsible use of web 2.0 applications such as podcasting and blogging (Crockett, Jukes, & Churches, 2011).

The physical spaces at Al Yasat enable teachers to work in instructional teams that support not only student but also teacher growth. Spacious corridors jutting into wide open common areas allow for learning to flow in and out of the classroom. This resonates with a literature review conducted by Blackmore, Bateman, Loughlin, O'Mara, & Aranda, in 2011 which highlights the importance of giving space for active learning. Allowing students to modify their learning environment to better facilitate the learning activity can only occur if the spaces is built for such flexibility.



Co-teaching Sessions: Building effective teaching teams where the diversity of teachers bring different learning philosophies and content knowledge not only enriches the collaborative teaching practice but also offers increased student engagement. The combination of flexible learning spaces and teachers teaching in teams offers the following benefits:

- More flexible and creative use of instructional time
- More teachers working with students in varied learning contexts offers more comprehensive understanding of all the students
- Students having ownership of their learning
- Teachers reflecting on their (and others) teaching practices
- Greater communication with teachers focusing on teaching and learning
- Decrease in teacher isolation

### **Linking Teacher Performance and the Use of Learning Spaces**

Data was gathered through documentary evidence (including using school videos of teachers working in spaces, appraisal surveys and school written curriculum documents), interviews with teachers and leaders and the use of classroom observations (using the Eleot APP) .

Noting that new learning spaces are arenas for innovative teaching practices that are not easily implemented in more traditional classrooms the findings from the data review provides guidance for teachers in using the new school facilities effectively (Bordass & Leaman, 2005). It is also highlights that pedagogy within the school has been moving from a teacher-centred, didactic and instructionist model to a student-centred, personalised and constructivist approach.

### **Key Considerations**

- When using new learning spaces teachers freely admitted their initial teaching methodologies replicated their traditional practices. Time was needed to “grow” into using the various learning environments.
- Using current technologies in daily learning experiences varied from teacher to teacher and was aligned to teacher personal use. It seems the more the teacher using technology for personal entertainment or lifestyle practices (reading online newspapers, using apps,)

### **Conclusion**



Personalized learning approaches provide multiple pathways for students to master the skills and concepts they need to be successful. With globalization flattening the world and challenging educators, to lead a new era of global cooperation as twenty-first century learners (Friedman, 2005). Societies need citizens who are smarter, more creative, and more capable of leading, managing, collaborating, and networking with productive people around the world.

We know that teacher professional learning is enhanced when teachers in a school do not work in isolation, but when their efforts are supported by other like-minded colleagues. Furthermore, as articulated by Blackmore “unless teachers are prepared for and provided with the necessary professional skills, tools and resources to change their practices, then new built spaces will not move them from default to innovative practices” (Blackmore, et. al, 2011, p 38)

Schools need to be totally redesigned to enable and facilitate twenty-first century learning. Al Yasat is one example of how of how to get there. As education systems around the world upgrade their educational facilities to address the 21st learning skills needed to thrive in rapidly changing world, schools like Al Yasat provide roadmaps for others to follow.

## References

Blackmore, J, Bateman, D, Loughlin, J, O’Mara, J, & Aranda, G. 2011, *Research into the connection between built learning spaces and student outcomes: Literature Review*. Education Policy and Research Division, Department of Education and Early Childhood Development, Melbourne, viewed 15 November, 2016.  
[http://www.eduweb.vic.gov.au/edulibrary/public/publ/research/publ/blackmore\\_learning\\_spaces.pdf](http://www.eduweb.vic.gov.au/edulibrary/public/publ/research/publ/blackmore_learning_spaces.pdf)

Bordass, W. and Leaman, A. (2005), “Making feedback and post-occupancy evaluation routine 3: case studies of the use of techniques in the feedback portfolio”, *Building Research and Information*, Vol. 33 No. 4, pp. 361-75.

Crockett, L., Jukes, I., & Churches, A. (2011). *Literacy is not enough: 21st century fluencies for the digital age*. Corwin Press.





DuFour, R., & Marzano, R. J. (2015). *Leaders of learning: How district, school, and classroom leaders improve student achievement*. Solution Tree Press.

Friedman T (2005) *The World is Flat: A Brief History of the Twenty-First Century*. Farrar, Straus and Giroux, New York.

Herreid, C. F., & Schiller, N. A. (2013). Case studies and the flipped classroom. *Journal of College Science Teaching*, 42(5), 62-66.

Kowalski, J (2002) *Planning and Managing School Facilities*, Greenwood Publishing Group, Connecticut

Madden, J. (2012), *School improvement: Innovation for the future*. In Smith, R & Lynch D, (2012) *Case Studies in Education: Leadership and Innovation*, (pp. 148-174), Brisbane: Primrose Hall Publishing Group.

Marzano, R., Waters, T. & McNulty, B. (2005), *School Leadership that Works*. Alexandria, VA: Association for Supervision and Curriculum Development.

McCrindle, M., & Wolfinger, E. (2010). *The ABC of XYZ: understanding the global generations*: University of New South Wales Press.

OECD (2010a). *The high costs of low performance*, Paris: OECD Publishing.

OECD, (2010b). *Strong Performers and Successful Reformers in Education Lessons from PISA for the United States*. Paris: OECD Publishing.

OECD (2013), *Upgrading Skills for Current and Future Needs, in Perspectives on Global Development 2013: Industrial Policies in a Changing World*. OECD Publishing. Retrieved from [http://dx.doi.org/10.1787/persp\\_glob\\_dev-2013-10-eoecd2013](http://dx.doi.org/10.1787/persp_glob_dev-2013-10-eoecd2013)

Peterson, A., Mucinkas, D., & Gardner, H. (2016). *TEACHING FOR GOOD WORK, TEACHING AS GOOD WORK. From the Laboratory to the Classroom: Translating Science of Learning for Teachers*, 21.



International Journal of Innovation, Creativity and Change. [www.ijicc.net](http://www.ijicc.net)  
Volume 3, Issue 1, May, 2017

---

Wasson, B., Ludvigsen, S., & Hoppe, U. (Eds.). (2013). Designing for change in networked learning environments (Vol. 2). Springer Science & Business Media.