A blended learning culture is both a challenge and opportunity under post-COVID-19 for knowledge transfer and sustainable development, with the aim of maintaining social distancing policy and social interaction among learners, teachers, and invited industry guest speakers. In this paper, we review documents in blended learning from Asia, America, and Europe with the key elements in blended learning for faculty development in higher education (HE) institutions. The objective was to identify the key elements in blended learning with innovations and research technology capabilities for a way normal of learning and teaching under COVID-19. Based on the qualitative results of NVivo, it has been identified that the key elements of blended learning are: 1) technology for projects and 2) technology for engagement. These two elements are proposed to relate to Kolb’s experiential learning cycle of active experiment and concrete experience and reflective observation of the new learning experience for sustainable development.

Keywords: Technology, Project, Engagement, Reflection, Sustainable Development

Authors’ individual contribution: The Author is responsible for all the contributions to the paper according to CRediT (Contributor Roles Taxonomy) standards.

Declaration of conflicting interests: The Author declares that there is no conflict of interest.

1. INTRODUCTION

The purpose of this paper is to explore the key elements of blended learning mode from research papers found in the electronic database on blended learning, Asia (2006-2019) to develop guidelines for new normal of learning under post-COVID-19. From the perspective of new job creation for the teaching community via implementing the United Nations Principles of Sustainable Development Education Principles (UNPRME) (values, purpose, methods, research, dialogue, and partnership) and United Nations Sustainable Development Goals (UNSDG 4.7 “Knowledge Transfer”), a socially responsible school of business is recommended to explore the ways of implementing the six principles of UNPRME under post-COVID-19 for rebuilding the capacity of teaching staff and teaching administrative support staff for the new skills needed under the new normal of quality teaching and learning.

Under ISO standard 21001:2018 “Educational organizations – Management systems for educational organizations (EOMS) – Requirements with guidance for use”, it is expected that measurement of changes for the competency level of learners and involved stakeholders via teaching, learning or research. Other channels for the changes of competency include processes and systems of conformity for improvement. In Hong Kong, qualification framework (QF) is used as a guidance for quality of a programme at different levels for learners with intended learning outcomes of courses and programmes. However, there is a need for blended learning/self-directed learning mode under COVID-19 to motivate teachers and trainers to make good use of technology for quality learning outcomes and maintaining social distancing policy for the well-being of teachers and students. QF credit hours have been
used for teachers/trainers at different levels of programmes for learning outcomes. QF is open for service providers to design pedagogies to develop and measure learning outcomes. Hence, this paper is going to explore future learning mode for reaching learning outcomes, for example, blended learning.

The structure of this paper is as follows. Section 2 reviews the relevant literature. Section 3 is the methodology that has been used to conduct the analysis. Section 4 reports the findings which are followed by the discussion and conclusion (Section 5).

2. LITERATURE REVIEW

Matthews and Foster (2014) mentioned the nine major intelligences of cognitive by scientist Howard Gardner. From the perspective of Gardner, “instead of having a single IQ, each of us has a profile of intelligence. Any given person might have one or more of her intelligences highly developed, others average, and still others below average. Extremely rare is the person whose profile shows consistently high or low ability across all nine intelligences” (Matthews & Foster, 2014, p. 13).

The intelligences that Gardner proposes are the following:

1) **linguistic**;
2) **logical-mathematical**;
3) **spatial** – visualizing objects as they change the form or move, and understanding spatial rotations and directions – used by architects and sculptors;
4) **bodily-kinesthetic**;
5) **musical**;
6) **intrapersonal** (or emotional) - understanding oneself and regulating one’s emotions – as seen in members of the clergy and people we think of as wise;
7) **interpersonal** (or social) – showing empathy, leadership, and the ability to get along well with others – important for business people and teachers;
8) **naturalistic** (being attuned to nature and the outdoors as seen in gardeners and ecologists);
9) **existential** – being sensitive to spiritual matters and metaphysical ideas – required by religious professionals and philosophers (Matthews & Foster, 2014, p. 14).

He also mentioned that there is another perspective beyond typical understandings of intelligence which highlights a meaningful difference among analytical, practical, and creative intelligences (Matthews & Foster, 2014, p. 15).

Under post-COVID-19, with a new normal of working and studying, it is time to explore the innovative and user-friendly methods to help learners to attain these intelligences with the limitation of space, resources, availability of technology, and use of remote learning methods.

The exposure of meeting people of different cultural backgrounds for handling different learning projects may be a possible method to develop some of the above-mentioned intelligences. According to the UNPRME, the working group of sustainability mindset, the growth of mindset with connecting to being, thinking, and doing which help management to identify solutions for the common good. However, the real-life and working experiences of learners may not be that rich to connect them with a new perspective of being, thinking, and doing, it is recommended for responsible teachers to design innovative projects, integrating the values, theories, contemporary issues with actions for learners to develop intelligences and sustainability mindset.

According to UNESCO, education for sustainability (EES) has international priority, as emphasized by the United Nations Decade of Education for Sustainable Development (UNESCO, 2005), integration of the principles, values, and practices of sustainable development into all aspects of education and learning is needed to address the social, economic, cultural, and environmental problems we face in the 21st century (UNESCO, 2005, p.1). As innovative and proactive educational practitioners, it is believed that adopting the ideas of Gardner and the sustainability mindset can help to develop 21st-century skills to become a critical thinker, a communicator, and a creator.

According to the Standing Committee Paper of United Nations High Commission for Refugees (UNHCR, 2016), on the 67th meeting on 31st August 2016, security risk management procedures need to be in place to protect people in risks. In the paper, a concept of minimum operating security standards (MOSS), new policies on security personnel, security risk management, gender considerations in security management, partnerships, and engagement for the policies in relation to humanitarian principles and training have been mentioned. Moreover, ISO 18788:2015 also provided definitions of the keywords in relation to security and risks, for example, security, security operations, and vulnerability analysis. These concepts are related to the recently launched initiative of UNSDG on 4 quality of education and 9 innovation with the following two indicators respectively:

1. **UNSD Goal 4** – to ensure all learners acquire the knowledge and skills needed to promote sustainable development.
2. **UNSD Goal 9** – to enhance scientific research to upscale the scientific abilities of industrial sectors in all countries.

Innovative strategy in teaching and research for establishing a culture of security relies on partnerships. The use of ICT (Information and communications technology) and video production are expected to create positive learning outcomes in creating awareness and establishing a culture of security through stakeholder analysis, risks analysis, security policies, and impacts of contemporary issues in supply chain management (SCM) and demand chain management (DCM) with progression of higher-order skills for UNSD Goal 4 and Goal 9. The vision, mission, and strategic plans of an organization to establish a culture of security with the intended learning outcomes of staff members need to be explored and measured. The use of ICT, innovations in sustainable mindset, applications of PDCA mindset (plan/do/check/act), and the six principles of UNPRME – values, purpose, dialogue, research, method, partnership into technology-related modules with pedagogic activities and rubrics design with quality indicators can be considered for establishing a culture of security.

Thus, the following research question has been formulated:

**RQ1**: What are the key dimensions in blended learning under COVID-19 for UNSD Goal 4 "Quality of Education" with a sustainable lifestyle?
2.1. From an entrepreneurial spirit, design thinking to building a culture of security

Entrepreneurship and start-ups could be a way for many teenagers in the next generation especially with the fall of traditional industry, and youngsters' wish of being a business owner by themselves. To cater for such yearning, there is a need to explore how to help learners to apply the entrepreneurial spirit and design thinking to build a sustainable mindset with implementation skills, and also a designing thinking to increase their flexibility and the ability to adapt the process to the challenges mentioned by Mootee (2013, p. 32). This paper is to identify the key elements of increasing awareness of establishing a culture of security via a sustainable lifestyle with peace and the use of technology.

In fact, this paper aligns with the direction to equip students, teachers, staff members, and management of organizations with a sustainable development mindset and design thinking with innovations in capacity building, achieving the UNSD Goal 4 “Quality of education” with transferable skills, Goal 9 “Industry, innovation, and infrastructure”, Goal 15 “Life on land”, and Goal 16 “Peace, justice, and strong institutions”. The idea of establishing a culture of security is to avoid dangers from outside and build trust in the community.

The research framework will be structured against the following areas:
1. Design thinking: disruption in quality of education via quality indicators checklist design.

The rationale of defining quality indicators for building a culture of security with design thinking and sustainable lifestyle via innovations in technology is to link up with UNSDGs, the six Principles of UNPRME, and outcomes of the 3rd UNESCO-APEID Meeting on Entrepreneurship Education that making the education system more relevant in preparing young people and industry practitioners for increasing awareness of security, the application of design thinking, sustainability development, and innovations, for example, technology in linking up education with more relevant use of technology in enhancing a culture of security with higher-order skills, e.g., design thinking, system thinking, scenario thinking, problem-solving, and solution-seeking skills for a responsible citizen.

2.2. Development of skills for new blended learning

There are two research studies (Chiu, 2010; CPU, 2015) sponsored by the Central Policy Unit and conducted by the Chinese University of Hong Kong in 2010 and 2015 respectively to study the social attitudes of young people. The 2015 study is a follow up on the 2010 research. Both studies use quantitative analysis of data collected by telephone survey.

The 2010 study reported that the youth population holding strong dissenting attitudes share similar demographic characteristics. The 2015 study reported that personal attributes are not able to account for dissenting social attitudes and value orientations are more powerful predictors in this regard. In 2020, what will be the ways to trigger our next generation for viewing an issue and to find out innovative solutions? This is a challenge for educators, especially in responsible management education, as soft skill training involved with design thinking, scenario thinking, entrepreneurial spirit, and security awareness.

Recently, Bonfield, Salter, Longmuir, Benson, and Adachi (2020) mention that the challenges having currently in the Higher Education (HE) sector are curriculum, pedagogical frameworks, application of technologies on learning, and campus improvement. These dimensions are under a new terminology named “Education 4.0”. From the author's point of view, Bonfield takes a proactive role; and this is related to United Nations Sustainable Development Goal 4.7 - “Knowledge Transfer” under post-COVID-19 for resiliency, innovations, transformations, and re-building a community via O-to-O (online to offline). Based on the projects that were designed and executed by the author since the outbreak of COVID-19, it is found that the meaning of life and true values of teaching and learning need to be integrated into Education 4.0, especially rebuilding a virtual community for diversity with knowledge transfer.

As Kivunja (2015) promotes 4Cs (critical thinking, communicating, collaborating, and creative thinking skills) in skill development. In the aspect of developing creative thinking that is in great demand under the knowledge-based economy, he invented the use of 5E lenses as below:

1) in Engagement len;
2) in Exploration len;
3) in Explanation len;
4) in Elaboration len;
5) in Evaluation len.

Under the emergence of COVID-19, educators may re-visit the ideas of Kivunja (2015) and Bonfield et al. (2020) for the key elements of a new learning paradigm that brought changes in learning, teaching, assessment, and curriculum development to utilize skills for the 21st-century skills, helping students develop skills for increased productivity, creativity, critical thinking, problem-solving, communication, and collaboration.

All in all, design thinking, entrepreneurial spirit, sustainable mindset, innovations with technology are needed to be integrated to establish a new normal of learning under COVID-19.

The following five most important steps are observed to achieve the 4Cs and 5Es:

1. Plan research on skills needed to enhance the social, soft, and hard skills for youth employment.
2. Organise feasible ways to identify potential innovative hybrid and blended learning related services.
3. Motivate to measure learning outcomes in a user-friendly way on re-defining hybrid and blended learning space under COVID-19 with compliance of social distancing policy and creating physical, mental, spiritual related skills integrated with 4Cs and 5Es.
4. Lead on-going virtual learning mode with on-going transformation seminars and research for developing and developed countries via a global platform for good practice in skills development.
3. METHODOLOGY

Content analysis is a textual form of qualitative analysis on selected documents that are related to a theme of research that the researcher intends to study. Based on the counting of the occurrence of the chosen keywords, the paragraphs that the chosen keywords showed up, and the inter-relationship of the keywords to build a model to increase the understanding of the research questions. The advantages of content analysis are objective, systematic, relevant, and theme-based. It is recommended to have quantitative analysis with the survey to compensate for the findings of content analysis.

A study was conducted to explore the understanding of blended learning for a new normal of learning under COVID-19 in higher education institutions and industries. Literature search using the keyword on blended learning, Asia, blended learning, US, and EU was conducted on 22-23 July 2020, from EBSCOHost.

The second round of qualitative research was conducted on blended learning published papers from an e-data base with publication date 2020. Through comparison with open coding, we were able to identify the key dimensions of blended learning under COVID-19 for UNSDG 4/9/16/17 (quality of education/innovations/peace and partnership). A quantitative approach using a survey questionnaire conducted to students has been considered for our study. However, due to limited samples and narrow perspectives from the students with one cultural background, this approach is not employed.

The first stage is to conduct a literature search on 22-23 July 2020, from EBSCOHost with identified keywords – blended learning, Asia, blended learning, US and EU while the second stage is to conduct qualitative research on blended learning published papers from the e-data base with publication date 2020.

4. THE KEY FINDINGS

Key findings (2009-2019)

After selecting 29 research papers from the e-data base on blended learning from EU, US, Finland and 8 research papers from the e-data base on blended learning published in 2020 with the same keywords, the results are as below:

1. Technology for collaborative project (references 380).

   Selected quotations from search text:
   • “designs include the impact of technology, strategy, structure, human resources systems”;
   • “the parallel advancement of information technology make workplace learning more dynamic”;
   • “of FFT instruction with online technologies that allow for anywhere, anytime”;
   • “prove successful in employing such technologies are required for effective integration”;
   • “and be sensitive to new technologies, envision possible applications, and creatively”.

2. Technology for engagement design (references 361).

   Selected quotations from search text:
   • “video learning, (2) focus on design and collaboration-oriented tasks”;
   • “realized through iterative phases of design, test, evaluation and redesign”;
   • “work are demanded, whereby local design recommendations can be deducted”;
   • “some learners remain reluctant to engage with new modes of learning”;
   • “blended delivery had been carefully designed to link face-to-face”;
   • “overall, rather than being truly designed to meet the learners’ needs”.

3. Design for interactivity (references 178).
4. Decision-making awareness (references 82).
5. Reflection with coaching service (references 74).
6. Exposure to critical thinking (references 56).

Based on the above results, it has been identified that the key elements of blended learning on technology for projects and engagement are related to Kolb’s experiential learning cycle of active experiment and concrete experience and supported by abstract conceptualization and reflective observation of the new experience.

Key findings (2020)

1. Technology for collaborative project via workshops, classroom, on-the-job training and fully distance online mode with purpose clearly defined.
2. Technology for engagement design with evaluation of digital competence of faculty members, learners’ and tools used.
3. Design for interactivity with cost considerations.

5. CONCLUSION

Two main observations regarding the launch of blended learning were addressed in this study: 1) technology for projects and 2) technology for engagement. It is interesting to compare the findings of this study with the findings of previous studies that blended learning approach can make the teachers and the students reach the educational target during pandemic (Kayalar, 2020, p. 24); and hybrid (some face-to-face, some distance, some online, some broadcasting) and blended (face-to-face and online) could conceivably become the norm for older learners (Mays, 2020, p. 8).

In designing models of blended learning and/or hybrid learning, we need to integrate universal values, for example, UNPRME into the models for a holistic view of future blended learning as below:

1. As a socially responsible corporation, it is recommended to adopt the 10 principles of UNGC, the six principles of UNPRME and the 17 UNSDGs with technology and home-based skills for staff well-being and new job co-creation.
2. As a responsible employee with global citizenship in a humanistic corporation, it is suggested to understand and apply the steps of design thinking (empathy, define a scope, ideate, prototype and validate) and entrepreneurial spirit with risk-taking for values, UNPRME and UNSDGs into personal growth development with reflection for happiness.
3. Both corporations and employees can be treated as partners to build a learning organization for a new normal of working mode with remote hybrid learning and communication mode under post-COVID-19.
Comparing the effectiveness of UNPRME, design thinking, and entrepreneurial spirit with on-going projects are seldom found in the academic and industry sectors for new skills development with new values co-creation and capacity-rebuilding, for example, virtual women empowerment across miles with on-going dialogue and projects, is beneficial to students and industry practitioners for cross-generation harmony, capacity building, and transversal competence. Hence, UNSDGs and UNPRME are recommended to be embedded into virtual seminars and projects to increase the competency of women and youth for new jobs emerged under post-COVID-19.

The popularity of blended learning and hybrid learning under post-COVID-19 offers opportunities for future research on engaging influential stakeholders, celebrities, and media for the ways of launching innovative and transformative learning models.

REFERENCES


**APPENDIX**

**Table A.1.** Visualizing the six principles of PRME (Principles of Responsible Management Education), the United Nations Global Compact

<table>
<thead>
<tr>
<th>Principle 1: Purpose</th>
<th>We will develop the capabilities of students to be future generators of sustainable value for business and society at large and to work for an inclusive and sustainable global economy.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principle 2: Values</td>
<td>We will incorporate into our academic activities and curricula the values of global social responsibility as portrayed in international initiatives such as the United Nations Global Compact.</td>
</tr>
<tr>
<td>Principle 3: Method</td>
<td>We will create educational frameworks, materials, processes, and environments that enable effective learning experiences for responsible leadership.</td>
</tr>
<tr>
<td>Principle 4: Research</td>
<td>We will engage in conceptual and empirical research that advances our understanding of the role, dynamics, and impact of corporations in the creation of sustainable social, environmental, and economic value.</td>
</tr>
<tr>
<td>Principle 5: Partnership</td>
<td>We will interact with managers of business corporations to extend our knowledge of their challenges in meeting social and environmental responsibilities and to explore jointly effective approaches to meeting these challenges.</td>
</tr>
<tr>
<td>Principle 6: Dialogue</td>
<td>We will facilitate and support dialog and debate among educators, students, business, government, consumers, media, civil society organisations, and other interested groups and stakeholders on critical issues related to global social responsibility and sustainability.</td>
</tr>
</tbody>
</table>