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An Empirical Study on the Success Factors to Consider in Developing e-Learning Systems: A Learner-Oriented System

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Abstract: Over many decades now, software design and system development is confronted with development crisis due to a number of causes. And the development has led to a chain of transformation mainly in the area of methodologies and approaches used during the development procedures. The crisis is still continueseven on e-Learning systems notwithstanding the huge effort applied by researchers to preclude the issue. Nonetheless, one big issue that has not been fully addressed nor much attention given in the on-going development crisis is the effective success factors to consider in the development of the e-Learning system that appeal to learners. Although some researches claim to have reduced the effect of software crisis with the evolution of new approaches, frameworks, paradigms and methodologies. This research reports the qualitative empirical data on the success factors to consider in the development of an effective e-Learning systems that fulfillearner's expectations in the developing country. Originally, this study deployed mixed research method on the thesis but this study is an abstract data of the qualitative method which focuses on e-Learning system development among the following educational institutions: University of the Witwatersrand (Wits), University of Cape Town (UCT) and North-West University (NWU). These institutions was selected due they student cultural diversity and international presence and also on their knowledge in developing, customising and deploying e-Learning system as a learning platform. In summary, this study identified different success factors that developers must consider while developing e-Learning systems.

Key words: Development, e-Learning systems, success factors, software crisis, learner-oriented, pedagogical system

INTRODUCTION

Culture and its attributes impact on and reshape societal values and determine how individuals and organisations think, feel and behave (Joy and Kolb, 2009). In the contemporary learning space, e-Learning set-up is increasingly getting a recognisable footprint resulting from the increase in mobile devices and other device access to the Internet (Mohammed and Mohan, 2011). The rapid penetration of e-Learning platform as a means to gather and circulate knowledge followed processes in the development cycle. This processes consists of components and factors that developers must put into consideration in order to deliver much needed e-Learning system. According to Mohammed and Mohan (2011), e-Learning system and its contents were originally developed without being culture-oriented and other vital factors. An example is the Hofstede (1980) dimension which shows the role of culture in Information Systems (IS) but not how to represent culture in e-Learning system design (Kummer *et al*., 2012; Fawareh, 2013). The omission and negligence on this factors, culture on e-Learning systems can hamper e-Learning development. From the pedagogic model, culture is placed within the ethical component in the framework features (Zualkernan, 2006) which shows negligence in the development and becomes experienced as a major problem. Then, the study identified culture and other factors worthy of consideration in the development process of e-Learning systems.

Problem statement and the objective: Over many decades now, software design and development is confronted with crisis emanating from number of causes. And the development has led to a chain of transformation mainly in the area of methodologies and approaches used during the development procedures. The crisis is still on-going even on e-Learning systems notwithstanding the huge effort applied by researchers to preclude the issue. Research suggests that many Higher Education

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Institutions (HEI) are challenged in attracting many students and teachers who ought to be using e-Learning (Salmon, 2005). The challenges are in the area of factors and content acquisition, low-income students, outdated technology, unfulfilled teacher development, social, cultural and economic obstacles, lack of student support and institutional constraints; California County Superintendents Educational Services Association (CCSESA) in 2011 (Ebrahim, 2009). Critics believe that present research has failed to resolve the HEI problems (Salmon, 2005). This creates room for an additional model and framework to show "transferability and scalability" and engaging e-Learning systems where software designers need to capture and incorporate different user needs and expectations. Nonetheless, one big issue that has not been fully addressed nor much attention given to the on-going development crisis are the success factors to consider in the development of the e-Learning system that satisfieslearner expectations.

In the learning space, e-Learning set-up is increasingly getting a recognisable footprint nowadays as a result of increase in mobile devices and other device access to the Internet (Mohammed and Mohan, 2011). According to Mohammed and Mohan, e-Learning system and its contents were originally developed without factors like learners culture. An example is the Hofstede (1980) dimension which shows the role of culture in IS but not how to represent culture in e-Learning system design (Kummer *et al*., 2012; Fawareh, 2013). Also, this growth and expansion have not really considered getting ideas and views from developers and other stakeholders on the success factors important in the development of e-Learning system. The omission and negligence of how to represent developer's ideas and views and other developmental factors on e-Learning systems can hamper e-Learning development and have becomes a major problem and crisis.

Challenges exist but institutions have tried building ICTs capacities and technologies and skills that enable access to technological tools. In line to oppose this challenges, leaders in "MATI" Russian State Technological University, gathered in 2005 to seek better ways in dealing with the challenges confronting the implementation of e-Learning in the higher education institutions (Sheypak *et al*., 2007). In the effort, example, Analysis, Design, Development, Implementation and Evaluation (ADDIE) model was initiated. The model is seen as a designed instructional model for different educational content development (Arkun and Akkoyunlu, 2008). However, ADDIE and other models have not managed to integrate these success factors identified in this study. In spite of all these effort, students do drop out from courses on e-Learning systems (Wagner *et al*., 2008). As a result of the students drop-out and the statement on the first paragraph in this problem statement and objective above, this study was derivedto determineand understand different important success factors which can be considered in the development of e-Learning system by developers. The identified factors will go a long way in addressing the current challenges, crisis and problem threatening e-Learning design.

MATERIALS AND METHODS

Initially, this study deployed mixed methods which give room for the use of terminology from both qualitative and quantitative methods. To some researchers, qualitative research lays emphasis on inductivity and interpretive ideology (David and Sutton, 2004); quantitative research is deductive in hypotheses testing (Brannen, 2005) and mixed method lies between inductive and deductive (inductive-deductive). As stated on the problem statement and objectives, this study aimed to identify different success factors to consider in the development and implementation of e-Learning systems, nonetheless achieving the objectives demands a research method that allows gathering data from developers. Hence, this study focuses on the qualitative part of the entire mixed research method used in the thesis because of its attributes that favour gathering deeper information among different participants.

This study gained the knowledge of developers in e-Learning developmentat the University of the Witwatersrand (Wits), University of Cape Town (UCT) and North-West University (NWU) and five interview was conducted across this institutions. To gain their balanced views on the success factors, qualitative method was chosen to meet the expectations through the use of interview instrument. The implication is that qualitative method is paramount in this study in order to gain participants understanding of the phenomenon at hand.

Literature review

Culture-orientation: Culture-orientation is the centre point of culture. In this study, it stands for the necessity of culture on e-Learning system development because learning occurs in an environment where culture exists. For an effective use of e-Learning system tools and software, culture must be widely considered in the development process, meaning that culture should be

embedded in e-Learning system. The embodiment of culture in learning allow for easy flow of e-Learning software development and usage and allow for content customisation (Garcia and Esteban, 2013; Recker and Niehaves, 2008).

The e-Learning demands remote resources allocation and the following should consider the cultural setting of learners, their experience, technologies and culture-orientation (Lanzilotti *et al*., 2006; Leidner and Kayworth, 2006; Boondao *et al*., 2009; Lephalala and Makoe, 2012). In this study, it symbolises the necessity of culture in the e-Learning system development process.

e-Learning pedagogy and framework: One can say that ISD is in a crisis of complexity, reusability and scalability (Dehbi, Telea and Tragha, 2013). One can query the theories, framework and methodologies used in ISD and why it is still not addressing this crisis after so many researches to combat the crisis. The aim and objective of e-Learning technologies should be to develop and implement a system that can be suitable for teaching and enabling learners navigating and delivering effective learning contents (FAO, 2011). The vital point of e-Learning design has been focused on administrative, content management and multimedia but pedagogical methods have been ignored. Rather, the implementation of e-Learning system depends on the pedagogical method, methodology and framework and not only on technology for design procedure. For the purpose of this study, this study aims to strengthen teaching and learning in illustrating the benefits of pedagogy in the development of e-Learning.

e-Learning pedagogy: The e-Learning system is a modern automation method of teaching and learning while culture-oriented learning is the higher layer of dependence on the learner's culture in development. According to this study, the development of effective e-Learning system needs understanding of learners' background and to apply this, pedagogy application should be considered. Pedagogy has been unpopular until recent. The outcome of the selected pedagogy model decides the learning success and failure, the debate on the pedagogical model suitable for e-Learning development has pull direction from teacher-centred learning to more "learner-oriented approach", for independent learning (Andersson and Gronlund, 2009).

Pedagogy is the science and art of teaching and learning (Bhowmik *et al*., 2013). Impact upon teaching and learning involves different approaches to match all learners. These approaches are used to effect and improve students' learning standards and support (Oye *et al*., 2012). For this study, the level of teaching impact upon the learner on the level of the learner's engagement with the environment. Some learning strategies are suitable in certain learners' background while others are not. They aim to understand different learning situations and contribute to quality learning in the community of integrated learning in building good and confident environment (Bhowmik *et al*., 2013). Pedagogical principles are learner-oriented and involve teachers and the learning environment. Pedagogy involves teaching; and teaching can be seen as a profession of individuals called teachers; the process includes tasks that assist learners to improve their knowledge and skills (Bhowmik *et al*., 2013; Olaniran, 2009). Teaching as a process occurs interactively with learners in a classroom or online and exists in an environment. The online aspect of teaching needs a framework that incorporates teaching strategies with the learner's cultural-environment. The need to merge e-Learning into pedagogy has gained the attention of researchers (Mehanna, 2004).

Furthermore, pedagogy is an instrument for the construction of interactive e-Learning system but in 2005, Professor Anderson and McCormick defined pedagogy as 'principles of e-Learning' . For this study, the principle involves methodology and framework Moore *et al*. (2011) see methodology as a development environment. According to Patrick and Barton, framework can be seen as structure that positions software program are to right audience with enough content. Through pedagogy principles are initiated and the principles used in traditional learning can be applied in e-Learning (Govindasamy, 2001).

These principles are aimed to promote structure that helps to design e-Learning system content that confirms learner's task and expectations. It can also help teachers to select appropriate materials that can make teaching and learning interacting and engaging in activities (Barik and Karforma, 2012). Again, pedagogy can be seen as activities that structure or change experience in learning relating "technical infrastructure to course design to teaching" and learning. A well-designed e-Learning system provides learners with interactive role in the learning circle. Pedagogy also ensures that curriculum objectives and continual assessment and content management are assured with enshrining social and ethical groups into learning context. The role of pedagogy in this study is to ensure that proper features and characteristics are integrated into e-Learning design at all layers.

Although, the e-Learning system is usually focused on limited delivery methods, the main goal should be

on a variety of pedagogical methods that enable learners to choose from multiple options. Meanwhile, such a system can be challenging but achievable through grounded design in learner culture.

The past decade has reviewed what works and what does not work by using pedagogical methods in e-Learning development. In accordance with Kolas and Staupe, among many components of pedagogical methods, future pedagogical methods should allow teachers to select right application for learners' benefits during development. For many years now, variations can be seen as crucial rule in teaching and learning but this rule seems lost in online education but the model that allows information transfer does not consider pedagogical challenges and issues confronting learners and teachers. Student age, culture, background and motivation, theme, subject, module, learner and teacher learning platform are all important variables. This study understands the rule of variation, through comprehension; its wings are spread across various student cultures and traditions.

Furthermore, the variations need Virtual Learning Environment (VLE) and Learning Management Systems (LMS) tools like frontier, Blackboard and WebCT platform for running e-Learning courses but the weakness is that the system is more focused on online administrative and less on pedagogical issues (Kolas and Staupe, 2004; Georgouli *et al*., 2008). The methods push teachers to use limited method of delivery. The pedagogical system exists but is more focused on limited delivery methods rather than the implementation of applications to impact upon the learning procedures. The e-Learning system has different kinds of methods like discussion but there is a weakness in this method because users lack usage and communication skills between teachers and learners.

The combination of Internet and education provides the opportunity to transfer skills and knowledge to everyone at any time but the challenge is how to balance Internet in creating a standardized e-Learning system. Balancing e-Learning design depends on the cultural-environment in place and integration of such into the design. Many institutions of higher learning have committed huge funding in developing and implementing e-Learning system, however previously, e-Learning aimed to represent classroom course content originally online as stated earlier but presently blended-learning is initiated. This electronic model aim to align each other in order to boost quality e-Learning (Sun *et al*., 2008). In an effort to boost learning, the blended-learning model presents a better effective way of delivering learning materials to learners across borders. This study will suit blended-learning and in any other learning platform.

RESULTS AND DISCUSSION

Data analysis and discussion of the open-coding findings: The interview discussion quotes participants directly to buttress the findings. The quotation appear grammatically incorrect but these are retained as they were verbatim. As a matter of fact, the substantive dictum in this study contains grammatical mistakes. Nevertheless, the views and messages of the respondents are correctly articulated. The direct quotations were purposely done to get a more meaningful contribution from the transcribed data and ensuring credibility in the study. The discussion also uses references at some points as provided in the literature to support the findings.

Most importantly, the themes are purely driven by the views of the participants (NWU, Wits and UCT) and in-depth attention is placed to them. Each participant is identified with the "INTDN0" from "INTDN01 to INTDN05" in order to reflect the anonymity of the respondents. The discussion that follows starts with the description followed by the themes headings which are in Italics. The description and themes formed the e-Learning systems development success factors.

Contribution of students' culture: Students' culture contributes greatly to e-Learning system design and usage. The contributions of students' culture in the development of e-Learning were evaluated with the aim to simplify the place of culture in the development. INTDN01 states that "perhaps at some stage" it contributes in the process. This is an indication that a learner's culture is a contributing factor while developing e-Learning system. The following: students' culture, learners' culture not captured, target audience, customisation and empowering learners creatively are some of the components that make up students' culture contribution in the development.

Customisation: Customisation can be regarded as a process of modification which is applied to e-Learning system features for a multipurpose. This process can allow the integration of learners' culture. According to García and Esteban (2013), culture-oriented customisation features are needed on e-learning systems so that learners can input cultural features and attributes suitable to them. One participant, INTDN03, suggested that e-Learning system should be customisable enough such that learners can "add an aspect of their language but not all of them" into the system. INTDN05 also believed that "if students' culture is to be shown, recognised or captured in a digital environment, then the students should be the creators of such creative and cultural content". These findings show that the e-Learning system should be

designed in such a way that learners have the ability to 'unpack their culture in a digital format' along the learning curve in adding any familiar cultural features that would positively impact upon their learning processes and experiences. Participants felt that customisation is missing in the e-Learning system and their observations suggest that it is a sore omission.

Empower learners creatively: The ability to customise e-Learning system to suit each individual learners brings out the nature of creativity among learners. According to INTDN05, "the students should be the creators of such creative and cultural content" in the digital environment. This creativity comes in the form of modification and redesigning of the e-Learning system that includes adding and dropping features to suit one's learning style and expectations. All this would contribute positively toward the integration of learner culture through diverse and individual engagement.

Culture impact upon the e-Learning system development (Contributing to e-Learning design): The impact upon culture in the development of e-Learning has been evaluated with the aim of simplifying the place of culture in the development. The consideration of culture in e-Learning systems development is very important in designing a system that can suit students from different cultural backgrounds (Boondao *et al*., 2009; Leidner and Kayworth, 2006). However, participants were made to understand the context of culture in regard to this study during the pre-interview preparation for their readiness to actively participate in the study. However, INTDN01 voiced his concern in accordance with culture impact upon on e-Learning design, saying: "So yes I think cultural background has an impact upon" but the issue remains in order to how to integrate it into the system. The participant continues by saying, "all in all, I think as designers, culture factors are important and should be considered when designing an e-Learning system". The inclusion is based on the impact upon of culture which is largely felt on the stakeholder's knowledge of the electronic-environment where the system operates; this environment has effects on the system input, output and usage.

Although, the benefits and the significance attached to culture during e-Learning systems' development cannot be underrated (Mohammed and Mohan, 2011), from the literature, it is shown that culture is an essential component in the development of an e-Learning system. Based on this, the researcher aimed to determine from the participants a deeper understanding of the importance of culture in developing e-Learning. The participants acknowledged the fact that it "is very important" even at the level customisation of the e-Learning system by the developers (INTDN01). The reason is that it opens doors to disadvantaged learners of English.

Furthermore, the importance of culture in the development of e-Learning is certain but INTDN02 acknowledged the benefits "but it comes in different ways" in balancing cultures among the learners and the serving of a large number of usages remains challenging. In addition to the existing facts on the impact upon of culture, INTDN03 concurred by saying, "Yes, it has an importance in the e-Learning system" while INTDN04 and INTDN05 also recognised the impact upon by noting, "Yes culture can have an impact upon the development of an e-Learning system". All these statements depict culture as very vital when designing e-Learning system but is overlooked by developers. At the end, INTDN05 believed that "cultural factors and elements should contribute to how we design e-Learning".

Engaging students: The implementation of e-Learning that is culturally balanced goes with the consultation with learners during the design, development and post-development phase. The engagement between developers and learners needs to be solidified for a greater quality development of the e-Learning system. The developers consult with the learners through the process of engagement. Nonetheless, INTDN03 indicated, "Yes" that they engage with the learners while INTDN05 said, we "attempt to gauge who my audience is and engage with these students to try and help them grapple with making sense of its impact upon on the system on their lives". Based on this, the developers also engage with the learners through dialogue in eliciting their needs and expectations.

Target and understand the audience: The users of e-Learning system are among the stakeholders in the development process. The effective delivery of good quality e-Learning system content goes with the developers' understanding of the audience who use the system as expressed by some participants. INTDN03 expressed the view that developers "should design e-Learning system to suit the preferred audience than reading because of social culture." According to INTDN05, "considering your audience is always important" during the development of e-Learning system that is culturally driven. This consideration would allow the customisation of e-Learning system features.

This aforesaid understanding demands the knowledge, priority, needs and expectations of e-Learning system users and their computer competence. It indicates that enough information regarding priority, expectations

of the system, money involved and other resources would be addressed as challenges confronting conventional and culture-oriented e-Learning system development. As indicated earlier, e-Learning system is largely developed without direct inclusion of learners which makes the system more developer-oriented than learner-oriented. Also, money and human resources are limited. This stands as the main challenge confronting learner culture inclusion. To address these challenges, participants advocate that developers consider audience because of the important role they play in the line development.

Consulting with the students during the development of the e-Learning system: This subheading of the description is aimed at understanding whether developers consult learners (students) during development. Participants have mixed reactions to the question, however, according to INTDN01, INTDN02 and INTDN05, they consult the learners while designing and developing the e-Learning system. Nonetheless, the consultation is done by Academic Support Centres (ASC) without the developer's direct involvement. The consultation aimed to understanding the learners' "want and expectations" (INTDN03) in the system in order to deliver according to their specifications.

Generally, according to INTDN02, INTDN03 and INTDN01, the needs and expectations are drawn from the interview "survey in order to get feedbacks". The participants in the study affirmed the lack of full consultation and alliance with learners during the e-Learning system development stage because they have no direct contact or consultation with the learners. Rather ASC is the people that consult with other stakeholders. The engagement improves learner's involvement in the process.

Consideration of cultural factors: Cultural factors facilitate the execution of the culture-oriented e-Learning system. This section of the discussion seeks to determine those factors that necessitate culture-oriented e-Learning system development and usage. According to Lephalala and Makoe (2012), culture and its factors should be taken into consideration during the development phase. The following themes are discussed as part of the cultural factors' consideration mechanism:

Cultural elements (learning language, pictures, reading, religion, policy, belief, communication, knowledge and symbols): The integration process of cultural factors is challenging with regard to negligence as noted in problem statement for many reasons. This difficulty comes when representing cultural elements like language, symbols and much more during the development stage of the e-Learning system. Nonetheless, the finding suggests that representation of language and symbols as cultural elements can be difficult; however, the challenges can be managed with the help of an effective framework like e-LSDF.

Though cultural elements are greatly important to participants, learners and the researcher, the establishment of these elements influences positively in building a culture-oriented e-Learning system that seeks to address the lack of culture on the design and implementation of the e-Learning system. Here are the expressions of the participants on the use of language as part of the cultural elements in the study.

INTDN01 states, "I think language would be the most important factor to be considered" when developing culture-oriented e-Learning system and INTDN04 concurred with the statement by saying, "we need to find the resources to implement it", in the process. On the contrary, INTDN02 believes that "Language is not so important because you have to use a particular language that people can understand to develop but the type of instruction matters". Generally, according to INTDN04, "It is important to have everything in your home language", in order to execute an effective culture-oriented e-Learning system.

Furthermore, participants believe in the use of symbols as cultural elements and INTDN02 stated that they "use symbols and icons that are relatively common but most especially developing what students are familiar with". While INTDN04 reacted, "we are using symbols in all the languages in RSA" (Republic of South Africa). Another element to consider involves the use of pictures which are cultural in nature. Then, INTDN03 expressed it in this way, in "most cases pictures should be considered in e-Learning system" because pictures are used to convey messages to learners. Again, participants, such as INTDN03 would like to see 'Policy and belief' as part of the elements of the culture-oriented e-Learning system. The policy would force institutions to implements culture inclusive systems together with their belief. Nonetheless, the religious belief of the learners always influences the system choice because some religions are restrictive on e-Learning and others are not, INTDN01 believed that, "religion influences belief and can impact upon on morality" of the users of the e-Learning system. This means that learners' religious belief as a standpoint should be considered in the design of the e-Learning system. This policy could assist in building a dedicated application package for the computer centre to serve different cultural needs.

These elements must be managed and communicated to the right audience though; participants

felt that appropriate communication channels should be used in conveying and passing messages to the e-Learning platform. That means that participants want to have 'Communication' as part of the culture element to be considered in culture-oriented e-Learning system implementation. INTDN03 pointed out that cultural difference among learners can be "manage through the medium of communication". However, in accordance with INTDN04, "the e-Learning system provides the base wherein the learners and teachers can communicate and share work in any language or cultural way". This means that communication is a connector in an effective culture-oriented e-Learning system.

In total, cultural elements influence how developers and learners "understand, process, communicate and manage data, information and knowledge" (INTDN05) in using e-Learning system and much more in the culture-oriented e-Learning system. However, this knowledge is confined to the learning environment. According to INTDN01, they "get influenced by the knowledge of the e-environment" (electronic environment). And also, they believe that "knowledge is an important factor here you may need understanding/skills to be able to use e-Learning system except if you are forbidden from using technology". Nonetheless, the knowledge level of the users and developers will always influence the cultural aspect of the e-Learning system.

Social and cultural factors: As noted in the previous section of the study, the e-Learning system lacks cultural elements and is challenged, have the need for the consideration of social and cultural factors while developing e-Learning system. Nonetheless, the delivering of culture-oriented e-Learning system lies in social and cultural factors of their real influence. However, participants are keyed in developing an e-Learning system that will benefit all users from different backgrounds and culture. INTDN01 noted that the outcome and usage of e-Learning system are greatly "influenced by the knowledge of the e-environment", this environment is dominated by social norms and learners cultural factors.

INTDN05 states that "there are both social and cultural factors that need to be considered when designing learning activities to be used on-line". These factors can be achieved through the integration of cultural elements, understanding and considering the importance of culture on the e-Learning system and developers discussing them while designing and developing the e-Learning system. The consideration of culture should be integrated when planning the development methodology. Continually, INTDN05 recommends that at the methodology stage, "considering the culture (the ethnicity, religion, gender and socioeconomic background) of your students will assist you to understand the nature of the problem you are trying to solve", after which the role and representation of content factors can be determined.

Representation and importance of content factors: This is the third description in this discussion with a number of themes. Content factors remain a important and needful part of e-Learning system development and content management. A factor is an identifiable quality part of e-Learning. Also, content factors are those materials that influence the learning process and satisfaction like a study guide, textbook, hand-out, journals, magazine and many more. These components ensure that a different system is developed. This section aims to seek how these factors can be represented as well as their importance in the development of the e-Learning system. The following categories emanate from the interview question starting with quality content as important element in representing content factors.

Any e-Learning system aims to boost the quality of teaching and learning. Participants suggest the representation and consideration of quality as part of the attributes of content factors in the e-Learning system. To backup participants' views and inputs (Sun *et al*., 2008), believed that a good quality and well-designed content should be considered when designing e-Learning materials. Contents are designed and delivered according to learners' needs (FAO, 2011). It is clear faculty members, lecturers and managers are content oriented in the development and implementations of subjects but contents are not part of the system. But, according to our finding, lecturers are instrumental in managing contents and tools within the system in order to suit learners individually.

At this level, teachers/lecturers assist in representing content factors. They play a central role in the administration of e-Learning content, specifications and editing. Participants believed that lecturers and their roles should be recognised in the execution of content factors in order to facilitate culture-oriented e-Learning framework. The provision and availability of these learning materials and support are teachers' responsibility (Barik and Karforma, 2012). The responsibility of lecturers is enhanced by support centres. The support centres consolidate the link, corporation and input between teachers/lecturers and learners and presenting them as a structured content that appeals to learners. Based on their support, it is important for developers to understand the needs provided by the ASC departments and implement

a system that provides solutions to their needs. Nonetheless, e-Learning system should provide support (Oye *et al*., 2012). In view of this, participants suggest the consultation with the support centres in presenting content factors on e-LSDF.

Support of content: In determining the actual SA culture that encourages e-Learning system development or usage an understanding of the main factors or elements to be included in support and development of learning content must be sought. According to INTDN02, developers have the responsibility "to deliver proper content" in the e-environment. Other participants like INTDN04 believe that: "It is important to capture learners' culture in the content, as there are a lot of different cultures in South Africa and the learners will determine the culture within the module of learning".

Based on the knowledge of the participants, it is important to identify SA culture that encourages e-Learning development and usage and this culture can only be retrieved from the learners. The affirmation is supported by INTDN01 who said that cultural content factors are "very possible because e-Learning system got to do with the content" because learning content is the centre point of interaction for the learners in the e-environment.

However, determining these contents can only be possible through collaboration, consultation and content execution in any language. Participants believed that this mechanism is lacking in the current system. Nevertheless, INTDN04 thinks that "it is important to capture culture in the content, as there are a lot of different cultures in SA and the learners will determine the culture within the module of learning". From all indications, supporting learning content assists in representing the importance of content factors on culture-oriented e-Learning system administered by administrators (personnel). However, according to INTDN02, "most importantly personnel management is essential in evaluating the experiences of students in the e-Learning environment". This evaluation helps in representing content factors which directly support learning content. The support plays a major role in the work of lecturers and administrators with emphasis on system content and priority.

System content and priority: System content is a vital point in the learning process which provides materials to users. According to Ebrahim (2009) and CCSESA, education institutions are challenged in gathering learning system contents. Non-English speakers are restricted in some degree of content (Olaniran, 2009). Sun *et al*. (2008) believe that quality content assists in satisfying learners' learning expectations. Participants accept the inclusion of content factors in these learning contents in order to satisfy learners; the avoidance of content factors risks learners from different backgrounds.

However, the role of content factors is executed through the recognition of system content and placing priorities on what matters to learners. Participants confirmed that managing cultural differences among learners in developing e-Learning rests on culture, while this culture should be facilitated through system content, priority and usability. According to INTDN01, "we manage the cultural differences in the content and not the system". Through quality management, the cultural differences among the learners are recognised because of the role played by system content in e-Learning development and usage as viewed by participants.

The execution of system content and priorities is really facilitated by teachers/lecturers who are the important people to determine content requirements, the students' level of experience and knowledge. Their role is also vital in every operation of the e-Learning system and implementing its tools and contents. Based on this, INTDN04 say, "lecturers are the main role players in the development of the content within the system" to satisfy users" expectations. This consideration is made possible through a survey and interviews to determine content requirements. INTDN04 further says that content factors are "handled within the content". The aim is to make 'everyone feel comfortable in his/her learning environment' thus accommodating learners across races.

However, among the challenges encountered in the e-Learning development is determining the highest priority of users. A statement from one participant raised the problem of determining "the needs with the highest priority of users because the users are large" (INTDN01). This is always challenging and difficult to achieve. Inversely, INTDN02 states that system content and priority is challenged due to the fact that the universities have a very wide range of students engaging with e-Learning content and "there is no particular structure determining" their priorities and expectations during the development phase. Though the challenges can be solved by "knowing whom your users are and trying to satisfy their needs" (INTDN02) continually. As the participants have noted, managing learners' cultural differences and representing content factors are possible and achievable but only through material content, priorities and availability of resources.

Listening to music and watching videos: The practice of listening to music and watching videos is another way of achieving system content and priority. System content

remains the platform where learners actively engage in the learning environment. This section is a follow-up on system content that participants would like to include in representing content factors. The fact remains that there are different learning style used by learners in the e-environment. Based on this, INTDN03 thinks, "from experience, majority of the students don't like reading, they like to listen or watch videos while working. if e-Learning system can be accommodative so those students can learn while listening to music and watch video". This push for a call that e-Learning contents be represented in diverse format like in audio and video across languages for learners' selection based on their learning style. Furthermore, INTDN03 believes that diversity in format "will allow and accommodate people to study while playing audio and video; those that prefer to study in a silent environment" will enjoy the liberty. However, cultural differences impact upon learners' learning style and process at large (Joy and Kolb, 2009).

Learning environment (place) comfortable: Another area of consideration in representing content factors is the learning environment. The environment is where the learning occurs and influences the ways through which learning takes place and the outcome thereof. The condition of the environment determines whether learners will feel comfortable engaging in the learning process or not. Based on the power of the learning environment, participants expressed their opinion in the following ways on the effect of culture on learning outcome. INTDN03 strongly believes that "the environment where the student operates and the e-Learning system is based should be accommodating to everyone" in the learning process. INTDN04 support this view by saying "everyone must feel comfortable in his/her learning environment and the content needs to be presented in such a way" that learners are able to understand and share information effectively.

Culture-oriented e-Learning system promotes good learning style in a way that "it provides a comfortable learning environment" (INTDN04). Teachers provide such learning environment that promotes learners with good learning style. Here is how INTDN02 expressed concern about that environment, "it is important to implement tools within the system in such a way that it will provide a learning environment that suits >1 learning style". This environment is organised digitally and INTDN05 believed that "if student's culture is to be shown, recognised or captured in a digital environment, then the students should be the creators of such creative and cultural content". Also, INTDN05 suggests that, "the learning resources used in a system should keep to the conventions of the discipline and field wherein the studies take place".

Learning style assisting students: Our learning environment is filled with learners across learning style and needs (Boondao *et al*., 2009). Understanding their learning style is vital because it has bearing on learners benefiting in the learning process. The following were noted from the descriptions:

The importance of learning style: Cultural differences impact upon learners' learning style and process (Joy and Kolb, 2009). Participants accepted the influencing power of learning style on learners in the development of e-Learning system. In verbatim, one participant said: "I believe that learning style is a very personal thing. I think Tswana people's learning style differs, some people like writing, other people like writing on screen, whatever" (INTDN01). This indicates that cultural diversity among learners directly influence the way by which they interact with the e-Learning system and engage in the learning process.

Learning style supporting learning content: As noted earlier, learners engage and participate in the e-Learning platform through the learning content which is facilitated by administrative factors and lecturers. Administrative factors are the factors that ensure the gathering of statistical data, content and course evaluation and document in order to ensure that learners are presented with effective learning styles. This specifies that learning content is the centre point which connects teachers and learners as organised by administrative factors. The support of learning style is purely seen in the learning contents of an e-Learning system, so, these contents should be culturally presented for learners to have opinion on which language format to use.

On this account, participants state that learning style assists learners to remain focused in the learning environment as well as on the culture-oriented e-Learning system platform. In support of learning style on learning contents, INTDN01 expressed the view that learning style is "represented as content and what students do with their content is their decisions". This means that learning style should be gathered, captured and represented as a learning content but the structures in which it is arranged is the learners' responsibility.

A participant said, "well, I would say personnel are very important but most importantly personnel management is essential in evaluating the experiences of

students in the e-Learning environment" (INTDN02). INTDN04 states, it's the "responsibility of the lecturer and ASC departments" to identify the right learning style that supports learning content and effective to learners. Also, it is the teachers/lecturers role to "implement the tools within the system in such a way that it will provide a learning environment that will suit more than one learning style" (INTDN04).

The presence of administrative factors: The execution of e-Learning to appeal to learners continually is well facilitated by the duties and role of administrative factors. This section deals with the administrative factors which form an integral part of our e-Learning operation.

The importance of administrative factors (Provide direction and support): According to Georgouli *et al.* (2008), administrative factors ensure gathering statistical data, content and course evaluation, documentation and monitoring the e-Learning process. For this purpose, the section seeks to determine the importance of administrative factor from the participants' viewpoint. Administrative factors are important for the fact that they help in providing support in the development, implementation and administering conventional and culture-oriented e-Learning system. The support is a vital part of the equation for a successful e-Learning system.

Also, administrative factors involve I.T managers who "would obviously help a lot in building the architectural basis but I think in the software development input, I think there would be a need for a lot of inputs from administrative factors" (INTDN01). They are also the actual people that decide on the learning content with teachers and facilitate in the implementation processes. In accordance with participants, the alignment of content factors with the support of administrative factors is important when developing and implementing the e-Learning system. Participants believed that it is the duty of the administrative factors to "deliver proper content but I must tell you that the university has a very wide range of e-Learning content" (INTDN02) but none is dedicated to determine learners preference.

Again, participants trust that the factors offer direction to how things should be done in the development, they also offer evaluation as noted by participants who said that they are important in "evaluating the experiences of the students in the e-Learning environment" (INTDN02). Furthermore, a participant believed that "without administrative personnel, there would be problem of continuity, monitoring and management of the e-Learning system" (INTDN02). Reason, they are the people that would understand the content or learning styles that are influential and perhaps position them in the development of the e-Learning system or the environment.

e-Learning environment: As a reminder, culture affects the environment where learning takes place, this environment impact upon learners learning and productivity. This section aims to understand the role and how e-Learning environment informs the decision of administrative factors in the design of e-Learning system that portrays learner culture. Participants believed that they are informed and "influenced by the knowledge of the e-environment" (INTDN01) where the system implemented and the infrastructure involved.

The knowledge of the e-Learning environment should be at a level where "everyone must feel comfortable in his/her learning environment and the content needs to present it in such a way" (INTDN04) that learning is productive. The environment is also impact upon by teachers' roles and INTDN04 believes that teachers play a role in implementing "tools within the system in such a way that it will provide a learning environment that suits more than one learning style". INTDN05 states that "learning resources used in a system should keep to the conformity of the discipline and field wherein the studies take place".

The presence of teachers/lecturers: The presence of teachers/lecturers is vital in every aspect of learning and the e-Learning process in partnering with other stakeholders to ensure that proper format is initiated and used.

The importance of the teachers/lecturers: Teachers/lecturers are important people in e-Learning system; the students' level of experience and knowledge all depend on the teacher/lecturer. Their roles are vital in every operation of the e-Learning system and in implementing its tools and contents matters to learners. Indications have proved that they are the most important people in the development because they know what the students want and the system specification in terms of content. Also, teachers/lecturers provide and customise the kind of learning environment that is suitable and accommodate students with different learning styles. As a major role player in the content development, a participant suggests that teachers have the "role to implement the tools within the system in such a way that it provides a learning environment that suits more than one learning style" (INTDN04).

The role of teachers/lecturers (Major role player, Elicitation of requirements and Expertise): This section of the discussion deals with the deeper roles of teachers/learners in e-Learning and the culture-oriented e-Learning system. Participants believed in the need for the inclusion of teachers in the design of e-Learning system and framework. According to the participants' views, teachers/lecturers are "the most important people" in the development, "they know the best on how students learn, the experience of the students and they provide necessary features that go into system" (INTDN01). As a major role player in the execution of culture-oriented e-Learning system, the participants expressed the desire to help in designing and developing learning contents, gathering expectations, experience and needs, establishing cultural difference, understanding what the learners want and their desires, the system requirements and standard. INTDN01 was bold to say, "so if the lecturers, designers develop content for e-Learning system and I know the profile of the student, therefore, the cultural difference will be possible". They are also seen as centre point of contact to deliver material to the users. INTDN02 indicates that "the university decides on the choice of the technology to be used and the teachers basically decide what part or culture should be included in the system based on students expected".

Generally, participants also suggest that teachers' role involves deeper understanding and knowing exactly what they want in the e-Learning system and the expectations of the system. They also provides detailed information and likewise agreed on the role of lecturers in the area of gathering or acquiring and knowing learners' requirements during development, providing support, inputs and expertise in the design of e-Learning contents in order to a structure well manageable and quality system that appeals to all learners. The vitality of this factor was supported by existing literature, with the belief that they are intermediate persons between administrators and students, content, learning and activity in administering other factors in the learning environment influenced by cultural factors (Georgouli *et al*., 2008). According to Lubega and Mugarura (2008), teachers design learning materials that concur with methodological standards. At this level, INTDN04 states that "lecturers are responsible for the content and it can be developed according to the students in the class". However, teachers are also responsible for providing suitable learning style appealing to learners at large.

The presence of Activity/Exercise Factor (AEF): The discussions continue on AEF. The effective management of students' academic-related work or activities by the tutors or teachers is handled by AEF (Georgouli *et al*., 2008). The factor manages anything related to academic work like assignment and others, participants see it as important in making learning contents easily understandable.

The importance of AEF: All the features and tools added on e-Learning make the system easy and effective to use in promoting teaching and learning. Making e-Learning system usable depends on AEF. In achieving this, it is believed that development is done using conventional pattern and nothing extraordinary. Also, participants believe in the ability of e-Learning to provide contents across cultures and language, they approved cultural presence to all the features of the e-Learning system. Therefore, e-Learning features, icons and others should be structured and presented in a simply manner to enhance learning. Through the conventional method, AEF is regarded as factors worthy of consideration in e-Learning system design.

However, participants believed in the importance of AEF in an effective running of e-Learning and more culture-oriented e-Learning system. A participant (INTDN01) states that, "I think it is very important" but lacks the specific knowledge of how to include all of its functions in the cultural presence. Well, there should be a culture-oriented function for downloading and uploading stuff and together with announcements, comments, chatting and reading. Again, well executed AEF will provide learners (users) and teachers with good playing ground to share and communicate using any language supported by participants.

The implementation of culture-oriented factors: Different aspects of culture-oriented factors have been mentioned in this study with the view to provide and construct e-Learning framework that accommodates learners across tribes, cultures, background and ethnicity. Each of these contributes positively to building a culture-oriented e-Learning system as noted by participants and in scholars' studies. According to one participant (INTDN01), these factors are very "important" in e-Learning as well as in culture-oriented e-Learning system design. This section of the discussion aims to provide a discussion on the implementation of culture-oriented factors.

Although, the possibility of achieving culture-oriented e-Learning has mixed reaction among the participants due to challenges, some participants felt it's achievable and for the system, while others opposed it as noted in the description that follows:

The importance of culture-oriented factors: The call for culture-oriented e-Learning system comes with advantages which make it worth implementing. Indeed, it was realised that learners would feel nice if they saw their language in the e-Learning system, indicating system acceptance from the users.

In an attempt to validate the importance of these factors noted in this research, one of the participants observed, these factors are "very important because there are words you cannot understand in English but you will understand them better in your mother tongue" (INTDN03) which affirmed the importance of these factors to the audience (learners) as well as INTDN04's views that it is "important to have everything in your home language". It all indicates that participants believe that all these factors are absolutely important in influencing e-Learning within a culture-oriented e-Learning system. Also, these factors are very important because of the amount of value placed on them by participants and students as seen in the quantitative analysis.

Positive aspect of culture-oriented e-Learning factors: There is a positive image that follows a culture-oriented e-Learning system in a way which allows customisation and personalisation of the system contents and features enabling learners to understand the content in their language and many more. INTDN02 states that culture-oriented "factors have influence" on the e-Learning system. This indicates that the implementation of culture-oriented e-Learning system demands the consideration and understanding of the positive side of the system.

Training factors: Culture-oriented e-Learning research studies are limited in publication and it can be said that many have no idea about culture related e-Learning system. In order to execute a fully functional system, users and administrators must be trained and be acquainted with the operations. Nonetheless, the participants would like to have training as part of the factors in culture-oriented e-Learning system.

Advantages (Comfortable and personalisation) culture-oriented: The implementation of culture-oriented e-Learning can be advantageous due to the fact that learners will feel comfortable because the same system can accept individual culture and language personalisation promoting an adaptive and inclusive learning environment. The integration of cultural factors in the e-Learning system also promotes a comfortable design and are innovative system which is customisable in making e-Learning culture-oriented and achievable. However, the customisable aspect will allow developers to think inwardly and learners will relate the learning content to things they can feel and touch around them. This view is supported by participants who suggest that culture-orientation is advantageous because it provides a comfortable learning environment for the learners across divers learning environments. Culture-oriented e-Learning system can also be advantageous because learners can "feel nice if they see their own language" represented on the system" (INTDN01). The advantages are felt currently at any stage and according to INTDN01, the e-Learning system together with the culture-oriented system has a "huge advantage for the learners" both now and in the future, because it allows learners to learn perfectly or improve on another language (than English). The discussion is extended to disadvantages.

Disadvantages (cost, learners exclusion and human impact upon and suitability): The implementation of a culture-oriented system comes with disadvantages which are seen as discomfort in the design and usage of the system. According to INTDN04, the execution of culture-oriented e-Learning system "has a financial and human resources impact upon".

The disadvantages are the result of the cost, human impact upon and suitability of the system. As previously indicated, the cost constraint of culture-oriented e-Learning system stands as a disadvantage. For instance, a participant noted: "it have a financial and human resources impact upon". This brings negative impact upon due to limitations to the system. As a summary, the findings include comments from INTDN01 who states that: "the cost and the exclusion of people would be the biggest disadvantages" of culture-oriented e-Learning, Suitability is also seen as a major disadvantage. Based on these views, the culture-oriented system is expensive to develop and would not be suitable for all. On this account, the system can lead to learner exclusion; according to the participants, culture-oriented e-Learning is disadvantageous because "not all cultures will be satisfied" (INTDN03) and many learners will be excluded from the learning platform.

Nonetheless, INTDN04 argues that "anything is possible if there is enough money and human resources" to invest in culture-oriented e-Learning system as a priority. By exclusion, is meant that if there is a discussion in a language which others don't understand they would be excluded from the group/discussion because of

language deviation. However, the idea of culture-oriented e-Learning system is still attainable but "cost and suitability" (INTDN05) remain a concern for the developers.

Culture-orientation with regard to community factors: The misrepresentation of culture in community factors is examined at this level. Some participants felt the, need for the representation of community factors as cultural factors as done in English. Nonetheless, the community factors ensure effective communication, collaboration, dissemination and gathering of information and working with course-mates in group discussion forum, chat-rooms, news, announcements, wiki, bulletin and others (Georgouli *et al*., 2008). Learners use these tools to stay connected and united in a community forum of learning though these factors are lacking culturally. The followings themes were noted:

Community factors: There is lack of culture-orientation among community factors; as earlier noted, this lack affects the design of e-Learning inclusively. However, culture-oriented e-Learning system is possible, in the sense that learners can have discussion, news, chat room and other functions in any language of their choice, probably when the right keywords are used. Nonetheless, community factors can be designed in any language when the developers put their minds to it and in consultation with learners. But, the lack of culture within community factors can be regarded as lack of culture-oriented e-Learning on the side of the developers making the systems developer-oriented. There is advocacy of institutions and learners to be culture-oriented and prevent detached developers from doing otherwise. The more learners realise the benefits attached to the culture-oriented e-Learning system, the more developers will be compelled to do so.

INTDN01 an important participant believes that if a discussion forum take plan in the English language then it can happen in any other language. If for example, developers should "consider discussion group for lecturers on the system, then, they would/most likely do it in Setswana" and in another language. In as much as you use the right keyword in a system, there is nothing stopping you from engaging in discussion, announcement, news and a bulletin in another language of your choice. However, it would be wise to "write in a majority language where people (larger user) would understand you"; be careful but contents can be in any language" (INTDN01).

Flexibility and usability (customisation of the features, Challenges of customisation)

Usability: According to Recker and Niehaves (2008), usability helps to present meaningful IS contents to users. Their usability depends on the friendly content of the system and the possibility relies greatly on the incorporation of cultural features as seen in the objectives of this study. Also, to this study, usability means learning components that can be used multipurpose and in a multicultural context and participants worry more about system's usability than other things. INTDN02 argues that they "discuss usability issues a lot", because they "expect usability issues to reflect on cultural issues" of the system. But according to INTDN05, culture-oriented factors are important and achievable through system "usability".

System usability is key to participants who declare that usability should be included among the cultural factors and also during the development of the e-Learning system. The integration will promote efficiency, productivity and formulation of culture-oriented e-Learning framework. However, usability aligns with home language and one official language (English), the quality of the system and the technical knowledge of the administrators. Overall, the majority of the participants believe that it is important to have everything (e-Learning system) in the learners' home language in an effort to boost system usability.

Conclusively, the impact upon of culture and its execution is felt in e-Learning system usability. INTDN02 believes that "the most important influence is created in the usability of the system because students can understand the workability of the software/system". In general, participants suggest that through usability cultural factors can be established in e-Learning framework and implementation. The participants' suggestions are was backed by literature. The acceptability of e-Learning in cultural settings largely depends on usability. To this point, participants can confirm the importance of usability by saying, "we do not assure cultural factors but the concept of usability and good design is important" to us (INTDN02). To implement e-Learning system which is culturally incorporated, participants are more concerned with usability, what the system can help users to achieve and the system users themselves than any other thing. Nonetheless, according to INTDN02, in achieving usability, symbols and icons that are relatively common with the users must be used.

Flexibility: E-Learning software tools should provide flexible guide and instruction (Oye *et al*., 2012). Any framework to be developed must be flexible enough to explore features, customs, traditions, values, attitudes, symbols that define learners' approach to learning conditions. In backing these ideas, participants regard the system flexibility as an important area that will please learners. As a matter of importance, developers felt that learners "appreciate flexibility especially on the timing of accessibility" as noted by one of them (INTDN02), though this flexibility can be challenging and difficult to manage in the execution of e-Learning system. Also, for participants, the flexibility of e-Learning tools and features allows for the introduction of personal learning style into the system in order to provide comfort for learners.

However, the current lack of flexibility from the fact that the e-Learning system is conventionally developed with English content at the heart of the development as seen in SA and this makes it rigid against other cultures (language). Understanding the possible cause of this lack of culture-oriented e-Learning is important, however participants' views really indicate lack of flexibility in the e-Learning system during and post-development as the main cause of the lack of a culture-orientation system and which has hindered proper execution of the system.

But, through the integration of this cultural element in the learning material, other elements and components can easily be captured during the development of e-Learning system by the help of e-LSDF. However, System Development Methodology (SDM) is the platform that can be used to present these elements, components and factors. But participants seem to be focused primarily on flexibility because it caters for a wider range and allows learners to go at the level to which they can comprehend the learning document. At this level, INTDN03 suggests the inclusion of different aspects of learners "language but not all of them" in the development of a culture-oriented e-Learning system.

System Development Methodology (SDM): The SDM can be seen as the backbone in developing quality information system including e-Learning systems. This section tries to comprehend the kind of SDM used by participants in achieving the e-Learning system. The following are noted from the analysis as there are different forms of methodologies used by developers in the development.

ADDIE: On the other hand, the ADDIE model is used in the development of the e-Learning system whether the conventional or culture-oriented system. Nonetheless, another participant mentioned ADDIE as a used framework. Along the line of the interview, a participant was asked about factors to include in the culture-oriented system and it was noted that ADDIE framework was an ideal factor to consider in the development process. According to INTDN05 "within the ADDIE framework, considering culture (the ethnicity, religion, gender and socioeconomic background) of your students will assist you to understand the nature of the problem you are trying to solve" and it is a selected and suitable framework to consider as a methodology in the process. This proves that participants in this study select listed methodologies in the development and implementation of e-Learning, however, these methodologies can be used in capturing the culture in the development. The selection and usage of these methodologies and framework are based on the developer's wealth of experience.

Outcome: Understanding the effect of e-Learning usage on output is paramount. This section of the discussion aimed to achieve such in line with the understanding ways cultural differences impact upon the design of e-Learning system. According to Al-Tarawneh, culture and its attributes impact upon and reshape societal value and determine how individuals and organisations think, feel, behave, interact and engage. However, culture as a fact has an input; you get influenced by the knowledge of the e-environment. The future of e-Learning system increases quality output in teaching and learning performance and learner's throughput. But, these elements and factors discussed above face challenges but there are handled by the implementation of e-LSDF.

Quality outcome: The e-Learning is developed with the idea to add value and improve ways in teaching and learning. Base on this, the most important thing is that users of the e-Learning system are adequately considered in terms of their usability and the system outcome. The learning outcome is proved on the learners learning improvement. Participant's concord is that the most important factor to consider while developing e-Learning system is the outcome because one needs to understand the added value of the system been develop and used.

Contributions: Table 1 shows the total e-Learning systems development success factors that will ensure pedagogical system is delivered.

Table 1: The e-Learning systems development success factors

Sources	Factors
Contribution of students' culture	Customisation
	Empower learners creatively
	Culture impact upon the e-Learning system development (contributing to e-Learning design)
Engaging students	Target and understand the audience
	Consulting with the students during the development of the e-Learning system
Consideration of cultural factors	Cultural elements (learning language, pictures, reading, religion, policy, belief
	Communication, knowledge and symbols)
	Social and cultural factors
Representation and importance of content factors	Support of content
	System content and priority
	Listening to music and watching videos
	Learning environment (place)-comfortable
Learning style assisting students	The importance of learning style
	Learning style supporting learning content
The presence of administrative factors	The importance of administrative factors (provide direction and support)
	e-Learning environment
The presence of teachers/lecturers	The importance of the teachers/lecturers
	The role of teachers/lecturers (major role player, elicitation of requirements and expertise)
The presence of Activity/Exercise Factor (AEF)	The importance of AEF
	The implementation of culture-oriented factors The importance of culture-oriented factors
	Positive aspect of culture-oriented e-Learning factors
	Training factors
	Advantages (comfortable and personalisation)- culture-oriented
	disadvantages (cost, learners exclusion and human impact upon and suitability)
	culture-orientation with regard to community factors
Community factors	Flexibility and usability (customisation of the features, challenges of customisation)
System Development Methodology (SDM)	ADDIE
Outcome	Quality outcome

CONCLUSION

This study presented the fundamental success factors that developers and other stakeholders must consider in the development of e-Learning systems. The identified component is titled "e-Learning systems development success factors" which assist developers in the development of an e-Learning system that is learner-oriented in nature in dealing with many challenges facings learners as well as tackling software crisis that have lasted for years. Moreover, further reading and understanding other fundamental principles and considers that can appeal in the development of learners-oriented e-Learning system can be obtained from the full thesis report. In summary, developers are encouraged to consider these factors in order to improve and deliver the kind of e-Learning system that support learners requirements and expectations.

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