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Intensifying Experiential Learning with Dynamic Learning Styles in Traditional Classroom for Technical and Vocational Students

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Abstract: Individual learning style diverges from one another, based on preferential perception on different types of information and degree of understanding the information. Learning contents require the focus to the efficiency of accomplishing learning goals, and all processes involved are considered essential. This paper seeks to explore students' experiential learning in traditional classroom. It also aims at conceiving students' learning experience through the transformative learning by adopting modern learning in traditional methods. The study was conducted at Universiti Pendidikan Sultan Idris (UPSI), a local public university in Perak, Malaysia. Questionnaires were distributed, using stratified random sampling. Data was collected from 45 technical and vocational students who underwent a module, using traditional method with either engaging or using technological techniques in classroom. Results indicated that students' preference in learning were the learning style with comprehension of learning elements and new pedagogical tools in classroom. The results would also assist educators in strategizing teaching and learning in schools or higher learning institutions with no technological facilities to deliver effective learning. The pace of worldwide education development has been highlighted specifically on the role of the educator in exploring students' capability by uncovering their learning style strengths and opportunities even though in traditional ways.

Keywords: Experiential learning, learning styles, traditional classroom, education

1. Introduction

People's ability to learn is the most basic skill, principally paved a road to success in gaining knowledge. Learning to learn is the ability to pursue knowledge, to plan and to organise knowledge in a decent manner. Learner's learning outcome derives key competence comprising of the combination of knowledge, experience, skills and value. Naturally, individual needs aspiration in learning from others. Valuing of various information with the cognitive processes is necessary and the capacity to develop heredity, experiences, and perspectives is essential to develop the skills on problems solving (Hoskins & Fredriksson, 2008).

21st century education through the revolutionization of world educational system has transformed various needs of new generation students. The new challenges faced by educators today are to teach students the skills needed with the bombards of today's information communication and technology (ICT). Rotherham and Willingham (2010) stated that the skills students need in the 21st century are not new and there is the urge of shifting the content and curriculum. Presently, a lot of new knowledge has been introduced, yet how people perceive the information must also be taken into account.

The past few decades have seen great improvement in educational reform. Now, students are comfortable satisfying their massive interests by adapting independent learning with various methods and continually learning new skills from time to time. With the robust of Internet environment, learning to be a well-educated individual call for a multiple facets to the new digital literacy. Globalization requires students to develop the skills and knowledge they need for success in highly complexity of real-world challenges. The seven survival skills required by millennium students are as follows (Saavedra & Opfer, 2012):

- Critical thinking and problem solving;
- Collaboration and leadership;
- Agility and adaptability;
- Initiative and entrepreneurialism;
- Effective oral and written communication;
- Accessing and analysing information; and
- Curiosity and imagination.

Today's education should prepare students to tackle collaborative problem-solving skills with real life situations. Jerald (2009) defined learning to learn as how students participate to build on prior learning and life experiences in order to use and apply knowledge and skills in a variety of contexts at home, at work, at school, at university or at ant place involving education and training. Factors that drive the constant evolving landscape of education, includes economic, political, cultural and social imperatives. The needs for higher levels of skills, led to the students' desire to become more diverse and they continue to study throughout their working life and there is a growing aspiration for more flexible study opportunities.

There is a growing awareness of the potential impact that new, innovative modes and technologies in today's education can have on the quality and the potential of reaching of world standard of primary, secondary or higher education offered. According to Black (2002), there are numerous teaching paradigms to educators, yet the main goals of school or higher education are similar in term of mode of delivery of the educational content.

2. Statement of the Problems

The way student perceived knowledge may differ in terms of the acceptance of the learners' prior experience and background. The problem arose when educators' teaching styles mismatch with students' learning style that will result to unachieved learning objectives and learning outcomes (Brown, 2003). In a traditional classroom, students become passive learners, or rather just recipients of educator's delivery of information and knowledge. They have no control over their own learning (Ahmed, 2013). Most of the decision is set by educators, covering the curriculum, teaching methods, and the different forms of assessment. Schools, institutions, and policy-makers are still ambiguous about how to respond to the transformation of education system. They do not fully understood the positive impact of the new modes of learning and teaching towards the achievement in education as well as the strategic and policy planning.

The 21st century education witnesses a divergence proficiency due to the advancement of information and communication technologies. With the pervasiveness of technologies, people around the world as Internet users could easily acquire, access, manage, and assess information rapidly at any time and any place. Beetham and Sharpe (2013) elucidate that there is a need to examine modern pedagogical design in curriculum, teaching methods, learning environment and assessment procedures in a digital age. The framework in 21st century skills of the millennium's students construe the skills, knowledge, experience, and expertise with engaging learning opportunities in authentic settings. Students need to magnify expertise in digital technologies, such as computers, electronic devices, digital media etc. and increase ability to use technology to search, access, manage, and assess available information (Larson & Miller, 2011). Hence, inconsistency results of technology used in teaching and learning have a direct impact on students' learning. This was proven by the Delialioglu and Yildirim (2007) study, which indicated that there is no significant effect of technology towards improvement of student's learning.

The lack of opportunity in utilising technological applications in classroom was not practically assessed to measure students' abilities and skills. Students gaining experience can only be measured if they use a skill inside or outside classroom. Experience is not the same things as practice, practice means that student try to improve by noticing what they are doing wrong and formulating strategies to do better (Rotherham & Willingham, 2010). Furthermore, discrepancy occurred when there is not enough attention given to educators' teaching the fundamental skills, in reading and writing, speaking and listening. Sorcinelli (1994) categorised student's behaviour in classroom into three factors; immature behaviours, such as talking during lectures, eating or drinking

without asking permission, being late, and causing trouble; inattentive behaviours, such as sleeping during class, skipping class in the middle of lecture, acting bored and showing no interest, not paying attention, less class involvement. This is compounded by other miscellaneous behaviours, such as cheating, plagiarising, copying assignment or project from others, and conveying concern in good grades than in gaining knowledge. To improve learning, systematic and strategic knowledge integration is required to meet pedagogical objectives through innovative way of learning instruction.

3. Learning Style

The concept of learning style describes individual differences in learning, based on the learner's preference in employing different phases of the learning cycle. Different person has different way of learning. Employing different phases of learning cycle by the learner shows that different individual has different learning style (Kolb & Kolb, 2009). Kolb et al. (2009) added that people who live in the country with high uncertainty avoidance and high in in-group collectivism, have a significant reflective in learning style. Educators, teachers or lecturers serve as the source of knowledge and learners received the knowledge during the learning process. The main aim of methodology in teaching and learning is to improve the students' ability in the academic courses. A traditional methodology is based on the so called traditional methods, using chalk-and-talk into sub-sets of dispersed skills and areas of knowledge. Furthermore, traditionally, the methodology is strongly associated with lessons used in certain focus areas.

In teacher-centered education, students put all of their focus on the teacher or educator who retain a full control of the classroom. Classroom activities emphasis on students learning independently and making their own decisions. The teacher-centered approach is linked essentially with the transmission of knowledge. In classroom with student-centered instruction, students and teacher collaborate learning where teaching and learning are not solely listening to the teacher exclusively but students and teachers interact equally in the processes. Student-centered is a learning method to create a learning environment where knowledge is co-constructed by the teacher and students rather than transmitted directly by the teacher (Garrett, 2008). Students will be given an assignment in project-based task individually or group work in classroom, using self-regulated learning to deploy metacognitive processes in learning. According to Azevedo, Behnagh, Duffy, Harley, and Trevors (2012), learners generate motivational beliefs in relation to their prior experience with the topic and learning environment, success with related tasks, contextual constraints, and contextual demands.

Cognitive and task conditions are the resources available to the person and the limitations integral to the task including motivation, beliefs, domain knowledge, disposition and styles, and knowledge of strategies efforts (Azevedo, Behnagh, Duffy, Harley, & Trevors, 2012). There is a need for the development of students' learning style to blend in rapid changes of the world of education in this decade. Modern students need to master seven survival skills – critical thinking and problem solving, collaboration and leadership, agility and adaptability, initiative and entrepreneurialism, effective oral and written communication, accessing and analysing information, and curiosity and imagination (Wagner, 2008). Providing high quality, relevant and widely accessible higher education is a fundamental goal of the school and higher education institution in the 21st century education.

The recent trends in blended learning, hybrid instruction, mediated learning, and flipped classroom have changed the landscape of learning since the technological capacities have evolved with the application of digital materials. The use of new pedagogical tools will improve educational outcome across the curriculum through the examination grades and constructive alignment to measures students' assessment. However, academic literature does not proof that recent trends indicate high effectiveness as compared to traditional courses or courses with the application of technologies (Delialioglu & Yildirim, 2007).

4. Technical Students

Practical learning with typically involve practical classes give students hands-on experience with the day-to-day life events. Yet, students are also require to learn theory lessons to have a better understanding on the courses they learned. It is essential to foster student's learning and combination of theoretical knowledge in practice. According to Nilsson (2017), the way to establish student's skill profile the educators must be able to relate teaching theories to practices as well as practices to theories. The anticipation of technical and vocational education and training (TVET) is that TVET will encourage skills acquisition through competency-based training (Dasmani, 2011). He added one of the concerns were raised among the TVET students is poor quality in the delivery of TVET programmes. Elena and Suzana (2016) recite that delivery of learning in traditional schools and universities must be conducted in modern approaches such as project-centered instruction and classroom activities to extent student's understanding. Besides defining the background of students according to their specialise field, it is also essential to focus on effective of delivery to embrace a different narrative in teaching and learning.

5. Experiential Learning

Experiential learning theory defines learning as the process whereby knowledge is created through the transformation of experience (Kolb, Boyatzis & Mainemelis, 2012). The concept of learning style indicates students' learning process as what they see, listen, understand, remember, and how they interpret information. Experience learning is a strategy in linking the learning from the real-world situation or scenario with the necessary condition of the application of concepts, ideas, and theories to the interactive setting (Greene, 2011).

The four stages of learning cycle are concrete experience, abstract conceptualisation, reflective observation and active experimentation. The learning cycle were formed from learning abilities and the four learning roles which are assigned to the transitions between the four learning abilities: the reflector role, the theorist role, the pragmatist role, and the activist role (Petkus, 2000).

Learning Style Inventory (LSI) was developed by David Kolb in 1971. LSI consists of basic learning style: diverging, assimilating, converging, and accommodating (Fig. 1). The classification of learning style was concluded from academic literature and past research. The Diverging style's dominant learning abilities are concrete experience and reflective observation, the Assimilating style's dominant learning abilities are abstract conceptualisation and reflective observation, the Converging style's dominant learning abilities are abstract conceptualisation and active experimentation, and the Accommodating style's dominant learning abilities are concrete experience and active experimentation (Kolb, Boyatzis & Mainemelis, 2012).

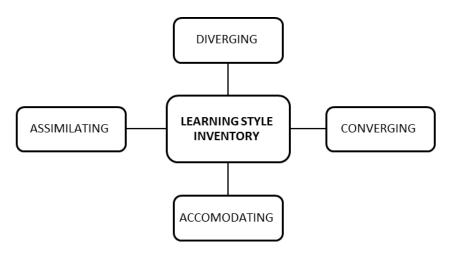


Fig. 1 - Learning Style Inventory

The theories of learning are categorised into three: behavioural, cognitive, and situative. According to Corbett (2005), behavioural, cognitive and situative learning perspective encompass knowledge and learning in different ways which complement each category. The effective design in teaching and learning is the planning of learning experiences and teaching methods in delivery. The mode of delivery plays a significant role in designing learning activities that nourish students to develop the skills, knowledge and understandings. The teaching modes of delivery, either traditional or non-traditional use a delivery mechanism: text, audio, video, face-to-face, computer, video conferencing, and online learning (Fig. 2). Educators are required to place extra efforts in educating students to gain better understanding through effective delivery mechanism that could help them achieve their learning goals. According to Dunlosky, Rawson, Marsh, Nathan, and Willingham (2013), one of the missteps by educators is they themselves do not understand the relevance of efficacy of various learning techniques. Educators should have clear understanding of why, when and how each of the delivery mechanism may be effective and what ways to demonstrate effective students' learning (Coe, Aloisi, Higgins & Major, 2014).

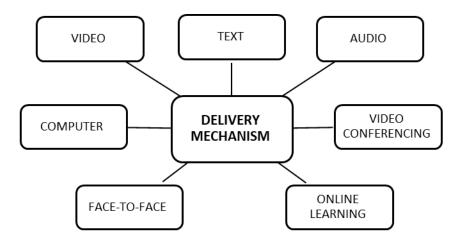


Fig. 2 - Delivery Mechanism

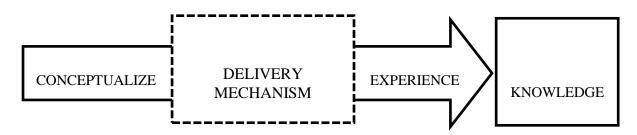


Fig. 3 - Experiential Learning Process

Modern learning provides remarkable platform for re-forming real situation tasks to the learners. According to Burch et al. (2014), one of the way students can improve skills and the application of knowledge is by encourage active student engagement in classroom. Experiential learning process indicates the process by which educators engage students through a practice of conceptualise, delivery mechanism, experience, and knowledge (Fig. 3). Conceptualise in experiential learning process is a formulation a new idea process that include development of various tools to aid educators. Conceptualisation is generally involve planning and organising to achieve mission, goals, and objectives. Educators must be able to conceptualize learning objectives and learning outcomes to systematise knowledge within an orientation delivery of educational context. The right delivery mechanism will assure students' experiences be meaningful and valuable. Educators need to make judgements about appropriate pedagogy based on real-world questions and applications. Hence, the result will encourage deep learning, stimulate experience intensification and excite personal enthusiasm. Universities are places for learning, conduct research, and service to society through the application of knowledge (Altbach, 2015). Delivering useful and valuable knowledge will directly impact student, thus, potentially empower them by transmission of learning in professional education (Biesta, 2015). Experience learning process aims to provide insight and practical knowledge to those interested in stimuli learning. According to Fathelrahman and Kabbar (2018), embedding the experimental part of the experiential learning in learning course give benefits by allowing students to apply what they learned through interactive classroom activities.

Creating a constructive classroom environment form a conducive atmosphere and attract students' attention in learning. According to Sorcinelli (1994) the guidelines for educators to follow in order to acquire smooth teaching and learning processes are, making good use of the first class; using the course syllabus to reinforce expectations; letting students participate in setting classroom rule; learning students' names; learning something about student, finding ways to meet individually with students, and seeking feedback from students.

6. Methodology

This study was a quantitative research where data were collected through distribution of questionnaires. The questionnaire consists of eight parts. Part A and B gathers the information about respondents' demographic profile and personality, using nominal scales. Part C, D, E, F, G and H are questions on variables that were measured, using 5 points Likerts Scale that indicates 1 - strongly disagree, 2 - disagree, 3 - not sure, 4 - agree, and 5 - strongly agree. The validation of the questionnaire was verified by two expert reviewers and validated questionnaire was developed with 51 items, which each construct consist of 5 items in part C, D, E, and F, and 7 items in part G and

H. Pilot survey was conducted to 10 respondents as suggested by Isaac and Michael (1995) that respondent for pilot survey is suggested between 10 - 30 respondents.

Respondents were second year students, chosen among the bachelor degree technical and education programs. The respondents in the study were selected, using stratified simple random technique which comprised of the sample (N = 45) used for analysis. The group of respondents were chosen, based on the students' learning experience in classroom with the selected module that was not engaging any technological learning technique.

Cronbach's Alpha analysis was used in this study to evaluate the reliability of the measures. According to Silverman (2018), the reliability of the data set is acceptable when the score of Cronbach's Alpha is above 0.7. The data acquired in this study were analysed, using SPSS, part A and B were analysed, using descriptive analysis, and correlation analysis was used to measure the strength of relationship between independent and dependent variables.

7. Results

21 per cent of this final sample was male. For the total sample, there is a relatively quarter to one ratio between males and females. However, almost 38 per cent of those who rarely used laptop or computer in classroom were female, while about five per cent were male. The age of the respondent was between 20 to 29 years old. Most of the respondents owned a smartphone, 89% respondents have a laptop as educational technological tools. About 33% of the respondents spent roughly more than 30 hours a week, surfing Internet either for academic purposes or personal browsing, such as checking social networking sites like Facebook, Instagram, Whatsapp, etc.

The yielding response rate from the distributed questionnaires were 100 per cent since the sample selected for this study were substantially small. The study uses Cronbach's Alpha to demonstrate the internal consistency of the results across items within a scale and Cronbach's Alpha is a test reliability technique that requires only a single test administration to provide a unique estimate of the reliability for a given test. Cronbach's Alphas, means and standard deviations among independent variables and dependent variable as shown in Table 1.

Cronbach's Alphas of variables were ranged from 0.72 to 0.90 conforming that the items used to measure the constructs are reliable (Silverman, 2018). Outcomes of learning indicates the highest mean among the independent variables with score 4.18. The mean scores for learning atmosphere, learning objectives, use of ICT, and experiential learning are 3.89, 3.95, 3.97, and 3.91 respectively. This is supported in Livingstone (2012) indicates that information and communication technologies (ICT) integrates the traditionally separated educational technologies, such as books, stationery, writing, telephone, television, radio, photography, databases, and games and associate forms of knowledge and literacy.

Variables Cronbach's Standard Mean Alpha Deviation Learning atmosphere 0.72 3.89 0.54 0.49 Learning objectives 0.87 3.95 Learning outcomes 0.86 4.18 0.55 Use of ICT 0.90 3.97 0.55 Experiential learning 0.88 3.91 0.44 Learning satisfaction 0.84 4.30 0.60

Table 1 - Cronbach's Alpha, Means & Standard Deviations of Student's Experiential Learning

Pearson's correlation coefficient (r) is a measure of the strength of the association between the two variables. Consistent with experiential learning in classroom, students in second year were significantly satisfied with the course they learned in traditional ways in learning (r = 0.75, p < 0.01) (Table 2). The results show that learning atmosphere (r = 0.57, p < 0.01), learning objective (r = 0.49, p < 0.01), and outcomes of the learning (r = 0.54, p < 0.01) were also significantly associated with students' satisfaction in learning in classroom. Meanwhile, the study measures the use of ICT as, r = 0.40, p < 0.01. Based on the result, there were significant relationship between independent variables (learning atmosphere, learning objective, outcomes of the learning, and use of ICT) and dependent variable (experiential learning and learning satisfaction).

	Learning Atmosphere	Learning Objectives	Learning Outcomes	Use of ICT	Experiential Learning	Learning Satisfaction
Learning Atmosphere	1				-	
Learning Objectives	0.58**	1				
Learning Outcomes	0.68**	0.74^{**}	1			
Use of ICT	0.17	0.49^{**}	0.29	1		
Experiential Learning	0.58**	0.57**	0.59**	0.39**	1	
Learning Satisfaction	0.57**	0.49**	0.54**	0.40**	0.75**	1

Table 2 - Pearson Correlations between the different variables measured in the sample

Result indicates that learning outcomes have practical influence on the student's experiential learning. Austin and Rust (2015) defined experiential learning, based on definition by Northeastern University as "a learning process that takes place beyond the traditional classroom and that enhances the personal and intellectual growth of the student." Details of learning outcomes must have a well planning, prior to the actual teaching and learning activity by higher learning institution that would enhance students' personal and intellectual growth.

8. Discussion

Researchers' findings showed that second year students were expressively satisfied with traditional ways of learning in higher learning institution. This was due the upshot revolutionise of 21st century techniques in education. Even educators did not directly employ current technology in classrooms, students experiential learning did not have a high impact in making them felt uninterested in learning and tended to get bored with the course taught. Academic literature and research suggest that variety ways of pedagogy are consistently more successful than others in assisting students understanding of the 21st century skills that are personalised learning strategies, informal learning and collaborative learning (Luna, 2015). According to Schug (2003), to have an effective teaching and learning, educators should:

- Open lessons by reviewing prerequisite learning;
- Provide a short statement of goals;
- Present new material in small steps, with student practice after each step;
- Give clear and detailed instructions and explanations;
- Provide a high level of active practice for all students;
- Ask a large number of questions, check for understanding, and obtain responses from all students;
- Guide students during initial practice;
- Provide systematic feedback and corrections;
- Provide explicit instruction and practice for seatwork exercises and, where necessary, monitor students during seatwork.

Traditional curriculum is inadequate in many areas and as such, school and higher education providers must assure that students are well equipped with a broader set of 21st century skills to thrive in our fast evolving technology-saturated in this new era (Jerald, 2009). Along with the rhetoric with regards to the 21st century skills, students ought to blend traditional academic content and technological use in classroom in the subject matter knowledge and basic skills. Jerald (2009) agreed that the use of technology in education does not drive up demand for higher thinking skills. There is a sphere, comprised of layers to a better understanding of human skills and knowledge. The layers are foundational knowledge, literacies, and competencies. Nevertheless, the result shows that there are moderate positive relationship between the use of ICT and experiential learning. To effectively engage the new generation of students, learning institutions need to equip with basic of ICT resources and redesigned curricula to promote a collaborative learner-centered environment (Boholano, 2017).

This finding supports the conclusions from Araujo, Carneiro, Cruz-Aguayo, and Schady (2016) study, which agree that varying pedagogical approaches may lead to an effective teaching and learning and depict as a key component to improve learning outcomes. A similar analysis was conducted by Johnson et al. (2000) study that compared the learning outcomes of students in a traditional classroom from which the result showed that the test scores were equal to those classroom with technology application. According to Kyndt, Gijbels, Grosemans, and Donche (2016), a systematic overview of formal and informal learning activities and educators learning outcomes is lacking. He added that learning outcomes can be deliberately practiced in improving work-related roles and

^{**.} Correlation is significant at the 0.01 level (2-tailed).

tasks. Hence, educators who practice the 21st century teaching and learning techniques can enhance students to create new ideas, evaluate and analyse the material presented in achieving learning outcomes of the course they taught.

A growing body of evidences suggests that teaching and learning methods should be chosen primarily on the basis of learning objectives in a way to achieve with effective measure. Learning objectives have the potential to enhance student knowledge and skills, if learning institutions provide clear instructions and aligning leaning objectives with instructional activities can result in significant learning experiences (Osueke et al., 2018). According to Boholano (2017), the new generation of students are motivated by solving real-world problems. An integration of teaching and learning methods may have direct impact on students' experiential learning in creating the condition to achieve different types of learning objectives.

Results suggest that learning atmosphere, learning objectives, learning outcomes, and use of ICT may be contiguous contributors to student's experiential learning and learning satisfaction. Among these variables, use of technology has the lowest tendency, leading to moderate satisfaction in learning. Prior studies suggest that a combination of typical learning embedded with technology, such as blended learning, online learning, gamification learning has become widespread newly education method in private and public higher education institution (Rahman et al., 2015). Hence, a conducive learning atmosphere, creating different conditions to achieve different types of learning objectives, being able to achieve successful learning outcomes, and the application of technology in classroom has result to pleasing experiential learning with dynamic learning style. Traditional learning is reliably rationale in present-day education system, subsequent to younger generation, the Gen-Z students who are keen to participate in classroom activities, involving the use of technology. Most importantly, the questions on how students perceived learning to achieve essential skills for 21st century education and how educators identify the new competencies that today's students need to develop in modern education should be addressed.

9. Conclusion

Although traditional method in teaching and learning are still reliable in the 21st century education, new emerging technologies are beginning to have a transformative effect on school and higher education programs. Indeed, the traditional learning are regarded as one of the platform in achieving a higher education goals. The result revealed that learning outcomes have practical influence on the student's experiential learning. The process of identifying and engaging an opportunity makes every element in learning styles matches with some particular functions specifically in delivery mechanism. The role of educators in highlighting students' capability by uncovering their learning style strengths is recognised. Providing students with various kind of information on learning perspective for any course, enriches diverse learning styles. Educators should strive to prepare students with critical thinking skills and multifaceted platform of critical reflection facilitating in problem-solving aids. Results from the study has proven that students' learning experience in traditional classroom were at satisfactory level and effective. The educators, as a leader acts as change agent who play big roles in ensuring that the learning environment is attractive, fun, pleasing and enjoyable with embedded critical thinking related tasks (Martínez & Niño, 2013). The findings have also shown that engaging students in subject contents and context in learning depends on delivery of materials through multiple medium. Gallagher and Sixsmith (2014) noted that context in delivery is important in learning and provides students with the knowledge to perform effectively. A positive environment in classroom should be established in order to make teaching and learning more interesting with a mixture of traditional and new technology in education. Additionally, rapid and technological advancements, high expectations of customers, and ever changing market situations have compelled organisations to continuously reassess and re-evaluate how they work and to understand, adopt and implement changes in in response to the changing trends. Organisational change is inevitable and in order for the organisations to survive. Students must seriously prepare themselves not only the current, but also for the future trend, with the goal of achieving the level of sustainable success through experiential learning. Through simulated experiences and social learning, it will enhance student's experiential learning in either traditional or modern classroom by preliminary preparation of experiential learning process.

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