



Optimising learning outcomes through social co-creation of new knowledge in real-life client challenges.

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Keywords

Experiential learning;
Socialisation;
Higher education;
Knowledge management;
Leadership;
Andragogy;
Case studies.

Article Info

Received 19 November 2018
Received in revised form 7 December 2018
Accepted 10 December 2018
Available online 14 December 2018

DOI: <https://doi.org/10.37074/jalt.2018.1.2.4>

Abstract

People are naturally creative, subjective creatures who (when engaged well) love to learn. However, traditional education is about transferring known content rather than stimulating the co-creation of new knowledge and insights to generate future value in unknown situations. Too often, in this misaligned traditional approach, there is an overemphasis on quantitative assessment of 'remembered facts' and insufficient attention given to demonstrated capabilities to apply the learned insights to a range of possible future scenarios. The outcome of this can be graduates who are not ready for the VUCA (Volatile, Uncertain, Complex and Ambiguous) world. This conceptual article describes an experiential learning programme in which there is no teaching of content. Instead, learners experience a range of real project challenges in contexts where the clients genuinely want well-informed, relevant advice to implement recommended options. Learners collaboratively interact in an Applied Social Learning Ecosystem (ASLE) to build content that is relevant to the external clients' challenges and resources. Learners co-create a range of prioritised options for their client to adopt, adapt and apply and build a compelling argument to engage them to do so. The course was designed with a wide range of learning theories embedded and facilitated in a way where these have been applied in practice rather than taught as models. The course has received positive feedback from all parties – the learners, the clients, the business mentors and the school. The "Co-created Projects Worth DOING" generated by the learners in the process of their learning activities have generated significant social benefits for the clients. The experience has been consistently enjoyed by all, including the learning facilitators and mentors. It continues to evolve as feedback from the participants informs the next iterations.

Introduction

There are many pathways to learning (Biggs & Tang, 2011; Knowles, Holton & Swanson, 2011; Deardorff, de Wit, Heyl & Adams, 2012) and these are constantly evolving (Ferguson et al., 2017). This conceptual paper explores creating a hybrid social learning environment that combines characteristics and theoretical constructs of many of these pathways in practice to enhance the overall learning experiences and outcomes.

Socialisation in learning is not a new concept, it has been an important part of many learning approaches. Engaging people with each other to explore possibilities is a common technique to stimulate learning in many learning approaches including Reflective Practice (Schön, 1995; McIntosh, 2010), Action Learning (Routman, 2000; Zuber-Skerritt, 2002; Marquardt, 2004; Checkland & Poulter, 2006), Experiential Learning (Kolb 1984; Mainemellis, Boyatzis & Kolb, 2002) and Problem Based Learning (Gibbs, 1988; Winter, 2006; Vidal & Marle, 2008; Edmondson, 2011). Social interactions are also important in learning-related applied concepts such as Learning Organisation (Senge, 2006), Action Research (Dick, Stringer & Huxam 2009), Complexity Theory (MacGillivray 2006; 2008) and Design Thinking (Liedtka, King & Bennett, 2013). Socialisation is the first stage of Nonaka and Takeuchi's (1995) SECI model model for cycling of knowledge through different forms to sustain high performance (Socialisation, Externalisation, Combination, Internalisation) and a recognized feature of intercultural education (Carey, 2006; Johnson, 2006).

Socialisation to co-create new insights, as opposed to just sharing existing knowledge, is becoming more important in our modern world because of a number of interdependent factors, including acceleration of social and political change and rapid changes in technology (Bennet & Bennet, 2004; Thomas & Brown, 2011). Socialising concepts in real contexts has elevated education in countries like Finland and more recently South Korea to the top of the world's education ranking (NJMED, 2018; OECD, 2018).

This conceptual article shares insights drawn from ongoing pilot which explores how many elements of these learning theories can be harmoniously included into an Applied Social Learning Ecosystem (ASLE). Sixty elements were combined into the learning experience and applied to a real project. It is proposed that such hybrid learning approaches may generate better learning outcomes and better prepare learners for modern Volatile, Uncertain, Complex and Ambiguous world (VUCA) workplaces. In doing so, this article aims to challenge existing orthodoxies on the future of education. It also proposes that facilitating learning in an ASLE can help generate superior outcomes and provide social benefits.

Foundations of social learning

The Institute for Research on Learning (2014), co-founded in 1986 by John Seely Brown, documented seven principles of learning from extensive field research. A slightly shortened version of these are:

1. Learning is fundamentally social.
2. Knowledge is integrated in the life of communities.
3. Learning is an act of participation.
4. Knowing depends on engagement in practice.
5. Engagement is inseparable from empowerment.
6. Failure to learn is often the result of exclusion from participation. Learning requires access and the opportunity to contribute.
7. We are all natural lifelong learners.

The longer form of the principles includes the statement "While learning is about the process of acquiring knowledge, it actually encompasses a lot more. Successful learning is often socially constructed and can require slight changes in one's identity, which make the process both challenging and powerful."

Van Epp and Garside (2014, p. 7) developed the following definition of social learning:

Social learning approaches help facilitate knowledge sharing, joint learning and co-creation experiences between particular stakeholders around a shared purpose, taking learning and behaviour change beyond the individual to networks and systems. Through a facilitated iterative process of working together, in interactive dialogue, exchange, learning, action and reflection and on-going partnership new shared ways of knowing emerge that lead to changes in practice.

They suggest social learning is an approach that provides a way to address complex problems by integrating a diversity of insights, perspectives and knowledge through iterative learning cycles. When facilitated well, stakeholders engage in constructively challenging a range of alternative views across multiple levels and through different lenses. Such interactions aim to unlock potential ideas, opportunities and highlight risks that can accelerate change by leveraging technical, institutional and social knowledge (Axelrod & Cohen, 1999). Social learning is highly inclusive and curious about exploring alternatives through iterative cycles of conversations that stimulate co-learning (Schön, 1995).

Humans are emotional and more easily influenced by perception than logic (Cozolino, 2006). Our current education systems are generally not aligned with this natural divergent thinking preference (Robinson & Aronica, 2016). Rigid approaches can stifle creativity and reduce learning engagement (Reeve & Jang, 2009). Autonomous approaches to learning enhance motivation and encourage critical thinking and interdependence (Reeve, 2009). If you watch children play you see they are naturally creative. However, they are soon taught that 'serious' learning involves removing the play and becoming focused on the (known) answer (Brown & Vaughan, 2009). Traditional formal education reinforces high performance and is focused on discovering (known) answers and rewarding students to reproduce existing knowledge as it is. This inward mindset highlights why some professionals struggle to perform in the changing workplace (Dweck, 2012). Their confidence that they will find the answer to modern complex challenges by focusing inward is a recipe for failure, and they become less adept at diverging outward to create a range of possibilities. Many

traditionally educated people have become somewhat lost, are challenged to apply their learning and are uncomfortable in uncertainty. They seek stable processes to ensure they are 'on the right track,' but can become more confident by finding their 'element' (Robinson & Aronica, 2010).

However, if you look at the modern uncertain world, it is unpredictable, complex and under constant change and this provokes a shift in how we view education (Brown, 2012). Thriving in this world requires agile creativity and confidence in emergent uncertainty and thinking at a higher level of awareness and consciousness (Bennet, Bennet, Shelley, Bullard & Lewis, 2017). High performing organisations across the world understand innovation that creates new products, services and approaches to drive change in the market are critical to sustained success (Newton, 2014; Australian Government, 2017; Forbes, 2018; Head, 2018). Many traditional organisations that have tried to resist change have become obsolete or struggle to survive. A preferable approach to trying to resist or control the environment is to creatively leverage change. In doing so, learners create alternative future options, rather than reacting to what others have forced upon them. This way they remain resilient.

Learners who think they know the *answer to the problem*, are probably limiting their own and their team's performance. The human brain is a self-organizing system which is very efficient at forming patterns around past experiences. It does this to automate decisions from what it already knows. Some may think this is a good thing – learning from the past to speed-up decision-making. This is useful for a world that is static, a world where past experiences would be a beneficial guide to the present and future. However, the world is an emergent complex place that is frenetic and ever changing and this is where our decisions based on past experiences can generate sub-optimal options for future opportunities.

A key challenge is that our early successes usually arise from solving problems in the way our education system taught us to. The systems' and the authorities' (teachers and employers) reward is from 'discovering the right answer'. That is, working from existing knowledge with *known* principles and following historically determined best practices. Kodak and Nokia are former leaders in their fields who were not able to retain that position partly due to their limited rate of innovation. A moment of reflection leads to the realisation that today's answers are insufficient for tomorrow's successes, as rapid changes in political and socio-economic relationships change customer and stakeholder expectations.

In the past, 'Knowledge is Power' was a driver of success. Intellectual property could be sold to followers at high profit, often for long periods. However, now leaders remain dominant only if they cocreate new knowledge faster than their competitors. Existing knowledge loses value quickly as new insights, products and services are quickly improved. 'What is best' is soon relegated to 'what has just been surpassed'. That is, 'the numbers' are dependent on how creative the implementer is able to be. Performance, relevance and reputation are dependent on very subjective aspects

such as customer perceptions of worth, trustworthiness and the ability to remain ahead of the alternatives.

The business world is full of examples of organisations which gained market dominance because of their creative products and services, then fell from market leadership. This tends to happen because they 'stabilise' to milk the market, instead of continuing to be creative and drive innovation further (Mikhailovich, Dmitrievich, Evgenevna & Pavlovna, 2017). They changed their own reason for success (being creative) by falling into the false confidence that having reached the top, they could remain there by becoming risk averse and attempting to control the market (Ghanbari, Ghorbani & Pouya, 2015).

Nokia *should* have invented the smartphone but chose to keep doing what they were good at. Kodak *did* invent digital photography but decided to hold back because it would undermine their existing film-based business. Putting 'what is!' ahead of creatively considering 'what is possible?' in complex challenges creates risks for any organisation (Klakegg, Williams, Walker, Andersen & Morten, 2010).

Traditional teaching practices are focused on remembering 'what is' and this creates a closed mindset. A mindset that believes success comes from convergent thinking leads to 'discovering the right answer'. This mindset draws confidence from certainty and comfort from knowing, reflecting less mature actions from the bottom of the Learning Hierarchy (Figure 2). Convergent thinking is good for management problem-solving but is exactly the opposite of what will make us successful leaders (Shelley, 2017).

Future leaders need to be comfortable in uncertainty and prepared to act with limited knowledge, to explore the unknown and co-create new knowledge. That is, we benefit from acting from an open, divergent mindset to stimulate inclusive connections between people and emerging insights to co-create new ideas. Co-creation drives sustained success through conversations and active interactions between people bouncing ideas in an environment of Creative Friction (Shelley, 2017).

This paper discusses two specific ASLE learning experiences that have been deliberately designed to connect as many of these factors as possible. It is proposed that this interdependent and socialised approach provides a deep and engaging learning experience that equips participants to be more effective as lifelong learners. They achieve this by ensuring learners have a prior conscious understanding of how collaborative socialisation provides them with an enhanced capability. This is achieved by setting all learning in the context of real project work and the opportunity to break this approach into micro-learning to enable a more flexible schedule for the learner is also discussed. These learning experiences are focused on developing 'Co-created Projects Worth *Doing*' rather than transfer of existing knowledge. That is, they leverage existing knowledge from the diversity of participants to inform stakeholders about decisions and actions they recommend. In doing so, they co-create new concepts and opportunities in the context of real clients' challenges.

Social learning experiences in real world projects generate optimal future performance

Two initiatives with creative approaches to learning currently being implemented are briefly described here, followed by a more detailed analysis of the first. The initiatives are:

Executive Consulting, a capstone course in the Executive MBA at RMIT University; and

Creative Melbourne, an independent deliberately diverse participant event.

Both have been running in parallel for three years and the insights for learning outcomes gathered from these experiences are shared and discussed. Both are co-creative in how the learners engage and generate projects that have social impact. They are continuously evolving from the feedback of participants and from other parties involved in some way (producers, learning facilitators, volunteer mentors and other interested observers).

The common features in the design of these learning experiences are:

- Experiential learning is based in context rather than content-focused.
- Participants (learners) co-create novel options for real world challenges.
- Collective knowledge of all participants is openly and inclusively engaged.
- "Creative Friction" (deliberate constructive disagreement) is an active component throughout.
- Participants are deliberately drawn from a wide variety of disciplines to maximise diversity.
- Full intent to deliver a range of new options that will be implemented by a project client.
- Focus in proposing a "Co-created Project Worth DOING" as a tangible output and premium learning experience as an intangible outcome.
- Balanced activities enabling harmonised completion of work tasks and learning.
- Strong element of gamification activities to emphasise interdependence of different fields of knowledge and draw upon the breadth of experiences of the participants.

Executive Consulting learning ecosystem

The Executive Consulting (EC) course, the capstone of the Executive MBA at RMIT University, was developed by drawing upon earlier courses which deployed similar principles (Shelley, 2014; 2015). It is completely experiential to ensure socialisation of ideas across all learners and to ensure application of the learning in the context of a real

client project. Learners develop the knowledge, skills and behaviours needed by executive leaders to research and design strategic projects to meet clients' needs. Learners bring their own experiences into the course and reflect on the impacts these have in a range of contexts including progression of their career, identifying options to achieve their career goals. In doing so, they modify their lifelong learning approach and become lifestyle learners. That is, learning that fits into the rapid pace of how we now live. This highlights why micro-learning is becoming more important.

The course is facilitated as a weekend intensive combining learners who normally engage in face to face learning and those who normally study virtually. They come together to meet the real client to discuss their challenges and how they can assist. Learners self-select a client and form a consultancy team that initially focuses on divergent exploration of options to enable creative possibilities to emerge and then mature. After several weeks they revert to convergent thinking to prioritise the possibilities into a strategic set of options that are costed and assessed for return on investment within constraints articulated by the client. The team are provided with the services of an experienced business mentor to provoke their thinking and ensure they do not jump to known answers too quickly. In parallel to this project each individual learner is required to develop an up to date research article on an aspect of consultancy practice. Each learner has a different topic, which means they collectively collate an 'encyclopedia' of the latest thinking across around 30 relevant topics. All learners can see one another's work and are given extra marks for assisting fellow learners. They are also encouraged to link to each others' online pages to reinforce that collaboration is a more productive approach than hoarding ideas and knowledge for themselves. These experiences help to develop their skills across all three domains of capability; knowing, doing and being. This helps to develop a balanced professional approach.

Assessment for the course involves several independent factors. These include: quality of the individual topic article, how well learners interacted with each other, a formal business report and an engagement conversation with the client to share their recommendations. Feedback from their peers, the client, the mentor and the learning facilitators are all considered in determining the grades. This combination of authentic assessment reflects what happens in real organisations (and life generally).

Creative Melbourne learning ecosystem

Creative Melbourne is a unique learning ecosystem designed to bring creativity back into business decision making. It deliberately brings together a diversity of people from a range of countries, cultures and disciplines. It targets the fact that many of today's market leaders are relative newcomers to many industries. They achieved their success by breaking the patterns of existing thinking. Google, Tesla, Amazon and more recently Alibaba, have overwhelmed their competitors by shifting their emphasis to consider '*what is possible*' rather than continuing their focus on '*what is*'. They are co-creating a new way forward based on what they learn, as they learn it, rather than current understandings and knowledge. If

people can quickly make sense of shifts in expectations and then act on these new insights to co-create new options, they can generate a faster path to success.

Regardless of one's natural creative talent, everyone can learn to become more creative. Creative Melbourne has been specifically designed to engage participants with one another through a series of activities where the environment is conducive to sharing and connecting ideas to co-create new possibilities. Bubbles of insights form in these interactive conversations and activities are then workshopped through subsequent activities, such as social reflection. These cycles of creative interaction increase the size of the bubble and build the creative capabilities of all involved. When these iterative cycles continue over time, the maturity of the group evolves to a natural ecosystem of co-creation. At this level of maturity, the group can produce new knowledge, products and services more quickly and more efficiently.

When participants can adapt their thinking to assimilate the range of possibilities from the *known* to the *unknown*, they can stimulate more options that do not yet exist and therefore better opportunities for the future. Experiencing leaning forward into the unknown and exploring possibility, stimulates a mindset of exploration. NASA's motto of "*Lean forward and fail safely*" is testament to this. This shift in thinking enables us to connect the dots that have not yet been connected and to forge new insights. In our modern fast-paced world, those who (collectively) co-create new ideas fastest, secure the attention and respect of the customer – the ultimate determinant of sustained success (Pisano, 2015). The Creative Melbourne event generates foundations of "Co-created Projects Worth Doing" that create social value. In some cases, they also feed into the student projects of the Executive Consulting course and the pilot micro-credentialed version of this.

Executive Consulting context and insights

Participants in Executive Consulting remain fully engaged throughout the twelve-week course and encourage others to engage with the course. Feedback cites a range of key reasons for this high level of engagement including, working in a real context, the fact participants make a difference for a genuine client who is seeking their insights and make a social contribution and engage in an inclusive collaborative experience.

A group of academics at the Institute of Educational Technology in The Open University collaborated with researchers from the Learning In a NetworKed Society (LINKS) from the Israeli Center of Research Excellence (Ferguson et al., 2017) to explore what novel learning approaches might be relevant to future contexts. They generated a list of ten new pedagogies that they believe may transform education and provoke major shifts in educational practice. This list, summarised in Table 1, highlights the extent to which socialisation of learning practices can be considered of growing importance in modern learning.

Table 1 provides examples that illustrate how the Executive Consulting capstone course (EC) has included elements of all

Pedagogical Approach (Ferguson et al 2017)	Examples of aligned practices embedded in Executive Consulting
Spaced learning	There are two highly interactive intensives with weekly interactions in between.
Learners making science	All activities and assessments are based on learners developing options for real world challenges.
Open textbooks	There are no texts – learners co-create the content. The EC course also includes authentic assessments (addressing what is likely to happen in workplaces rather than theory based).
Navigating post-truth societies	Critical thinking and assessing the trustworthiness of available information is actively discussed in all stages of the learning experience.
Intergroup empathy	The course combines learners from different programmes to form blended groups around a variety of challenges. The learners also get to observe the way other groups resolved challenges for other clients.
Immersive learning	Learners engage with real business clients and play the role of consultants engaging with clients throughout the 10-week project exercise focused on real challenges facing the client.
Student-led analytics	Significant autonomy is provided to learners to develop their own approaches to creating options for the client, including openness to professionally disagree and change the direction of the project.
Big-data inquiry: thinking with data	Learners are encouraged to be completely open with data they include and how they analyse it. Visualisation methods are actively discussed and encouraged with examples provided in support materials.
Learning with internal values	There are no lectures with the predominant mode of learning being inclusive dialogue and 'Creative Friction' (constructive disagreement to develop professional knowledge, skills and 'being' – open-minded professional behaviour and ethics).
Humanistic knowledge-building communities	The whole design of this course aims to stimulate open experiences, highly creative approaches and self-directed development. The people-centred approach adopted generates collective knowledge co-creation as a community with the aim to enhance the performance of the client and stimulate social learning for all participants.

Table 1: Practices identified to be likely to enhance learning outcomes in modern contexts with examples of implementation from Executive Consulting capstone course (EC).

of these ten pedagogies. Rather than try to design a course based on one or the other, all ten have been embedded into the learning interactions to create a full immersive experience.

The contextual and institutional environment in which educational offerings such as Executive Consulting reside is key to their success or failure. A pedagogical approach which eschews rigidity and encourages agile creativity would have little prospect of enduring success within a rigid institutional context.

The overall programme design for the RMIT Executive MBA (EMBA) programme exhibits a number of features which make it conducive to a divergent course offering of this nature. The aim of the programme is to be innovative, global and applied. Its goal is to develop leaders who exhibit socially responsible, ethically aware leadership, grounded in design thinking. This means students are encouraged to analyse the architecture of business problems and to understand the value that prototyping, creativity and synthesis bring to the creation of sustainable solutions that are end-user-driven. The programme has a specific objective of equipping 'work-ready' graduates with the skills to effectively drive innovation and change so as to create ongoing value for their organisations and the communities they serve.

An emphasis on Design Thinking helps to achieve these goals through a focus on socially responsible innovation. Design Thinking techniques have been infused in a range of courses in the EMBA which students undertake prior to their enrolment in the Executive Consulting capstone. The

importance of design and design thinking as a tool for innovation has been recognised by both businesses and governments over the past two decades. Companies such as Apple, IBM, Pepsico, Samsung and Dyson have used design to deliver experiences that have created value for their customers and organisations (Ignatius, 2015; Kolko, 2015).

A programme self-assessment report undertaken as part of the European Foundation for Management Development (EPAS) accreditation process in 2016 affirmed a central theme that permeates the Executive MBA Programme objectives: "As cities and countries contemplate new ways of becoming and remaining competitive, it is clear that success requires an ability to solve problems from a variety of perspectives and that new ways of thinking and innovation are central to productivity and prosperity" (Farrell, 2016, p. 23). The curriculum design for the programme emphasises action learning and reflection on learning experiences, taking account of work undertaken at Harvard University as outlined in the book *Rethinking the MBA* (Datar, Garvin & Cullen, 2010). Building upon work undertaken by the US Army the authors argue that leadership always involves three interrelated components: "knowing", "doing" and "being". In brief, there are things that every business leader should know, things that every business leader should be able to do and a third component of values, attitudes and beliefs.

Introducing the Applied Social Learning Ecosystem (ASLE)

Traditional formal education is unidirectional and hierarchical. This is good for efficiency and can be easily controlled by curriculum and procedures. However, learning is limited to what is known, and students are rewarded for rediscovering existing knowledge. This works well when there is a definite set of known facts that need to be transferred to the next generation and where the knowledge is relatively static. However, business and societal environments are constantly changing. In VUCA environments, success is less about knowing what is already known and more about the capabilities to resolve complex challenges under conditions of uncertainty. In fact, sometimes what we do know holds us back from being able to see the new possibility. Patterned thinking can lead to cognitive bias that prevents new insights, because people subconsciously reject some possibilities before they consciously consider them. This type of hierarchical pattern reinforcing environment has been referred to as an EGOsystem (Scharmer & Kaufer, 2013), because it assumes some people have more valuable knowledge than others and the answer already exists for many future challenges.

This paper proposes that a better way forward is to engage learners in an immersive experience in an Applied Social Learning Ecosystem (ASLE – refer to Figure 1). In a natural ecosystem, everything is interdependent and harmonised (Scharmer & Kaufer, 2013). In complexity science, it is acknowledged that each participant and intellectual asset has an influence on the other elements of the system (MacGillivray, 2006; Snowden, 2007; Vidal & Marle, 2008). When these principles are applied to learning environments, the flow of knowledge between all the component parts is

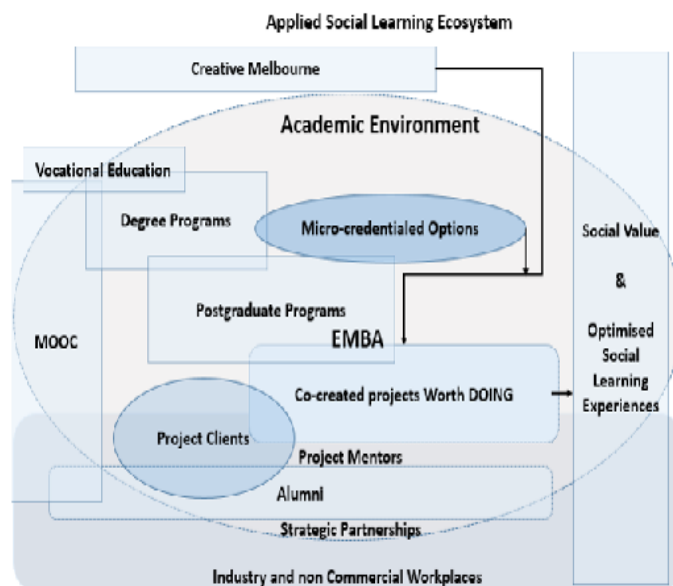


Figure 1: The Applied Social Learning Ecosystem being created to support "Lifestyle Learning".

optimised and the outcomes enhanced. This approach is more aligned with systems thinking (Stacey, Griffin & Shaw, 2000) which considers independencies between elements rather than just component parts. Designing learning programmes from this perspective leads to very different outcomes, as we have discovered with the two examples shared in this article demonstrate.

Success factors in applied social learning ecosystem design

Most current education approaches are broken into components by disciplines, so the learning about different subjects is done completely independently. In an Applied Social Learning Ecosystem (ASLE), the learning experiences relate to real life situations that are familiar to the learners' contexts, so they have relevance and all topics are explored within the client context. Furthermore, the educational experiences from one level of learning (primary, secondary to tertiary) flow in a way that the learners broaden and deepen their knowledge and insights in a more interconnected way.

Designing learning experiences for ASLE requires a reverse mindset. Rather than considering how to 'discover' existing ideas and concepts and discussing what they are, an ASLE engages learners in exploring what is missing and *what is possible*. That is, the design mindset moves from convergence to find existing objects for tangible outputs, to divergence

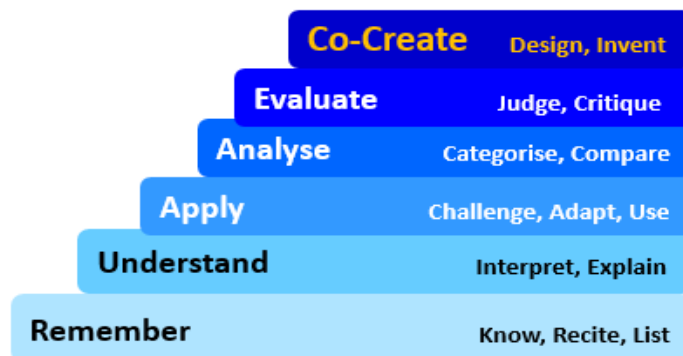


Figure 2: Learning Hierarchy adapted from Bloom.

to generate possible future options and outcomes. This generates a higher level of comfort with uncertainty and greater confidence to co-create options around unknown challenges (the biggest challenge most organisations and employers face).

The key factor to enhance ASLE success is to ask provocative questions about possibilities. EC has only supporting content and there are no lectures or tutorials. The learners co-create all the content within the context of a real client project. The philosophy that a good provocative question deserves a provocative response to stimulate respectful and robust argument combines the ideas of KNOWledge SUCCESSION and "Creative Friction" (Shelley, 2017). Facilitated disagreement can stimulate creativity and innovation, if the learners engage in a constructive dialogue and respect the ideas offered by others. Without differences in opinion, we limit sources of new possibilities and new opportunities.

When people disagree, the most likely outcomes are rejection or conflict. However, when participants are experienced in facilitating creative friction, there is an increased opportunity to understand the relevance of why other opinions and interpretations are important. This not only opens minds to other possibilities, it builds stronger relationships between the parties involved. When one can accept another's 'reality' in parallel to their own views, they have a more complex understanding and move from linear decision making towards complexity. This leads to superior learning that reflects a higher level on Bloom's hierarchy (Bloom, 1971) as shown in Figure 2. Learners are co-creating based on more knowledge, deeper understanding and better analysis leading to better judgement and generation of new possibilities. It highlights the limitations of what many think education is about – filling peoples' minds with what is already known. In contrast, the ASLE approach is about opening minds to generate the highest quality learning outcomes. In opening minds to new (and perhaps multiple parallel) possibilities, it is often necessary to break accepted patterns of thinking, practice and behaviour (Knowing, Doing and Being).

Images, videos and artefacts used in the learning experiences do not contain the answers, they are the "conversation starters". Creative visualization is a powerful tool to start conversations as they are metaphorical rather than literal. When you look at a stated problem, you focus inwards on the "facts of the matter". However, when one looks at a creative or metaphorical image, one's mind is exploring and seeking to make sense of it. This divergent mindset exploring the object from an oblique approach will make connections between the images and their understanding of challenges they face. The shift in attitude stimulates a range of ideas and themes that do not emerge when focusing with convergent thinking.

To achieve the mindset and behavioural changes, the design of learning activities and assessments are very different to traditional education approaches. Encouraging disagreement, maximising collaboration (sometimes perceived as 'cheating' in traditional education) and co-creating new knowledge and insights through socialising and reflecting on differences are all deeply embedded into

all activities. Games are played to encourage divergence of thought and are then reflected upon to ensure the participants understood what happened and why. There are always some participants who are initially uncomfortable with the uncertainty, but this soon passes as they see the logic and emotional development that comes through the experiences. Learners are encouraged to explore new emerging concepts such as Artificial Intelligence (AI), the Fourth Industrial Revolution (4IR) and the Internet of Things (IoT) and discuss what possibilities these may bring to their future and that of their client, to further open their minds to change and its implications.

Impact is a significant motivator for learner performance. They engage more deeply when they know what they are contributing to is making a difference for organisations and society. In its first three years, the Executive Consulting course (EC) has arrived at recommendations for over forty organisations, including fourteen Not-For-Profit and community associations, five government clients, eight start-ups, twelve small-to-medium enterprises and two multinational corporations. Most of these organisations did not have the internal resources to perform such a significant project in their business, nor the budget for external consultancy. The social value generated by these Co-created Projects Worth Doing, is significant and has assisted many clients to accelerate their performance. The feedback to the learners from the clients, mentors and facilitators stimulates continuous improvement and inspires ongoing lifestyle learning across a balanced set of capabilities. Strategic partnerships between academia, industry, government, mentors, learners and learning facilitators are the fabric of the ASLE. The development of trusted relationships to generate mutual benefits are essential for sustained social value contribution.

Implications for future learning facilitation

For most people, developing and growing their capabilities is about being able to perform at a higher level in their chosen field (or gaining access to that field). Optimising personal and professional capabilities is about harmonising:

- Knowing** - Understanding why things happen at deeper levels,
- Doing** - applying and refining your talents and skills) and
- Being** - the behaviours you display and how you interact with others.

When learners undertake this journey, they are constantly on a path of becoming – something more, or different (Shelley, 2017). The biggest challenge in the modern world, is being confident about which direction to take because of the VUCA environment (Volatility, Uncertainty, Change and Ambiguity).

What we do know, is that much of the content taught in traditional education institutions is no longer relevant to the workplace (Robinson, 2016). It may be personally rewarding to learn about outmoded concepts from an historical perspective, and sometimes existing insights can be leveraged to learn how to adapt an idea for a future

context to create practical outcomes, but more often this is not the case. The World Economic Forum's (2016) list of the most important future skills emphasises soft skills more than content-based capabilities. This highlights the imperative for education to develop the ability to learn efficiently and effectively. We have already moved away from an understanding of learning as something people did before they went to work, to the concept of lifelong learning. A new shift is underway to lifestyle learning – learning that fits into the rapid pace of how we live with high levels of mobility. This gives rise to a conundrum: without ongoing learning, we quickly become irrelevant, but many people are too busy to step away from their frantic work activities to commit to full time significant formal courses.

This time-poor mobile situation suggests the future of credentialed learning will evolve into micro-learning programmes (discussed in the section below). To some extent, many professional societies are already implementing a version of this through their requirements for ongoing professional development to be proven via a points system. Professionals in accounting, legal and other disciplines such as medical practitioners are required to provide proof of completion of a certain number of courses approved by the professional association. These are often done as small units or workshops of four to ten hours and usually require some type of assessment (as opposed to just attendance) to deliver the necessary credibility required by their profession associations.

There are some existing examples of ecosystems like ASLE, but they are few and far between. The Bamboo School in Thailand has been successfully operating for some time (2018). Students of the Bamboo School run the school as a business and this is how their learning happens, integrating theory and practice around agricultural projects, science and technology programmes and business (by selling products generated to the village). Another example is Blackmagic Design (BMD, 2018), a broadcasting products and services business that outperforms many much bigger players in the market in both price and customer service offering. They have no hierarchy and all employees are directly involved in delivery of products through creative circles, similar to the concepts of Holocracy (What is Holocracy, 2018). BMD remain a small, fiercely independent organisation that has won over 200 international awards for their products and services. They do this having everyone in their ecosystem completely focused on customer desires and delivering these faster than anyone else at higher quality and lower cost. Grant Petty, the owner and managing director of BMD, stated at the 2018 National Association of Broadcasters international show in the USA:

We are creating as much freedom for creativity as we can... I don't know what kind of blend of technology and creativity will come together from this... I am fascinated to find out ... We just do these things and think it sounds right, and it will be interesting to see what happens (Petty, 2018).

Mr Petty has no doubt that the organisation's openness, inclusive creativity, collaborative approach and lack of hierarchy are key drivers in its sustained competitive advantage (Petty, 2018).

Extending the ASLE through micro-credentialing

Micro-credentialed learning is growing rapidly and is often accompanied with electronic badges or certificated for specific recognition of the learning outcomes achieved. These badges are controlled by the issuing party (university or private provider) and can be shared through social media platforms to demonstrate acknowledged capabilities in specific areas. Whereas a traditional masters degree programme typically involves twelve to sixteen courses of twelve credit points, a micro-credential badge may be three points and be completed in a weekend workshop followed by a report or other assessable artefact.

Micro-credentials are rapidly becoming popular with learners and employers alike, because they offer the opportunity to engage in a diversity of topics, or focus on a highly specific area. Independent learners have the opportunity to personalise their development investment to what interests them, rather than being forced through a broad programme. It also provides the flexibility to do learning at times and locations convenient to the learners rather than having to engage in the fixed large institution's agenda. This personalisation for learners can also work well for employers as they can engage with a learning provider to create a specialised course aligned to their current work practices.

In addition to flexibility and personalisation, micro-credentialing is gaining popularity for other reasons. Its appeal includes the following factors:

- Interdependence, new knowledge uptake and scalability. Many modern roles require a range of broader skills as well as depth in some specific areas and these can change rapidly as interdisciplinary roles become more normal. For example, technology competency is now an expectation in almost any role, so the ability to quickly reach a competency in a range of new technologies can be helpful, especially with a highly mobile workforce. Adding a new mini-course can be achieved quickly and proves more flexibility to include new concepts.
- Official recognition from an official provider for a range of capabilities including soft and hard skills. Although some of these skills can be gained in the workplace, the microcredential 'qualifies' the skills and knowledge, so that other employers can be confident they have been attained to a professional level.
- Currency of the topics can be more easily maintained in small courses, with on demand delivery and effective tracking and records. This provides greater agility to maintain relevance when rapid technological and sociological and societal changes are challenging individuals and organisations to keep up with changes.
- Micro-credentials align with the principles of 70:20:10 forum (2018), where significant learning can happen away from the formal learning place and then be ratified with a microcredential to demonstrate the acquisition of competency and knowledge. A micro-

credential approach enables learning on the job to be officially acknowledged, for both compliance and also just personal development.

- Cost effectiveness. It is lower cost, lesser risk and easier to engage in a micro-credential initiative than in a larger, more rigid programme.
- Lifestyle learning. Micro-learning experiences can be provided in more mobile ways such as during commuting.
- Social learning. The best microlearning experiences will leverage all of the concepts above to bring together mobile, flexible approaches which engage learners with each other to co-create new options rather than learn existing content. This provides a solid foundation for future ongoing learning aligned with changes in contexts, challenges and opportunities.

There is little doubt that ongoing learning is a factor in employee engagement and that this in turn impacts critical elements of performance such as productivity, staff turnover and competitiveness. The features listed above were always factors in learning, but the increased use of mobile applications makes integrating them easier. Agile (Morris & Ma, 2014) and Design Thinking (Brown, 2009; Liedtka, King & Bennett, 2013) approaches to software development and project management generally help to accelerate possible options for faster and more effective learning. The socialisation of learning (drawing on everyone's experiences, rather than just what a 'teacher' knows), can lead to the situation where co-creation of new knowledge is the optimal way forward for learners to interact, both as learners and as practicing professionals. Learning experiences can be brought back into absolute relevance by combining micro-learning with real-world experiences to accelerate performance.

So how do we regain our creativity through applied social learning?

Regaining creativity involves stepping out of our comfort zone and experiencing alternative ways forward. Creative social learning does not come from doing a weekend course in creativity and then going back into the workplace and playing a few games. It requires a mindset shift and behavioural changes to be applied over time to develop competency and confidence in the new approach. The initial experience of creative social learning interventions excites the brain, but new concepts are hard to sustain until they become entrenched as new practices or habits (Duhigg, 2012). Many people love to watch TED videos (TED, 2018) and be inspired by them. Whilst this can excite and create awareness, it mostly does not translate into ongoing applied capabilities. Success requires an open mindset, combined with a willingness to explore the unknown with persistence.

Optimal learning is not about discovery of something that exists. It is about co-creation of options around what does not yet exist. This is where the true opportunities for future leaders lurk. Sustained success is dependent on our

behaviour and willingness to step outside our comfort zone and remain there to expand our circles of influence and scope of knowledge and develop depth of capabilities.

Creating social benefits is a motivational factor for learners. Knowing that what they produce is real, and will be acted upon, engages the learners to proactively invest and this enriches their learning experience. Early indications from feedback are this has made a positive contribution to everyone involved including some benefits to wider society. Examples of this from the last twelve months alone, include projects that have contributed to acceleration of a charitable project delivering refugee camp sanitation improvements, supported mentoring for refugees now living in Melbourne and enhanced the knowledge capabilities of Victoria's Country Fire Authority. Private sector clients have provided feedback that their engagement with an ASLE has enabled them to strengthen their businesses, with several clients motivated to return for subsequent projects. As new projects are implemented, further longitudinal research will provide additional evidence of long-term social benefits of this approach. This will help others to adopt these ideas and expand the impacts of this type of learning and on the importance of the ASLE in this.

This paper does not prescribe one way to achieve the learning outcomes. It is an overall approach and success will depend in providing quality client projects which are relevant to the learners' passions and which generate social outcomes. An open style of learning facilitation is also required to ensure a high degree of autonomy for the learners to explore and reinforce open mindsets.

This paper shares the ASLE structure and approach, so that other learning facilitators and researchers can conduct deeper and wider social research. As others pilot and challenge the approach, a collective understanding of how to further evolve it will emerge. We encourage exploration based on the principles described and creating an interdependent ecosystem for learning, rather than the specific activities done in this programme. Simply copying the activities we have described, which were designed for specific sets of learners, will not lead to optimal outcomes. We do not intend to advocate the specific activities which formed part of the programmes described in this article. We suggest using an ASLE approach with a design aligned with other programmes' objectives and contexts will achieve improved quality learning outcomes.

Conclusions

The design of learning experiences around real situations, involving real clients who have genuine constraints, enables learners to develop the capabilities they need to become more committed team members exhibiting higher performance and exerting a positive influence on those around them.

Social learning experiences enable people to optimise personal and professional capabilities to balance their development across the three key elements of capability, **Knowing, Doing and Being**. The Applied Social Learning

Ecosystem (ASLE) stimulates interactive socialisation of concepts across boundaries to share differences of perspectives. The ASLE engages learners to become more conscious of their journey of **Becoming** (a more capable person) and the impacts this will have on their performance. This greater self-awareness of what one is capable of achieving (alone, or preferably, with others) enables more effective learning experiences. When learners are aware of the way in which they are learning and how this enables them to accelerate their learning outcomes, they enjoy the experiences more and are more deeply engaged with the experiences and with their co-learners.

Beyond the personal benefits, there are early indications that the approaches to social co-creation of new knowledge outlined in this article can bring commercial benefits as well as benefits for wider society. In this spirit, we share the ASLE structure and approach to encourage researchers to conduct deeper and wider social research that helps validate the long-term benefits of this approach and that will assist others to deploy these ideas. This article does not prescribe a single way to achieve learning outcomes.

The article describes an overarching approach which hinges on the learning designer's skill in providing quality client projects relevant to learners' passions. We advocate exploration based on the principles described to create interdependent ecosystems for learning adapted to new contexts. The design of new programmes to achieve quality learning outcomes should be based on approaches that are appropriate for other groups of learners in their particular contexts.

Our description of the diverse learning experiences outlined in this article is designed to leverage perspectives through constructive disagreement and demonstrate that there are a myriad of ways to achieve successful, tailored outcomes. As others pilot and challenge the approach a collective understanding of how to further evolve it will emerge.

We encourage you to join us in this ecosystem of the permanent unknown. We don't put people and things into boxes, we remove the constraints and open minds to a world without boxes. In doing so, we create new insights that simply cannot be boxed and continue to evolve them! Once you have seen the creative possibilities, you cannot unsee them!

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