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Future Application of Game-Based Learning as a Platform for Reflective Learning Associated with Entrepreneurship Education in the MENA Region



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RESEARCH PAPER

Future Application of Game-Based Learning as a Platform for Reflective Learning Associated with Entrepreneurship Education in the MENA Region

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Abstract

Purpose: The purpose of this paper is to discuss an ongoing project that surveys the literature associated with entrepreneurship programmes applying experiential learning principles through game-based activities in the countries of the MENA region. From identified preliminary publications and educational resources, the potential for applying game-based learning within entrepreneurial educational programmes of the region is described.

Design/methodology/approach: The researcher will execute a systematic literature review approach as a rigorous methodology to employ a conceptual framework based on sensemaking that identifies a focus on literature reporting instances of the application of game-based learning in courses and curriculum. The research is a work-in-process.

Findings: The project is currently underway. Interim results suggest that a limited number of instances are reported where game-based learning has been successfully applied in entrepreneurship courses.

Originality/value: Over the past 30 years, game-based learning (GBL) has surfaced as an effective instructional method to stimulate engagement and commitment in the classroom. GBL has exhibited key competencies associated with collaboration, critical-thinking, diversity of thought, design-thinking, decision-making, emotional intelligence, problem-solving, and sensemaking competencies. Building on these competencies could accelerate the impact of entrepreneurship education on Sustainable Development Goals (SDGs) in the MENA region.

Keywords: *Experiential Learning, Reflective Thinking, Reflective Learning, Game-Based Learning, Entrepreneurship Education, Serious Games, Simulations, Literature Review*

Introduction

The application of game-based learning tools available today to achieve reflective learning could provide exceptional value within the MENA region and trigger new educational innovation for learners and professors in entrepreneurship educational programmes.

The ever-expanding VUCA (volatility, uncertainty, complexity, and ambiguity) ecosystem the world has been thrust towards has the potential to destroy or expand our collective capabilities to survive. The outcomes for sustainability are especially critical within the MENA region, where the UN Sustainable Development Goals (SDGs) are not being met at a rate that can sustain a more successful future for the region's populations. Entrepreneurs of the future must be better prepared to 'hit the ground running' once their higher education credentialing has been achieved.

Researchers have widely expounded on the VUCA ecosystem (Figure 1) (Centre for the New Economy and Society, 2018; Hilbert, 2012; Peters and Jandrić, 2018; Schwab, 2015). Educators are responsible for furnishing affective, behavioural, and cognitive skills to our learners in order to sustain them to overcome challenges in the private, public, and NGO sectors. An opportunity exists to create a more solid foundation for sustainable ethical and moral individuals, where currently many prominent leaders on the globe appear to be motivated by greed and the pursuit of power and wealth.

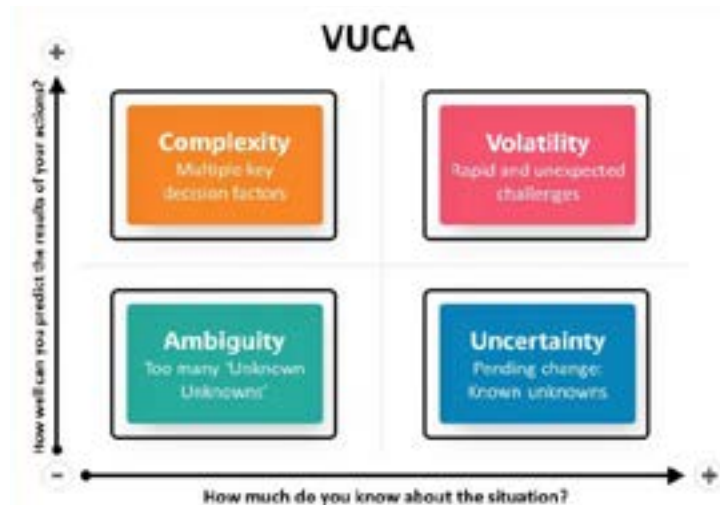


Figure 1: VUCA Environment

Source: File:VUCA 3.jpg" by A. Jain is licensed under CC BY-SA 4.0

By empowering learners with a wide range of experiential tools and methods, we could reinvent our learning organisations and institutions of higher education. We could establish a critical support network to entrepreneurs to construct highly desirable competencies and skills as they launch into our VUCA world:

Whereas the heroic manager of the past knew all, could do all, and could solve every problem, the post heroic manager asks how every problem can be solved in a way that develops other people's capacity to handle it.

- Charles Handy, Irish Economic and Social Philosopher

Triggers for This Research Initiative:

In 2015, UN member states agreed to the *Agenda 2030* and to use the SDGs as guiding principles for their policies and activities (United Nations, 2015). Initially the *Agenda 2030* policy treaty was adopted as a necessary guide in an attempt to resolve the “multiple crises” emerging with the acceleration of VUCA, and most recently with the COVID-19 pandemic. The MENA region continues to be dramatically affected by VUCA and COVID-19:

- climate change;
- mass loss of species;
- soil erosion;
- increasing social and economic divisions and instabilities;
- depleting fossil fuels and resources; and
- increased forced migration and overburdened governance.

By 2030, the UN SDGs will require the countries of the MENA region to substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs, and entrepreneurship. The World Economic Forum's *Global Risks Report 2021* reinforced the urgency of this agenda for transforming economies (p.64):

Minority- and women-owned firms have also been disproportionately affected, because many are in the food services, retail and accommodation sectors. ...Women and minorities were already under-represented in entrepreneurship, and poorly planned withdrawal of state support risks setting back efforts to build more inclusive local economies.

Concomitantly, my recent paper (Sutton and Jorge, 2020) highlighted the opportunities globally for radical change in higher education due to the COVID-19 pandemic. The paper paralleled a variety of other recommendations from educators in higher education, and stressed (Duke and Geurts, 2004, p.74):

Proper use of gaming/simulation offers strong promise for establishing the comprehension of totality [a gestalt] necessary for intelligent management of complex systems... As long as we are dependent on communication forms that are sequential, time constrained, dry and cumbersome, it will be difficult to comprehend the complexity of macro-problems, and we will continue to apply piecemeal solutions to problems that should be solved holistically.

So, we find ourselves in a time when entrepreneurship has been identified as a critical success factor for economic sustainability, the process of learning in higher education is being transformed by the pandemic, and game-based learning could take hold and provide the boost necessary to build a new generation of entrepreneurs in the MENA region.

Literature Review and Conceptual Framework:

Definitions

In order to carry out this investigation, some simple, succinct definitions are necessary to begin the literature search. Of course, all these definitions could be contested, but they provide a disembarkation point to begin the survey of the literature.

Kolb (1984, p.41) asserted that “**Learning** is the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience”.

Keeton and Tate (1978, p.2) alleged that **self-directed learning** was learning “where the learner is directly in touch with the realities being studied. It is contrasted with the learner who only reads about, hears about, talks about, or writes about these realities but never comes into contact with them as part of the learning process”.

Kolb (1984, p.38) maintained that **experiential learning** was:

“...the emphasis [is] on the process of adaptation and learning as opposed to content or outcomes.

...[where] knowledge is a transformation process, being continuously created and recreated, not an independent entity to be acquired or transmitted.

...learning transforms experience in both its objective and subjective forms. ...to understand learning, we must understand the nature of knowledge, and vice versa”.

Kolb (2014, p.xviii) also defined experiential learning as “a particular form of learning from life experience; often contrasted with lecture and classroom learning”.

Juul (2005, p.36) offered a **definition of a game** that will prove useful for describing and defining Game-Based Learning (GBL):

“A game is a rule-based formal system with a variable and quantifiable outcome, where different outcomes are assigned different values, the player exerts effort in order to influence the outcome, the player feels attached to the outcome, and the consequences of the activity are optional and negotiable”.

Perrotta *et al.* (2013, p.7) defined **game-based learning** as “...a form of experiential engagement in which people learn by trial and error, by role-playing and by treating a certain topic not as ‘content’ but as a set of rules, or a system of choices and consequences [called a game]”.

De Freitas (2006, p.6) defined **GBL** as “...often experience-based or exploratory, and therefore relies upon experiential, problem-based or exploratory learning approaches”.

Boyd and Fales (1983, p.100) alleged that **reflective learning** was “the process of internally examining and exploring an issue of concern triggered by an experience, which creates and clarifies meaning in terms of self and which results in a changed conceptual perspective”.

Schön (1983, pp.241-242) proclaimed that **reflective learning** was “...on the spot surfacing, criticizing, restructuring and testing of intuitive understandings of experienced phenomena...”.

Byrne *et al.* (2014, p.261) stated that “Unresolved disputes concerning the definition of both entrepreneur and entrepreneurship confuse our assessment of the current state of research in entrepreneurship education. **Entrepreneurship education** encompasses a large and varied subject matter and is built on numerous divergent theoretical assumptions”.

Hindle (2007) suggested that **entrepreneurship education** “...may be defined as ‘knowledge transfer regarding how, by whom, and with what effects, opportunities to create future goods and services are discovered, evaluated and exploited’”.

Using these definitions as a start, we can now weave the narrative that encompasses and integrates reflective learning, experiential learning, game-based learning, and entrepreneurship education.

Spiritual Foundations for Reflective Learning:

Personally, the researcher was immersed in the *Spiritual Exercises of St. Ignatius Loyola* when he was much younger and studied to become a Jesuit priest (SJ.) in the Roman Catholic tradition. Although the researcher did not continue and was not ordained, he did persist in applying the reflective learning tool encountered during his novitiate period. The *Spiritual Exercises of St. Ignatius Loyola* (Figure 2), comprised a reflective learning framework for personal and spiritual development. The technique taught the aspiring Jesuit to immerse himself in a narrative within the contemplative mode that Loyola designed. The individual was submerged into an affective and cognitive narrative that could be the basis of transformational behaviour. The Ignatian participant in spiritual reflection relied upon his imagination for the contemplation experience. New possibilities emerged for the participant to transform his life to higher spiritual understanding of the world.



Figure 2: Scenes from the Life of Ignatius of Loyola

Source: "File:Petrus verschijnt aan Ignatius Vita beati patris Ignatii Loyolae (serietitel) Scènes uit het leven van Ignatius van Loyola (serietitel), RP-P-1963-282.jpg" by Rijksmuseum is marked with Creative Commons0 1.0

The *Exercises* were founded on an extended series of experiential learning activities (called *contemplations*). The technique became widely known for its ability to stimulate personal and spiritual development in individuals, especially those directed towards leadership positions.

The experiential learning language in the *Exercises* conveyed an internal symbolisation and representation of learning. The meaning-making process of reflection enabled the interpretation of learning experiences. The learner constructed a personal sensemaking model. In parallel, a written interpretation of the sensemaking process could be shared with others. Reflection narratives impose **Passion, Rigour, Organization and Discipline** on an otherwise chaotic world; *Dr Sutton's PROD Manifesto* was used as a conceptual learning framework within his courses at Westminster College (Sutton, 2010).

A wide-ranging corpus of literature describes the historical basis for educational reflective practices. Spiritual reflection was established on cultural and spiritual traditions that created an opportunity to integrate intellect with faith. This form of spiritual reflection promoted the pursuit of new knowledge in the aspirant. Life in a *Spiritual Community* was organised by thoughts and practices built on ideological assumptions about personal and spiritual growth (Figure 3). Individuals were moved to a better appreciation of a Deity through the pursuit of wisdom. Such practices architected new spiritual leadership principles.



Figure 3: Mind, Body, Soul and Spirit Framework

Source: "File:Body-Mind-SOUL--Matter-Energy-SPIRIT.png" by Dustin Dewynne is marked with CC0 1.0

Traditionally, spiritual reflective practices delineated the relationship between the individual and their soul, spirit, heart, and mind. For example, this reflective model exists in a variety of forms in the Eastern Mystery traditions of Confucianism, Sufism, Buddhism, and Kabbalism, as well as the Western Mystery traditions of the Essenes, Alchemists, Benedictines, Rosicrucians, and Jesuits. More specifically, in the *Emerald Tablets* (Figure 4), Alchemists defined the base materials, primes, of the human condition as (Hauck, 1999):

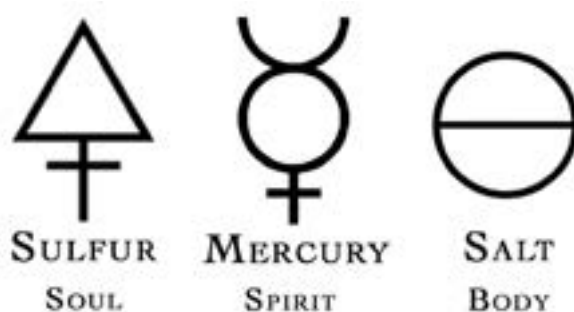


Figure 4: The Essential Elements and Corresponding Dimensions

- *Sulphur*: characterising the soul, the intangible dimension, i.e., something shapeless and volatile;
- *Mercury*: symbolising the mind, the intermediary between the physical and the intangible dimensions; and,
- *Salt*: signifying the body, the physical dimension.

In summary, as we begin to discuss reflective learning within the context of an experiential learning model, we can posit that the spiritual traditions associated with reflective practice are at the heart of our educational experiences in reflective learning.

The Emergence of Reflective Learning within Experiential Learning:

Kolb (1984) described experiential learning as a process filled with tension and conflict. Acquisition of new knowledge, competencies, and attitudes were achieved within the dynamic of clashes across the four modes of the experiential learning cycle (Figure 5).

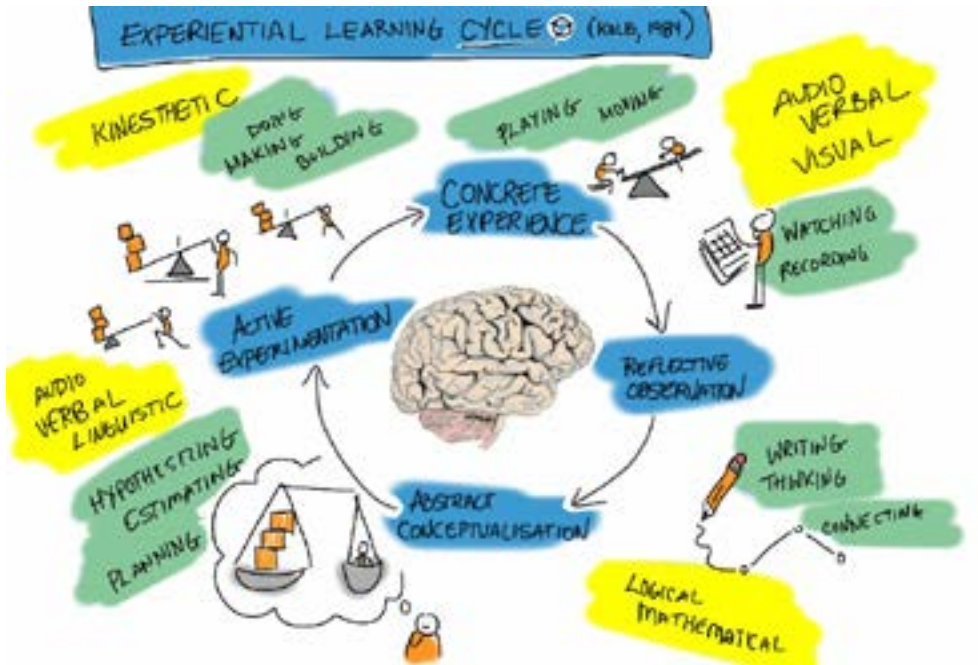


Figure 5: Kolb's Experiential Learning Cycle

Source: "Kolb's Experiential Learning CYCLE" by giulia.forsythe as marked with Creative Commons 1.0 Kolb (1984, p.30) expressed the four stages of abilities for effective e-learning:

1. concrete experience abilities (CE): immersive involvement without bias;
2. reflective observation abilities (RO): multi-perspective reflection and observation experiences;
3. abstract conceptualisation abilities (AC): integration of personal observations into rigorous theories; and
4. active experimentation abilities (AE): application of theories for decision-making and problem-solving.

Kolb proposed two primary dimensions associated with the learning process:

- Dimension 1.1: concrete experience of learning events;
- Dimension 1.2: abstract conceptualisation of the learning events;
- Dimension 2.1: active experimentation with the learning events; and
- Dimension 2.2: reflective observation of the learning events.

Consequently, the learner interacts through the learning experience, moving from involvement to detachment.

The primary principle of experiential education is *learning-by-doing*: in the vernacular of the trades, we often reference this as *on-the-job training*. Reflection is a critical element for growth and new knowledge development within the cycle of experiential learning. The dynamic nature of experiential learning unifies both thought and action as the participant adapts to change and reflects on the transformation the experience creates in their life. An authority in this field, Daudelin (1996, p.70), defined reflection as “the process of stepping back from an experience to ponder, carefully and persistently, its meaning to the self through the development of inferences”.

The primary goal shared by all learners engaged in constructing learning journals was that: “Students write about and reflect on personal experience as it relates to course content” (Varner and Peck, 2003, p.53). Subsequently, the goals of reflective journaling may be described as (Sutton and Jorge, 2021, p.8):

- enabling learners to self-direct their learning;
- validating learning-by-doing and learning by engagement and participation, instead of passive learning;
- empowering learners to frame a new learning within personal experiences; and
- applying newly acquired knowledge to solving work-related problems and creating action-oriented interventions that builds additional personal insights.

Assessment of Reflective Journals:

Assessing reflective learning is problematic (Dennison, 2010; Hoo *et al.*, 2020), but not impossible. For the most part, assessment of a reflective journal could be viewed as a type of self-assessment. Rubrics for grading self-reflective activities are notably absent from the academic literature and often do not account for the variety of cultural experiences/conditions within the environment of the learners (Anderson, 1988). The researcher’s educational experience highlights that learners from outside the North American venue often exhibit an anxiety when trying to express their thoughts and feelings in reflective journals.

The researcher discovered that Varner and Peck’s (2003) rubric for self-reflective journals is a broad evaluation tool that could be applied to graduate level and doctoral courses. However, the researcher, after a significant investment of time, chose to use a less comprehensive, but significantly insightful tool, the ABC Reflection Model, in some of his undergraduate, MBA, and doctoral courses.

Game-Based Learning in the Context of Experiential Education and Reflective Learning:

The author has written extensively on Game-Based Learning (GBL) (Sutton and Allen, 2019). GBL is a learning engineering method that has been waiting for the significant opportunities in the present to emerge stronger than ever (Sutton and Jorge, 2020, pp.1-3).

The skills and competencies necessary for post-pandemic success in education during the next five years needs to be founded on the adoption of emotional intelligence skills, learning and innovation skills, and information, media and technology skills (Germaine *et al.*, 2016; International Society for Technology in Education, 2016, 2017). All these competencies and skill sets are embedded in the

“playing human” immersed within GBL frameworks (Huizinga, 2016).

We have an unforeseen opportunity to prepare students for active, concerned citizenship, uptake of necessary emotional intelligence competencies, and increased ethical leadership through game-based learning (Ferreira *et al.*, 2019; Rojas, 2017; Sutton and Allen, 2019).

A new paradigm for higher education could emerge in the coming five years if institutions of higher education could shift their paradigm from professor-centric to learner-centric andragogy (adult education). Game-based learning has a unique opportunity to become the centre of focus in online education; this will continue after the pandemic, but must be revamped. The current adoption of online learning was made at the last minute with little or no planning for student engagement, empowerment, or commitment to learning. The nascent model for the communication of education is a foundational language founded upon gaming.

So, with GBL in mind, let us move on to entrepreneurship education.

Entrepreneurship Education and Reflective Learning Practices:

Allahar and Sookram (2019) described the progress that university business schools have made in establishing entrepreneurial ecosystems. However, business schools are not the only university departmental locations for teaching entrepreneurship. A sample of research has been discovered outside of the MENA region where GBL and entrepreneurship are integrated (Bellotti *et al.*, 2012, 2014; Buzady and Almeida, 2019). A few case studies have been revealed in our initial searches, where GBL was applied in the entrepreneurial university classroom within the MENA region (Abdul Razzak, 2018; Abu Talib, 2012; Charrouf and Janan, 2019; Shraim, 2018; Sisler, 2017). Further literature searches are necessary to establish a pattern and identify more precisely the primary educators and institutions of higher education that are leading this trend in the MENA Region.

Entrepreneurship educators could incorporate teaching the practice of reflective learning as an integral competency for their learners. The reflective learning practice could inspire and empower learners in their quest to survive and thrive within the ubiquitous VUCA ecosystem. Decades of theory has established that reflection is a vital method for increasing learning absorption (Dennison, 2010; Overton, 1994; Varner and Peck, 2003).

Methods

In order to embark upon the qualitative research initiative, the researcher posed three research questions that emerged from the preliminary literature review.

RQ1: What constitutes the application of game-based learning in entrepreneurship education in the MENA Region?

To answer RQ1, a systematic review of websites offering entrepreneurship education will be coupled with a literature review to collect any publications by academics or practitioners that focus on teaching entrepreneurship through the application of GBL as a method for learning, which inform the construction of an holistic understanding of context.

RQ2: How can entrepreneurship education be designed, developed, and deployed with game-based learning as a design parameter in the MENA Region?

RQ3: What assessment tools could be used to evaluate and assess entrepreneurship learning and education within the context of university courses?

In our preliminary literature review, a number of cases of the application of GBL in the entrepreneurship classroom were discovered. This was promising. However, the researcher could use your help in obtaining further information from dissertations, journals, whitepapers, and books, especially in languages other than English, i.e., Arabic, Farsi, French, etc.

Once a broader number of research artefacts are located, further analysis will need to take place into the use of specific rubrics and whether reflective learning forms any part of the learner assessment. Articulating for learners the process of applying the rubric to their reflective journaling is often a challenge. That was the rationale for the author to propose the use of a much simpler model. The ABC (*Affect, Behaviour, and Cognition*) Reflection Model furnished a less arduous approach for the learner to describe and reflect upon the three significant dimensions, often expressed as an holistic reflection process (Jay and Johnson, 2002, p.76):

Reflection is a process, both individual and collaborative, involving experience and uncertainty. It is comprised of identifying questions and key elements of a matter that has emerged as significant, then taking one's thoughts into dialogue with oneself and with others. One evaluates insights gained from that process with reference to: (1) additional perspectives, (2) one's own values, experiences, and beliefs, and (3) the larger context within which the questions are raised. Through reflection, one reaches newfound clarity, on which one bases changes in action or disposition. New questions naturally arise, and the process spirals onward.

The outcome was a more easily described range of meaningful learning experiences when learners were exposed to this definition. The ABCs of the ABC Reflection Model (Figure 6) has been reported as a very effective and simple tool for adult learners (Welch, 1999). The instructional rubric is detailed Appendix A.

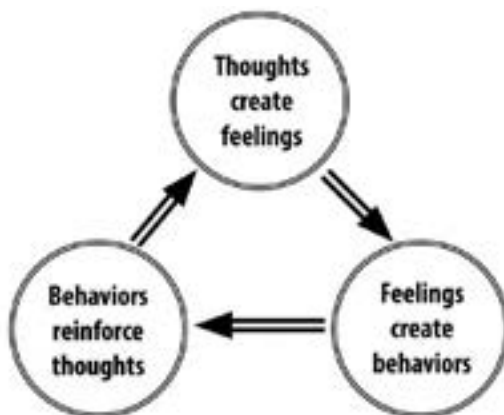


Figure 6: Relationship of Elements within the ABC Reflection Process

Source: Adapted from Boettcher *et al.* 2020

Conclusions and Recommendations

Escape rooms, immersive learning environments, live action role playing (larps), serious games, and simulations that incorporate reflective learning, coaching, and mentoring can facilitate the integration of best practices and lessons learned with new learning, and consequently new knowledge. The Organisation for Economic Cooperation and Development (OECD) has suggested the creation of multidisciplinary learning environments to assess the state of entrepreneurship education in higher education institutions (Wilson, 2008). The author proposes a very unusual intellectual quest for the reader who wishes to follow the next stages of this investigation:

- review the foundation for reflection in educational contexts;
- review experiential learning within the context of reflection;
- review models of game-based learning that incorporate educational reflection; and
- review models for applying reflection within the entrepreneurship classroom through game-based learning and reflective practices.

Most importantly, a review of experiential learning and reflective thinking should motivate the reader to seriously consider using the instructional tool proposed in Appendix A to build a personal research agenda associated with current courses and research on reflective thinking, especially within the context of GBL. The rich foundation of concepts spanning the entrepreneurship field furnished an integrated perspective for constructing the groundwork of using reflective learning with university-level entrepreneurship learners. We challenge the reader!

Please contact the author if you have information that could build an emerging dialogue on this powerful and exceptionally valuable instructional approach. Moreover, please contact the author in writing if you wish to be granted a royalty free license (on a case-by-case basis) to apply the ABC method described in Appendix A. Usage will be granted as long as the application of the method is attributed with an appropriate copyright statement. Additional material associated with the rubric is contained in the author's text *Emotify! The Power of the Human Element in Game-Based Learning, Serious Games and Experiential Education*.

Brockbank and McGill (1998) professed that the original ideas for universities were based on “self-reflection as the means to higher forms of understanding” (p.27). We are commencing a discourse around how we, educators, can situate our learners to successfully navigate the barriers and difficulties faced in the VUCA ecosystem. Our learners are attempting to ‘be of the world’ and ‘be in the world’, all the while determined to sustain an ethical life on a planet that appears to be out of control, uncertain, and volatile. As educators, we are duty bound to coach and mentor our learners to greater success than we could have ever imagined for ourselves.



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Biography



Dr Michael Sutton is an Innovative Researcher, Knowledge Scientist, and Learning Engineer. Over the past 50 years he has distinguished himself in the business and educational fields of Game-Based Learning, Serious Games, Simulations, and Immersive Learning Environments, Executive Leadership, Coaching and Mentoring, Entrepreneurship-Edupreneurship, and Knowledge Management. He has extensive experience in curriculum development and leading strategic business and educational initiatives. He was an entrepreneur and business leader for many decades before returning to academia to coach, mentor, and educate learners to adopt an “entrepreneurial spirit” to succeed in our complex world of volatility, uncertainty, complexity, and ambiguity (VUCA).

Appendix A: Personal Reflection Rubric (Grading % May Be Modified, Depending Upon Activity/Exercise)

Category	Description	Requirement (Rubric)	Grade %
Affect Domain “How I feel”	Reflection describes specific feelings (happy, sad, enthused, frustrated, or bored) about the things learned or the concepts as they apply in the business world.	<ul style="list-style-type: none"> • has at least one ‘page’ dedicated to this topic • has at least one clear example of an emotion that is directly linked to an example • is related to the topics within the course 	30%
Behaviour Domain “What I do”	Reflection describes specific behaviours exhibited by the learner because of the learning experiences.	<ul style="list-style-type: none"> • at least one ‘page’ dedicated to this topic • has at least one clear example of a behaviour that is directly linked to an example • is related to the topics within the course 	30%
Cognitive Domain “What I know”	Reflection describes the new useful/insightful knowledge gained because of completing the project or learning experience.	<ul style="list-style-type: none"> • has about one page dedicated to this topic • has at least one clear example of knowledge/information that is directly linked to an example • is related to the topics within the course 	30%
Writing Style	Including excellent grammar, spelling, paragraph structure, and punctuation.	<ul style="list-style-type: none"> • Exceptionally clear and authentic writing style 	10%

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