Using Rich Picture to Understand the Issues and Challenges in E-Learning Environment: A Case Study of Students in Higher Education Institution

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Abstract

E-learning has become an important mechanism for teaching and learning in the 21st century. However, little is known about the issues and challenges faced by students as one of the primary users of e-learning in higher education institutions. Thus, this research adopts a qualitative case study with a purposive sample of ten students in a public higher education institution to explore issues and challenges of e-learning usage. Rich Picture originated from Soft System Methodology (SSM) was applied to the case study to explore the issues and challenges faced by the students, specifically in using e-learning as a tool in their learning process. The Rich Picture can be a useful tool to understand and map complexity and to solve problems. A thematic analysis was employed to understand the intricate patterns of emerging themes for achieving patterns in the data. The findings specify that through e-learning, the issues and challenges are categorised into three main aspects which include people/human, environment and technical. Each of these elements is narrowed down into positive and negative side. The most frequently mentioned of the positive side for i) people/human element is the 'self-initiative', ii) environment element shows the 'encouraged students to learn at their own speed' and iii) technical element shows' accessible at anywhere and anytime'. Meanwhile, the most cited for negative side for i) people/human element is the 'lack of discipline', 'struggle to understand course topic' and 'lack communication skills', ii) environment shows 'distraction' and iii) technical element shows' poor internet connection'. The findings contribute to the theoretical perspective by utilising the Rich Picture of SSM. Following the Rich Picture approach, this research produces a picture with a holistic view of the issues and challenges in e-learning usage among students. Practically, the findings outlined in this research could be a reference to university management to revise the e-learning system plans and improve the platform for better students learning experience.

Keywords: E-learning, rich picture, case study, higher education institution, issues, challenges

1. Introduction

Most higher education institutions (HEIs) around the world, have been using e-learning as a result of an integration of technology and education to empower teaching and learning process (Al-Fraihat et al. 2020; Al-Rahmi et al. 2018; Zahir et al. 2018). Additionally, a special department for e-learning is established in many universities to provide, operate and control e-learning platform, thus ensure active students' access to the technology (Randy, 2011). While providing e-learning platform and its facilities are crucial and become priorities for most HEIs (Sarker et al. 2019; Meskhi et al. 2019), not all stakeholders especially HEIs staff understand the issues and challenges surrounding the use of the technology (Mutula, 2012) especially from students perspectives. For example, previous studies on e-learning usage have focused on the perspectives of instructors or academic staff (Lashayo & Johar 2018; Al-alak & Alnawas 2011), however empirical studies that are implemented on students are rarely investigated. Thus, HEIs, in particular, should explore any issues and challenges from students view in using the platform. This area of research is crucial because it is still not clear how students view the use of e-learning as a medium to support their learning. Thus, knowing the issues and challenges in using the e-learning system from students perspectives can help the university staff and the students to understand the situation better (Jokiaho, May, Specht, & Stoyanov, 2018).

Moreover, for most HEIs students in Malaysia, e-learning means using the platform as an additional tool to support

their learning after attending face to face lecture (Adams et al., 2018). On the other hand, not only the platform support physical teaching and learning contact, but technology also has impacted students academic performance (Al-Rahmi et al. 2018; Wyk, 2018). Although previous studies investigate on the impact of e-learning on academic performance (Zahir et al. 2018; Wyk 2018), understanding the issues and challenges faced by students in using e-learning platform could be a crucial step before examining the impact of the technology on students academic performance. Furthermore, there are several studies investigated the challenges and success story of the use of e-learning in universities (Ameen et al. 2019; Aljaber 2018) which contribute to how the universities could understand and strengthen e-learning at the university and country level. Despite its substantial contribution towards the e-learning field, specific studies emphasising issues and challenges of using e-learning which is targeting at HEIs students view are limited.

Therefore, this research aims to explore the issues and challenges in using e-learning, focusing on HEI students experiences. Due to the aim of the study, this paper also describes a method of identifying the issues and challenges among HEI students which is the Rich Picture (RP) originated from the Soft System Methodology (SSM) approach. This paper presents the results from the RP collected from the students.

2. Literature Review

2.1 E-learning Perspective

E-learning is usually used to describe online learning, distance learning and blended learning. E-learning can be in the form of stand-alone or relates to distance learning (Pretorius et al. 2019). Sometimes the term e-learning and distance learning is used interchangeably with the other terms (Jaiyeoba & Iloanya 2019). This is because some of the characteristics of e-learning are overlapping among these concepts. E-learning or online learning refers to learning techniques which can be delivered via electronic technology such as the radio, television, the internet, the CD-ROM, the mobile, internet or intranet, video conferencing or satellite broadcasts (Guha & Maji, 2008; Chopra et al. 2019). Moreover, the learners' location could be everywhere, whether during classes at the university, on-campus, at home or at work (Alhabeeb & Rowley 2018). The delivery of e-learning is fully online with or without instructors presence and usually supports blended learning (Wongwuttiwat et al. 2020).

Meanwhile, distance learning refers to the learning techniques that are convenient and accessible to students without demanding the physical availability of the students and the instructors (Rodrigues et al. 2014). Traditionally, distance learning is offered to students who rarely visit the university campus and adult students who are working but at the same time pursuing their studies (Pozdnyakova & Pozdnyakov 2017). In short, distance learning concerns more on the learners' location where students do not have to be physically present at the university but are supported by the virtual platform (Herrador-alcaide & Galván 2019).

In short, both e-learning and distance learning techniques are delivered using technology mechanism which could provide a great opportunity for students population to access to education. However, a slightest different between e-learning and distance learning is that e-learning has high flexibility for learners to choose where they want to learn and how, whereas distance learning is usually offered to students who are not able to study in campus (Fojtik 2015). E-learning also allows students to interact more with the instructors and usually support face to face technique and enhance blended learning.

Blended learning is a mix of traditional face-to-face and e-learning (Wongwuttiwat et al. 2020; Karadeniz, 2009). This implied that the lecture sessions are delivered face-to-face in the traditional format by instructors. Additionally, learning materials and contents for the learning topic were made available via the online learning platform in the university (Dwivedi et al. 2019). The combination of the two techniques is assumed to be beneficial to students because they have a few alternatives to use for learning activities. Nevertheless, none of these techniques, whether it is blended learning, distance-learning or e-learning, could result in better or poorer learning achievement (Nortvig et al. 2018). This is because the success of any of these techniques depends on the coordination of the components and the learning environment (Marrinan et al. 2015).

The advancement of information technologies has expanded the definition of e-learning. There are various perspectives of the e-learning concept, which are in the forms of technology, learning environment, and people. Table 1 shows the e-learning concept from different perspectives regardless of countries.

Table 1. E-learning concept

Authors	Technology	Education/ Learning environment	People	Countries
Ellis *et al.* (2007)	/	/	-	Australia
Harandi (2015)	/	/	-	Iran
Akbarilakeh, Razzaghi & Moghaddam (2019)	/	/	-	Iran
Al-Fraihat *et al.* (2019)	/	/	-	United Kingdom
Jethro et al. (2012)	/	/	-	General
Zahir et al. (2018)	-	/	/	Malaysia
Ansong et al. (2016)	-	/	/	Africa
Tavangarian et al. (2004)	/	/	/	German
Hussin, Bunyarit & Hussein (2009)	/	/	/	Malaysia
Arafat *et al.* (2018)	/	/	/	General
Gros and Penalvo (2016)	/	/	/	General

The first view refers to e-learning from the perspective of technology and learning environment. Generally, e-learning refers to the use of technologies to support students in achieving their learning outcomes (Ellis et al., 2007). Harandi (2015) in his review, define e-learning as *"electronic media, like computers, are utilised as a piece of an educational delivery system"* (p.426) which can refer to any learning environment. Other studies also describe e-learning concept from two elements which are technology and education. Akbarilakeh, Razzaghi and Moghaddam (2019) refer e-learning as a large collection of applied software and educational methods, including computer-based education, web-based education, and virtual classrooms. Al-Fraihat, Joy, Masa'de and Sinclair (2019) define e-learning as a direct result of the integration of technology and education, has emerged as a powerful medium of learning, particularly using Internet technologies. Jethro et al. (2012) refer e-learning as a pedagogy for student-centred and collaborative learning which deliver learning and teaching content digitally.

The second view refers to e-learning from people and educational elements. Zahir et al. (2018) define e-learning as *"a learning technique created by extensions with carefully provided content, managing administrative structured and mentor support"* (p.1). Ansong et al. (2016) refer to e-learning as taking up and using e-learning systems for academic and educational purposes.

The third view of e-learning integrates three main elements of technology, people, and the education process. According to Tavangarian and colleagues, e-learning is defined as *"all forms of electronic supported learning and teaching, which are procedural in character and aim to effect the construction of knowledge with reference to individual experience, practice and knowledge of the learner. Information and communication systems, whether networked or not, serve as specific media (specific in the sense elaborated previously) to implement the learning process"* (Tavangarian et al., 2004, p.274). Hussin, Bunyarit and Hussein (2009) defined as *"the delivery of formal and informal learning and training activities, processes, communities and events via the use of all electronic media like internet, intranet, extranet, CD-ROM, videotape, DVD, TV, cell phones, personal organisers, etc."* (p.5). Arafat, Aljohani, Abbasi, Hussain and Lytras (2018) believe that e-learning is about connecting people, technologies and services, to fulfil educational objectives. Gros and Penalvo (2016) describe learning delivered fully online where technology mediates the learning process, teaching is delivered entirely via Internet, and students and instructors are not required to be available at the same time and place.

In summary, this research view e-learning as the integration of people, environment and the technology which act as a medium where the learning process takes place to achieve educational purposes, thus encourage learning engagement among students and academicians.

2.2 E-learning in Malaysia

In Malaysia, strong initiatives have been taken by the Government of Malaysia to provide affordable and convenient education. For example, in the Malaysia Education Blueprint 2015-2025 (Higher Education), e-learning is introduced as one of the forms of blended learning (Azizi, 2017). Also, some universities have already embarked on Massive Open Online Courses (MOOCs) platform, which was launched in September 2015 (Azizi, 2017). The purpose of introducing e-learning in higher education institutions is to shift traditional learning to digital learning. Moreover, the use of e-learning is promoted in blended learning and is expected to be performed into up to 70% of programmes in Malaysia (Malaysian Education Blueprint 2015-2025- Higher Education). Also, in line with Shared Prosperity Vision 2030 (SPV 2030) of inclusivity and development for all (Ministry of Economic Affairs, 2019), the Malaysia government has placed many efforts to widen internet access to ensure that Malaysians can participate successfully

in a digital environment with equal access especially for disadvantage people who live in rural areas (The Star, 2019).

The success of e-learning development arises from a few factors such as its accessibility, ability to enhance social collaboration and the acknowledgement from existing social environment (Meskhi et al., 2019). E-learning for higher education includes greater access and convenience, cost-saving, the flexibility of the learning mode, easy access to educational material, quick analysis of results that could encourage and empower learners to have interactive learning and allows options to discuss, view and exchange ideas and opinions. While e-learning offers flexibility, could reach out to more students and convenience, this form of learning has its limitations. Although e-learning could benefit students with its reachable characteristic, the majority of Malaysians are at a disadvantage for not able to have the internet connectivity to participate fully with the e-learning environment. Thus, the under-privileged and under-represented groups in education and higher education may continue to be excluded due to the limited access to information technology and connectivity (Wan, Sirat, & Razak, 2018).

Therefore, this study attempts to explore in-depth on the issues and challenges concerning the use of e-learning usage from students experience in a higher education setting. Thus, this paper employs a combination of RP originated from SSM together with a case study method in which the case includes 1) participants who are among students in a public higher education institution, where 2) the learning environment is supported via e-learning.

2.3 Rich Picture

Rich Picture (RP) is a flexible graphical representation which could be used as part of the Soft System Methodology (SSM) or as a stand-alone method (Berg & Bell 2019; Horan 2000). Although RP is commonly known in the SSM community, this research employs RP as a stand-alone from other SSM steps. The purpose of applying RP as a stand-alone is fruitful because RP could *"be a flexible space where any practitioner can negotiate shared understanding without methodological constraint"* (Berg & Bell 2019, p.257).

The RP is functioning as a problem structuring tool for investigating a problematic real-world situation (Lewis, 1989). The real world is viewed as messy, for example, problems are complex, unstructured and ill-defined (Checkland, 2000), thus requires a soft model (Ghosh, Roy and Kumar, 2016; Checkland, 2000) such as RP. RP assist in capturing the multiple views of the real world perceptions to present a situation, problem or concept rather than words, thus a higher volume of information could be obtained (Burge, 2015). The idea behind the construction of an RP of a particular situation is that it allows differences of interpretation to be identified, permits agreement to be made on the interpretation to be taken, become a source of inspiration as to what relevant systems could be modeled through the assimilation of relationships, issues and it helps identify themes to take into the systems world (Burge, 2015).

The use of RP is flexible with no rigid rules and constraint (Horan, 2000). As stated by (Checkland 2000, p.22), *"Users need to develop skill in making 'rich pictures' in ways they are comfortable with, ways which are as natural as possible for them as individuals"*. The RP requires no formal modelling symbols and can be in any forms of graphical representation. Some benefits of RP include it shows an overview of a situation, relationships, hierarchy, reveal a lack of understanding and offers a platform for further discussion for a topic under study (Horan, 2000). In essence, the RP could be an innovative tool for problem identification and analysis, thus answer the research question of this study.

3. Methodology

3.1 Research Design

Using a qualitative methodology, a case study method (Yin, 2016) was used in this research to explore issues and challenges faced by students in using e-learning. The case study method allows the researcher to robustly explore the phenomenon in the university, which is difficult to illustrate by using quantitative data (Henry & Foss, 2015). As such, this research includes the case approach to critically uncover the students view about the issues and challenges faced during the use of e-learning technology. To strengthen the study, the RP originated from SSM is employed to answer the research question; to understand the problems or issues surrounding the e-learning usage among students. The practice of combining the case study method with the RP has been used previously (Ghosh, Roy and Kumar, 2016; Cox, 2010). Thus, the research methodology developed in this study is resolved using a qualitative case study together with the RP.

3.2 Case or Unit of Analysis

In this research, the case is also viewed as the unit of analysis (Miles and Huberman 1994; Yin 2016). The

integration of technology, such as e-learning into teaching and learning, has become a common practice in public higher education institutions in Malaysia (Jamian, Ab, & Eric, 2012). Thus, one public higher education institution is chosen for a case study, known as ABC University (the name is kept anonymous as requested). This research uses purposeful snowball sampling, among undergraduate university students who can provide an information-rich and in-depth understanding of the research issues (Yin, 2016), that is related to the issues and challenges in using e-learning platform for learning. Thus, to understand the issues and challenges that occurred at ABC University, ten students were selected. Majority of the students selected for the case were from the second and third year, between 21 to 25 years of age, coming from matriculations and secondary level schools around Malaysia states. Most of them had previous experience in using the web to gather information or prepare coursework in secondary education. The students are quite familiar with the e-learning platform, thus could provide a reliable view for the issues and challenges.

The case (unit of analysis) (Miles & Huberman, 1994; Yin, 2016) in the research was determined based on two main aspects (refer to Table 2);

- boundary criteria that refer to the higher education institution (HEI) that fall under public university which provide e-learning platform for teaching and learning, the students of the university agreed to participate in the research
- the focus of the research element refers to the undergraduate students who use e-learning platform for learning at the university

Table 2. Defining the case or unit of analysis (adapted from Miles & Huberman 1994; Yin 2016)

Defining the case or unit of analysis of the research	
Boundary (organisation)	Higher education Institution (HEI) in Malaysia
	Public university
	E-learning platform
	Learning environment/site – the students have agreed to participate in the research
Focus of research (embedded unit of analysis)	Undergraduate students who use e-learning

3.3 Data Collection

The study obtains data through RP from SSM (Checkland 2000). The procedure to draw the RP is explained to the participants before they begin to draw. The administration of drawing the RP starts with preparing a systematic procedure, handing the document of the procedure to potential participants for reference (Yin, 2016). Next, follow-up is performed of the same participants for up to two or more attempts if the data collected from RP is insufficient in its content and if there is a need for clarification (Yin, 2016). The number of participants for the case study is ten because the information obtained at this number was saturated. There is no exact guideline on how many numbers a case should have (Merriam, 2009). Instead, the data is deemed as sufficient when the saturation point is achieved (Yin, 2016).

3.4 Data Analysis

Data collected was analysed using the manual method to generate thematic analyses (Yin, 2016). The research constructs or themes are analysed using codings and displays (Kaplan & Maxwell, 2005) such as RP strategy to answer the research question. Moreover, data triangulation was carried out to ensure the validity of the findings via follow-up engagement (Yin, 2016). Data analysis was performed alongside data collection to take advantage of the flexibility of employing the case study research methodology (Eisenhardt, 1989). Based on the emerging data, to facilitate the examination of issues and challenges in e-learning usage among students, this study divided the data into three core elements: the human/people, environment and technology. The data collected from the RP were sorted according to a pre-identified research theme and were coded manually. Finally, the researcher determined the positive and negative side of issues and challenges for each of the core elements.

4. Case Study Background

ABC university (the name of the university is kept anonymous as requested) does provide an e-learning platform to support students learning on a campus-wide scale. The university promotes learning and teaching using a blended learning delivery approach to complement weekly lecture in most of all subject areas. At ABC university, blended learning is not yet a norm across subjects teachings for all students at this current time. Thus the platform is not fully

utilised by the lecturers and students.

The subjects at ABC were delivered by using a blended learning approach, supplementing weekly lectures, tutorials, and discussions sessions. Different subjects may have different requirements for example, in terms of resources uploads, activities assigned and assessment such as different type of files uploaded (videos, PowerPoint slides), the form of the assignment given, and the marking scheme. Moreover, the subjects teaching are assessed accordingly, such as the students were asked to submit answers for discussion and problem questions for a certain subject after each weekly lectures. On the other hand, some subjects require students to submit a case study analysis for a topic discussed. Furthermore, students are required to take online quizzes (multiple choice and subjective questions) for most of the subjects offered. Besides, the students can obtain additional information such as detail course content, links, guidelines and rubrics for assignments, answer schemes, and forums for discussions.

In summary, ABC university is worth to be studied because ABC applies blended learning as most other public universities are doing, thus ABC could be a reference by providing the lessons learned to other public universities. Hence, the case is compelling to be studied.

5. Findings

This paper presents the findings of the case by applying the RP originated from SSM to explore the issues in the e-learning usage of ABC university students. The case study describes the e-learning environment explicitly at the public higher education institution, the ABC university. The most critical issue is to know how the students view the e-learning platform for their learning process. The findings help in spotting such issues and challenges that need to be addressed to enhance the teaching and learning activities at the university.

The RP in Fig. 1 highlights a pictorial representation of the issues and challenges in e-learning environment at the university. The findings were broadly organised into three themes; people/human, environment and technical experiences. Fig. 1 illustrates graphically the thematic elements concerning the e-learning issues and challenges faced by the university students. Based on the RP, each core element of students experiences is examined in greater depth into the positive and negative side.

5.1 People/Human

The findings show that people/human element is about the students' attitude and skills when using e-learning. The most frequently mentioned of the positive people/human elements is that of the 'self-initiative'. Besides, other common positive factors which the students could obtain from e-learning usage are 'independent' and 'improve technology skills'. Whereas, the majority claimed that 'lack of discipline', 'struggle to understand course topic' and 'lack communication skills' were the negative side of people/human element. Moreover, among the findings, 'students attempt to cheat' and 'rarely login' when using the e-learning system was seldom considered as people/human element.

5.2 Environment

The environment element focuses on the e-learning atmosphere that the students could experience at the university, which defines their comfortability and familiarity with the use of e-learning. On the positive side, the most crucial finding was the e-learning atmosphere at ABC university 'encouraged students to learn at their own speed' subject to a certain limited duration in a semester. For example, students were given at least two weeks to complete an assignment for a certain topic. Thus, students still able to learn at their own pace but in a certain period. On the negative side, 'distraction' was cited as the main obstacle in using e-learning platform. In particular, both 'no face to face interaction' and 'learning by themselves that lead to anti-social' when using e-learning were found as common factors of environment element.

5.3 Technical

The technical element refers to the stability of the platform and related facilities for e-learning. 'Accessible at anywhere and anytime', was the most cited factor for the positive side of the technical element. Other frequent factors to technical element were 'reach to wider audiences', 'convenient' and 'finish syllabus on time'. Other common factors identified for positive technical element were 'quick access to resources', and 'variety resources could be uploaded'.
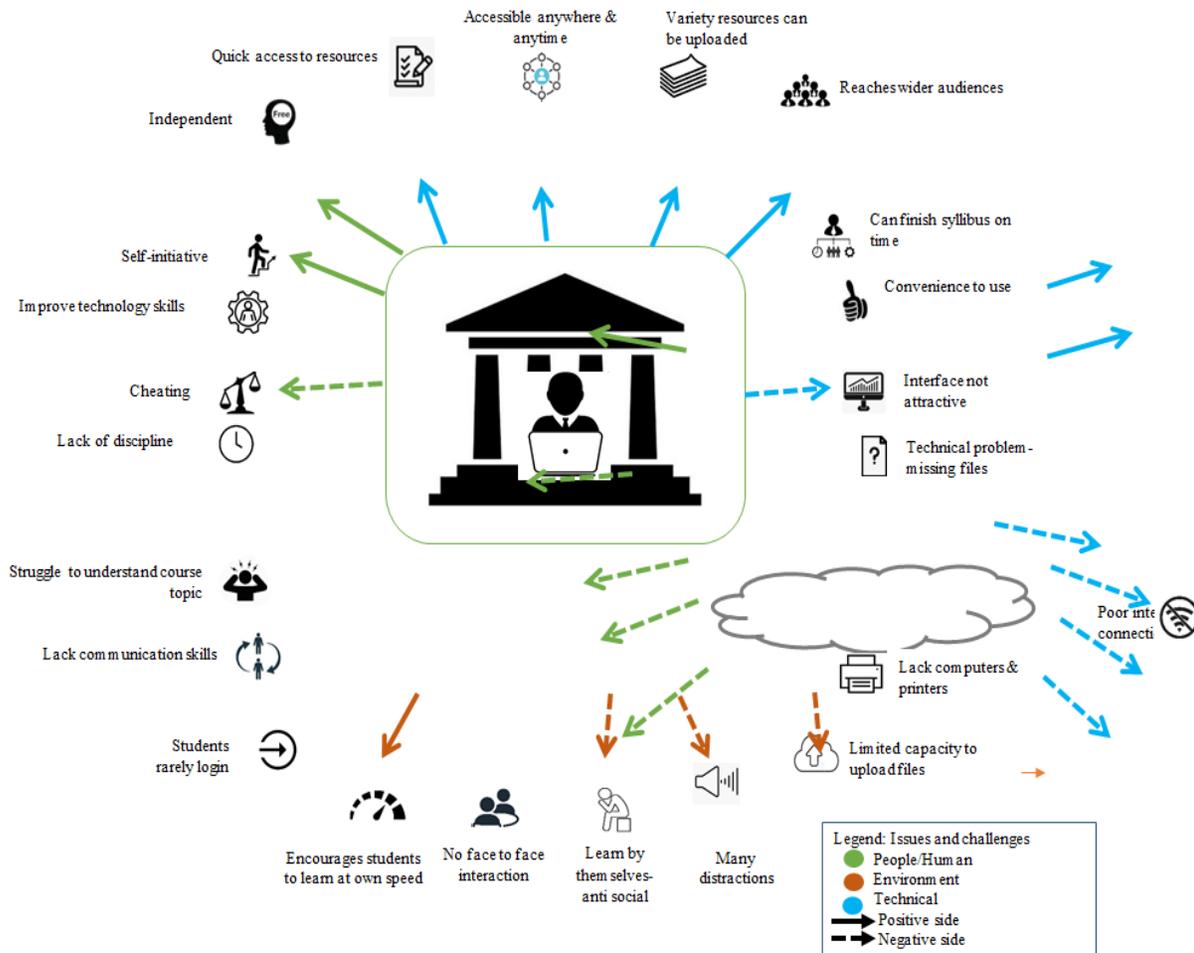
Figure 1. Rich Picture on issues and challenges in using e-learning

Moreover, 'poor internet connection' has been identified as the main negative factor of the technical element. Other significant findings that came from the students were 'technical problems' and 'limited capacity to upload files', also reported as negative factors of the technical element. Among all the factors, 'unattractive interface' and 'lack of hardware' were seldom considered as a negative factor to the technical element. In terms of facilities, students are experiencing a lack of computers and printers at the university computer laboratory. Hence, this could contribute to their difficulties in accessing the e-learning, because not all students able to afford personal computers or laptops. Moreover, students also hope that the university could provide printers for them to print essential notes to read manually. The students wish that the facilities could be improved thus enable them to learn in a conducive environment.

6. Discussion

The discussion section discusses the three issues and challenges of people/human, environment and technical elements from the two sides of positive and negative (see Fig. 1).

6.1 Positive Factors

6.1.1 Positive Factors for People/Human, Environment and Technical Element

The main findings for positive factors of people/human, environmental and technical elements are parallel with previous studies. 'Self initiative-people/human' factor is in line with the finding of research conducted by Kew et al. (2018), who discovered that self-initiative is students who have intrinsic desire to seek for knowledge and achieve success will increase motivation in using e-learning which refers to the positive aspect. Self-directed learning encompasses determining learning sources, reaching out to learning materials independently, determining which

strategies one should employ, and assessing learning processes and outcomes (Demir & Yurdugul, 2015). Moreover, Jethro et al. (2012) and Hussin et al. (2009), found that e-learning platform could facilitate broader participation (reaches wider audiences-technical), provide the ability to learn at any time and any place (accessibility-technical). Thus, allowing learners to work with others at their own pace (study at own speed-environment). As a result, learning at own pace could allow learners to customise the learning material to their own needs and process (convenient to use-technical) and understands the learning materials better and finally, allows learners to access enormous amount of information easily and quickly, thus able to complete the courses (can finish syllibus on time-technical).

Other important positive factors for people/human element such as 'independent' and 'improve technology skills' were parallel with the findings from research conducted by Diane et al. (2014). They found that students could enhance independent learning via e-learning when sufficient material and support in an e-learning format are provided. Demir & Yurdugul (2015) also reported that improve technology skills signifies students' self-efficacy on the subject of using a computer, the Internet, and other technological devices. Also, other common factors identified for a technical element such as 'quick access to resources' and 'variety resources could be uploaded' were in line with the research done by Akbarilakeh et al. (2019). They proved that e-learning could provide easy and quick access to resources and enhance interactive learning by uploading and sharing a variety of resources.

6.2 Negative Factors

6.2.1 Negative Factors for People/Human Element

On the other hand, the very frequent negative factors of people/human element, were 'lack of discipline', 'struggle to understand course topic' and 'lack communication skills'.

The data shows some exciting finding from 'lack of discipline' factor. The students were concerned with self-discipline when using e-learning because they have to take full responsibility, especially to manage their own learning time in completing tasks and assignments for a subject. Although e-learning could support the time management for students learning process (Burac et al., 2019), this study found that students tend to become indiscipline when using e-learning. This attitude happens because most students usually access e-learning from their mobile phones due to its user-friendliness and time-saving, whereas at the same time students searching for other unrelated learning and subject matters. Thus, students inability to manage time properly and give priority to important learning tasks represent students lack of discipline. Next, the factor of 'struggle to understand the course topic' when using the e-learning system was highlighted by students as crucial because they found that some resources upload in e-learning system were mixed up, thus, may lead to unaccomplished tasks. Al-Fraihat et al. (2019) suggest that students could have a better understanding of the course content when they able to access organised quality information.

Another important factor is that e-learning can lead to 'lack of communication skills'. The finding was in line with Al-Fraihat et al. (2019), who found that communication will become easier if the e-learning platform is aligned with the students need. Moreover, the students felt that using e-learning have made their teamwork and discussion difficult because they could not communicate directly between them and the lecturer. Specifically, it becomes difficult in specific learning tasks such as case studies assignments and a group project that require them to obtain an in-depth explanation. The finding is parallel with previous study results of Cheng (2019).

Among the findings, 'students attempt to cheat' and 'rarely login' when using the e-learning system was considered as frequent negative factors of people/human element. Although the students do not frequently cite 'cheating', it is also one of the critical issues because the wealth of resources and information available on the Internet could contribute to plagiarism and other related unethical attitude and behaviour (Al-Fraihat et al., 2019). Besides, the finding of 'rarely login' was supported by Al-Fraihat et al. (2019) who suggest that increasing awareness among students about the usefulness and benefits of the e-learning system could increase its usability and popularity, thus contribute to active use of e-learning. However, since ABC university implements the e-learning system as a complementary approach to the weekly lectures, thus some of the students were not active in using the e-learning.

6.2.2 Negative Factor for Environment Element

Moreover, the main negative factor of the environment was **'distraction'**. Interestingly, this factor was not mentioned in previous studies as a very important factor. However, in this study, the factor is crucial because, in the context of the ABC university, most students rent a house with more than five to ten tenants lives in a house. Thus, the students explained that the 'distractions' are due to noise pollution, and crowded living areas which have affected their quality e-learning environment.

In particular, both 'no face to face interaction' and 'learning by themselves that lead to anti-social' when using

e-learning were found as common negative factors of environment element. ABC university is implementing blended learning in which the e-learning platform supports the physical meeting lecture. Thus, the students still familiar with a physical meeting lecture because they could feel the existence of their lecturer and the reality of the learning situation when meeting in person. Thus 'no face-to-face interaction' was cited as the negative side of the environmental element. However, the study found that students could become much more participative in e-learning when the lecturer is active with online learning. For example, the students participate more in an online forum and give responses to online tasks, usually only when the lecturer able to quickly provide answers and feedback to them. The finding is in line Dwivedi et al. (2019) that also discovered students engagement while using e-learning is different to the face-to-face lectures in the class, and that the presence of instructor has contributed to students engagement with the online content.

Another interesting issue in the study relates to the 'anti-social' factor. Sociability refers to people's emotion recognition, empathy, perspective-taking, and emotional intelligence (Waytz & Gray, 2018). The findings found that the students use the word 'anti-social' because of the feeling that they could not associate with others (lecturers and friends) like they usually do during a lecture class. The students relate what they feel about anti-social with the face-to-face interaction factor. They believe that meeting friends and lecturer in person could demonstrate their feelings and emotions, have a solid understanding, thus feel appreciated. Hence, the factor of anti-social found in this study represents the feelings of the students on the use of e-learning that may lead to reducing social skill. This factor is recognised by Waytz & Gray (2018) that highlighted the impact of online technology on sociability which are online technology could complement existing offline relationship, online technology could reduce social skills because of superficial online engagement, and online technology could help those who lack the opportunity to have an extensive offline connection.

6.2.3 Negative Factor for Technical Element

Besides, 'poor internet connection' has been identified as a very important negative factor of the technical element and is supported with the general findings from (Sarker et al., 2019). Other than the main factors, 'technical problems' and 'limited capacity to upload files' factors, were reported as important negative factors of a technical element. These findings were also consistent with the study by Sarker et al. (2019). Among all the factors, 'unattractive interface' and 'lack of hardware' were considered as a moderately important negative factor of the technical element. These factors are mentioned in a study by Sarker et al. (2019) who suggest that effective e-learning should require user-friendly websites and interfaces, and sufficient technical supports.

7. Contribution

The research shows how successfully the RP can be applied for understanding issues and challenges surrounding e-learning usage among university students. The RP allows capturing a holistic view of three aspects of people/human, environment and technology in e-learning usage among students. Although some of the factors were not highly mentioned as important, the factors could be explored further in future research. For example, factors such as 'lack of discipline-people/human, cheating-people/human, distraction-environment and anti-social-environment' are found interesting which could open areas of interest and concern. Moreover, the completion of RP would be an avenue for the next research to use the diagram as part of the SSM, thus facilitate the needs of other stakeholders in improving the use of e-learning in universities. Practically, this research contributes to the understanding of the issues and challenges faced by students when using e-learning. Thus, the findings outlined in this research could become a reference to other existing university management to revise their e-learning system plans and improve the platform for better students learning experiences.

8. Conclusion

This paper has illustrated the approach of applying the RP to explore issues and challenges in e-learning, especially e-learning usage among university students are complex to understand and difficult to act upon. It includes a single case study of higher education institution dealing with the experiences of the students in using the e-learning. What is particularly revealing was on the findings that incorporate the three core views of people/human, environment and technical issues and challenges which the e-learning system has provided. The findings feed into the lack of institutional support and understanding about how the students experience e-learning. Furthermore, the findings offer insights for which areas the university could focus in order to provide the right direction in the structure of the university, thus meet the needs of the students. The findings from the research are valuable and have provided the author with a much richer understanding of how students viewed the issues and challenges surrounding the e-learning usage at university. The next step is to interview the other stakeholders (e.g. lecturers, university management) to obtain informative feedbacks about the changes that could be performed to address the issues and challenges. Also, current research is ongoing to

incorporate the completed RP in this study as part of the SSM approach.

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