

TECHNOLOGY IN EDUCATION: CURATION CONTENTS AND STUDENTS ENGAGEMENT IN ONLINE DISTANCE LEARNING

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Abstract

Purpose of this study to describe the curation contents efficiency on open distance learning and to foresee the prerequisite of the 21st-century generation on innovative ways in providing the information. The objective of this research is to clarify the curation project by gathering "digital learning presentations" in an Open Distance Learning offered during movement control order (MCO) in year 2021. The main of curator's operations occurred in three elements based on engagement theory associated with learners effort in a class, learners function to formulate skills and discover an explanation to an issue through exercise of curators' display and learners make a valuable part to the group during study, making learning where skills can be 'acclimatized' to real world. The study framework includes five constructs; behaviour engagement, cognitive engagement, emotional engagement, and agentic engagement that reflect the learners' academic achievement. The quantitative will be carried out for the analysis applying PLS SEM (Partial Least Squares Structural Equation Modelling).

Keywords: Curation contents; Behaviour engagement ; Emotional engagement ; Cognitive engagement ; Agentic engagement, Student's performance; and Partial Least Square Analysis.

1.0 INTRODUCTION

The main growing concerns in university education way of building support factors and persuasive learning and studying from home during move control order (MCO) due to the Covid 19 pandemic in Malaysia since early year 2020. This is specifically requiring for local universities in Malaysia to improve the delivering system and students often miss to access Online, classes and solely dependent on the Internet speed and facilities resources for sharing knowledge. The use of off-line used to be more convenience for students and technologies utilization has culturally synonym with the millennium students. The matter of data overload has been reported by undergraduates and a filter frustration and the browser engine turn so difficult and complex in this Internet context. The benefits of digital curations are the extent of endeavor, complicated in search information with accumulation, assembling, clustering, store and presenting the gathering information with a narrative storyline. The chronology of curators originated from gallery exhibition room where the history research were labeled and interpretation by museum tourist guards. the process of presenting is known as curation.

The definition of curation a particular meaning – to take good care—the meaning more focus on the historical items mostly tangible and the intangible cultural normally interpret in curation storyline because intangible cannot be kept or seen. The concept of intangible interpretation further explained by author, [1] as 'curationism' (see also [1]Hoare *et al.*, 2016). The curation process involved few method and technique generally incorporate an activities as categorization, clustering, setting, differentiating, grading, arrangement, grouping and recommending, but the implication still a fuzzy concept when incorporating with process elements [1]. The definitions depending on multiple perspective from art and design, business, education, to museum curators [2]. The main objectives of this research exploring new orientation and new direction in education system in particularly the arise of second waves of Covid 19 cases in Malaysia in mid year of 2021. The education system driven forces to employ Online distance learning and educators were struggling adjusting the method, approach, technique in delivering system.

The growth of curators in digital continuation in business economic and extending the spreading Online business art (Velthuis and Coslor, 2012). Geographically and scope on digital curation has shifted over the boundaries of museums and galleries, it is also included in other industries such as properties, health, medical, gastronomy, and technology system.

Additionally the content curation is increasing popular in education system and this goal be accomplished, and proof indicates that content curation might enhance student learning as well as help to create virtual design conceptualization in delivery information. Basically content curation is the technique of a set of compilation, assembling, validating, and annotating affiliated with copyright declaration [3]. In 1990's the history of curation derived from the arise of new digital technologies, in the entertainment industry and in year 2000 the gaming industry emerge with affordable computers, video camera, laptops, software and equipment have changed the production by enabling transcription, documentation, editing, chronicling and controlling in home studios (Watson, 2014). Once the documented curated content completed, the divergent form can be applied to display information on social media posts. The benefit of curating of content in education, it is a helpful instrument because it provides learners the chance to revise and repeating displaying data in accordance with their learning capabilities and concerns and it enables curators to manage, control the attribute of details presented. Content curation technique, procedure, method, can be process with automated software. Some social media platforms offered built in software that can assist assemble and exhibit curated content. Many research emphasized the advantages of content curation for scholar study and involvement (Deschaine and Sharma 2015). Nevertheless, the developing environment of information technology, has affect numerous research of curation mechanism rapidly turn old fashioned and outdated.

For this research, the researcher apply the connection of curation contents with students level of engagement in experiences Online and several understandings of the word "engagement, in academic approach and the conceptual framework benefits the diverse ideas and topic obtained from the literature and data analysis. For instance, the research model illustrate by [4] explained different degree of undergraduate involvement. Particularly, the academicians claimed that undergraduate engagement has four elements those were behavioral engagement, emotional engagement, cognitive engagement, and agentic engagement. For purposes of this research, the study has implemented the model as discussed by [4].

Pointed out the behavioral engagement comprises students' work, action, decision, participation, and acquiescence with the course of study [5]. There is slightly divergence on the explanation of emotional engagement [6]; [4]. Although that conceptions vary, the definitions have appeared from previous investigation, [6] expressed emotional engagement as the magnitude to which students trust a perceive of relationship and "the stage to which they concern". Other author specified emotional engagement equally as students' sentiments of wondering, satisfaction, doubt and

dissatisfaction during their attempts towards accomplishment. Cognitive engagement comprises students' encouragement, expertise, and attempts to enhance their task [7]; [4]. The fourth suggestion was the agentic engagement, explaining the effectiveness of the student working within a group assignment. The element of cooperation, team work, team spirit is a major concern of student engagement. The functioning and dedication to assist, support, lend a hand, facilitate, serve defined the construct of agentic engagement. The advantage is to train the students sense of possession and strengthen the team and one group leader was a pointed to manage, control, administer, command, supervise and oversee the group that lead to student successful and achievement of learning outcome.

2.0 THE ADVANTAGE OF CURATION IN OPEN DISTANCE LEARNING (ODL)

Currently, in the situation of spreading pandemic virus Covid 19, the demand of carry out Online distance learning (ODL) continued. The sudden requirement study from home by Ministry of Education, and most students highly depending on numerous mode devices to transfer data. Moreover the virtual class very challenging for students, some are overload with information, numerous assignment, the usage of data on web. Students are just too engaged with Internet and preoccupied to complete the task given by lecturers. The educational institution has introduced open distance learning to their students and it is a sort a learning platform that offers students to explore subjects of interest during off lines and distance learning available without constraints and obtainable at anytime. This study basically investigate the level of students engagement and interpretation and the curation contents in open distance learning and the respondents selection apply on students with different demographically.

It is indeed need to distinguish the important elements in curation contents to pull undergraduates and encourage them to learn during off-lines. The content of curation is a contemporary method that causes the open distance learning to work. It is essential to drag students engagement and interest to learn and clearly the contents method is vital to take attainment resolution based on higher quality knowledge. As instructors the ability of make sense what students need in learning and distribution content that students required in teaching. There are rules of the curation system, the first rule, learners absolutely do not wish unnecessary content, learners want limited information but significant points, learners want limited in raw details and concentrated; the second rule the curation system originated from three point of view the curation specialists – individuals whose experience and knowledgeable, will forms curatorial election well-founded, for instance for medical counsel, the learners require the video recording showing curated by a physician, not a client. The third rule the curation absolutely not a ordinary interest is a profession and require to be remunerated and expertise relies on the curation production. The curation requirements a computers technicalities and software package to seek, clarify, screening and endorse content, concentrated, top-quality classifications will come out to be on a par with the mass media and the copyright issues.

3.0 METHOD

This study the researcher analyze the data, applying statistic software SMART PLS version 3.0. This statistical software enables examiner to evaluate and verify the signification value of the framework model, at the same time assess the theory hypothesis with empirical data. This research approach is hypothesized causal relation between variables, between all structural equation model from engagement theory the exogenous latent variables behavior engagement, emotional engagement, cognitive and agentic engagement. The variables that describe the endogenous is the curation contents, final will be students achievement. The value of r^2 of endogenous latent variables discloses degree of effectiveness in the framework model.

The respondents were 86 first year Diploma program from Universiti Teknologi MARA Melaka campus. These students were taught through open distance learning (ODL).

Referring to previous study, the estimated value of measured construct should more than 0.60 other meaning the formatively measured construct should explain at least 65% of the variance of the reflectively measured item(s), which is stated by a path coefficient of approximately 0.80. In several circumstance, however, a path coefficient of 0.70 (which translates into a shared variance of about 50%) would also be considered acceptable. Fundamentally, researchers must scheme for the evaluation of convergent validity in the research design stage by comprising a reflectively measured construct or single-item measure by exploration in each questionnaires.

4.0 RESULTS AND DISCUSSION

This research, the validity is the evaluate of the precision of an instrument used in a study [8]. There are three form of validity which are convergent, discriminant, and construct validity. The discriminant test was conducted to avoid redundant. all the correlation between these construct should below 0.85. According to [3], one-dimensional procedure is accomplished when the measuring items have acceptable factor loadings for the respective latent construct. To unidimensional of a measurement model, any items with a low factor loading should be deleted. The measurement model of PLS-SEM after unidimensional are shown below in figure 1.0, table 1.0 and table 2.0.

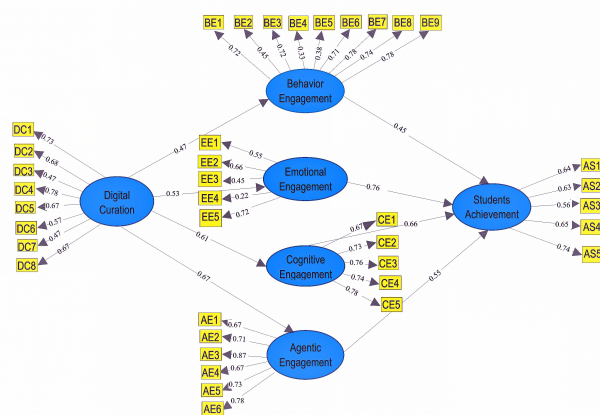


Fig. 1. Image of the picture (a) on the left and (b) on the right.

Figure 2.0 and table 1.0 above shown the assessment model from the result of SMARTPLS 3.0. This value can be gained from the outer loading demonstrates the factor loading for each indicator embedded. Previous, author has proposed to apply the new scales which is 0.50 or higher should be keep in the measurement model. Thus, the outer loadings less 0.50 should be eliminated from the measurement models since its point out this indicator have less support towards these factors. In this point, two items from latent emotional engagement, agentic engagement, behavior engagement have been eliminated from these latents. Otherwise, all indicator in cognitive latents are accepted while curation contents have eliminated three items. This process can be well-known as unidimensionality technique. After the researchers have completed this technique, the model assessment should be applied in order to enhance their reliability and validity. Thus, convergent and discriminant validity used in this process. Other than that, the construct reliability of each also be tested.

Table 1. Properties of Constructs

Digital Contents	Items	Loading	Cognitive Engagement	Items	Loading	
CA=0.89	DC1	0.75	CA=0.77	CE1	0.71	
CR=0.84	DC2	0.75	CR=0.77	CE2	0.73	
AVE=0.79	DC3	0.83	AVE=0.83	CE3	0.80	
	DC4	0.81		CE4	0.75	
	DC5	0.65		CE5	0.78	
	DC6	0.70		Agentic Engagement		
	DC7	0.71		CA=0.70	AE1	0.52
	DC8	0.67		CR=0.68	AE2	0.51
	Behavior Engagement			AVE=0.69	AE3	0.50
	CA=0.83	BE1		0.74	AE4	0.57
CR=0.82	BE2	0.80	AE5	0.50		
AVE=0.81	BE3	0.81	AE6	0.50		
	BE4	0.71	Students Achievement			
Emotional Engagement			CA=0.74	SA1	0.63	
CA=0.74	EE1	0.55	CR=0.79	SA2	0.73	
CR=0.73	EE2	0.76	AVE=0.66	SA3	0.74	
AVE=0.82	EE3	0.50		SA4	0.75	
	EE4	0.82		SA5	0.76	
	EE5	0.74				

CA= Crobach's Alpha; CR=Composite Reliability; AVE=Average Variance Extracted

Under the result Table 1.0 above the convergent, validity result was assessed by reviewing loadings, average variance extracted (AVE), and composite reliability (CR). As outlined by Hair Jr. et al. (2014) the acceptable result for loading factors should be >0.70, CR > 0.7, and AVE > 0.5 and as shown in table 1.0, the values of AVE and CR exceeded these criteria and the loading.

The next phase the discriminant validity was assessed as mentioned by Fornell and Larcker (1981), preferable to analyze the AVE values with squared correlations or the square root of AVE with the correlations. As stated in Table 2.0, the values square roots of AVE are acceptable or higher that correlation values and this indicate that the discriminant analysis is valid. This research model has five exogenous variables (DC, BE, EE, CE, and AE) and one endogenous construct (SA). The bootstrapping process with a resampling of 1000, as suggested by Hair Jr. et al. (2014), the R2 values for DC, BE, EE, CE, and AE were 0.678, 0.609, 0.801, 0.69, and 0.871, refer to figure 2.0. These r2 values shown that a large variance between construct as acceptable value of > .35 suggested by Cohen (1988). In addition, in Table 3.0, listing beta coefficients, t-values and p values, reveals that 6 of the hypotheses in the research model were supported while 2 were not supported.

Table 2. AVE value for discriminant validity

Variables	CC	BE	CE	EE	AE	SE
CC	0.79					
BE	0.69	0.81				
CE	0.25	0.22	0.83			
EE	0.25	0.29	0.39	0.82		
AE	0.47	0.23	0.23	0.26	0.69	
SE	0.03	0.44	0.25	0.21	0.25	0.66

Note : AVE values are in bold

The metrics used in statistics (indices of fit, model achievement, or parameter assessments) can be very comprehensive. An extended know-how is needed to instinctively experience the significance of their values. As provision for the understanding of the results researchers employ certain set of general rules. This is significant because what might be examined a minor effect in psychology might be great for some another area like health service. One of the best known explanation was suggested by Cohen (1988) for a sequence of broadly employed indices, correlation r (r = .25, small; r = .45, satisfactory and r = .65, great) or the standardized difference (Cohen's d). This value can be applied to relate effects throughout studies, even although the dependent variables are calculated in variety of ways, for this study the survey used 7-point scales to evaluate dependent variables, although the different survey exercises 9-point scales, or number of study completely different measures are employed for instance self-appraisal scales and physiological scales. Cohen (1988) uses indexes to differentiate between various interpretations of Cohen's d, indicate the overall relations of effect sizes).

Table 3. Hypotheses, path coefficients, and results

Path	Values	t-stat	p	Results
H1 Curation Cont > Behavior Engage	0.39	7.24***	0.001	supported
H2 Behaviour Engage > Achievement	0.29	4.12***	0.001	supported
H3 Curation Cont > Emotional Engage	0.54	8.35***	0.001	supported
H4 Emotional Engage>Stu Achievement	0.25	2.80**	0.01	supported
H5 Curation Cont > Cognitive Engage	0.30	5.66***	0.001	supported
H6 Cognitive Engage> Stu Achievement	0.19	3.46**	0.01	supported
H7 Curation Cont > Agentic Engage	0.07	0.17	<0.001	not supported
H8 Agentic Engage> Stu Achievement	0.09	0.12	<0.001	not supported

* Significant at $p>0.05$; ** $p>0.01$; *** $p>0.001$

Hypotheses, Path coefficients, and Results

In reference to the hypothesis applied SmartPLS 3.0 findings supported effects were on curation contents on behavioral engagement directly influencing the behavioral engagement to use ODL ($\beta = 0.39$, $t > 7.24$, $p < 0.001$), behavior engagement directly influencing students achievement ($\beta = 0.29$, $t > 4.12$, $p < 0.001$), curation contents directly influence emotional engagement ($\beta = 0.54$, $t > 8.35$, $p < 0.001$), the emotional engagement directly influence students' achievement ($\beta = 0.25$, $t > 2.80$, $p < 0.01$), the curation contents directly effected Cognitive engagement ($\beta = 0.30$, $t > 5.66$, $p < 0.001$), Cognitive engagement directly influence Students' achievement ($\beta = 0.19$, $t > 3.46$, $p < 0.01$). The hypotheses groups that not supported were of relationships between curation contents directly influence agentic engagement ($\beta = 0.07$, $t < 0.17$, $p > 0.001$), between agentic engagement directly influence Students' achievement ($\beta = 0.09$, $t < 0.12$, $p > 0.001$).

5.0 DISCUSSION

The suggested engagement model comprises subjective perception and confirms the positive relationships of the engagement theory between curation contents, behaviour engagement, emotional engagement, agentic engagement, and students achievement. This study showed a affirmative relationship on the curation contents, behaviour engagement, emotional engagement. The open distance learning (ODL) program require to establish new strategies and approaches on designing the curation contents on open distance learning (ODL). At the moment, the curation contents were not comprehensible, and it was made without a appropriate taxonomy that can promote and stimulate the undergraduates in understanding. It is essential to comprehend the degree of undergraduates knowledge on the contents based on their intelligent abilities and it is vital to plan course of study that produce chances for involvement and engagement to occur particularly during open distance learning due to Covid 19 in year 2021.

The essential for educational creators or the educators to have extra information to assist universities, discover how to create their classes more attractive for the undergraduates who will take part in classes. The course offered require to merge cognitive engagement concurrently with emotional engagement and encouragement in ways that will direct undergraduates to engaged behavior. From the outcome few tactics are recommended for engaging students open distance learning. Suggestion on future content curation:

a. The universities should foster ODL educators to practice student-directed educational for agentic engagement and the training lecturers and guide during the practice and it was not included in the curation contents. The undergraduates as collaborative learning, peer-to-peer learning (PPL), and problem-solvers learning (PSL) form to be learner led. This method has advantage, the learners in the group provide chances to take function in instruction instead of excessive informing and sharing information. The greatest method in ODL should be incorporate in the curation contents is a combination of instructor-directed and student-directed approach. Promote instructor to make use of students, authorize students in a scope of methods, through giving their own goals to course goals.

b. Motivate ODL educators to incorporate curation contents that enable undergraduates to link student concentration to engage the course. Metaphysical perspective undergraduates are likely to be appealed in subjects that engage directly to individually. Following to the mature students are more goal-oriented, ambitious, resourceful and self motivated should be implemented when at work. Most the undergraduates favor a repeating in the education and the educators of the field should plan the curation contents consistent to the undergraduates talents and outline standard based on ability and potential.

c. Educational institution should assist the educators to employ content curation that reflect working reality. The taxonomy should be bedded on skills to case-based learning that position to solve real-working problems but most ODLs were on explaining and describing but ruled out the case studies to game-based approach in the curation contents. The curation contents were direct manage, influence, control, clue, critical thinking that provide a deep learning and higher thinking order based on learning taxonomy.

4.0 CONCLUSION

For this study the curation contents and emotional engagement are the most important in a undergraduate participation in and interest for learning. When learners are emotionally engaged, the undergraduates readiness is high and effectively to participate in open distance learning class lesson plan and delight in participation. Next significant effect was the behaviour engagement in joining, the learners behaviour commonly in a process of how the learners cooperate with the educators, level of knowledge during directed study, the academicians further indicates from the curation contents, the degree of curiosity, even of feedback based on the contents demonstrate and how undergraduate cooperate with partners, and how interplay with the content display based on feedback posts. The behaviour engagement established on the research issues separated into several classification the inactive engagement, effective engagement, voluntary questions on inactive or effective engagement, chance of students cooperating with other students and advantage student co-operating with peers and educators, and student co-operating with educators by oneself.

In accordance with [11], most of curation contents was established on the educators' imagination, with no verification on how it was broadcast, show the rising consideration that current higher education makes no attempt to develop the appropriate ability, experience, and attributes that undergraduates requirement in the workplace. Forthcoming research should be the curation contents that associated their alumni with the essential capability, expertise and competencies for employment [9];[10];[11]. The curation contents and skills are important, should matter a major view in the curation contents meaning-significant method and process for using Internet facilities in vigorous supply, student-centered, socially interactive approaches into learning taxonomy to help an question based pedagogy understanding at improving and strengthen student engagement and multimedia literacy understanding

Equally undergraduates and instructors should be fostered to transform into digital curators as well as use up information that figure out from the Internet, this encourages, nurtures and combine it to ultimately turn responsible digital population. Curation contents acts as a vital role in the learning technique and serves as an major digital literacy claim for knowledge employees [12]. Disposition curation digital in pedagogics system as a digital literacy continue improve concurrent, debates and conferences.

Subsequently, further investigation on the application, recruitment, performance, enforcement of digital curation in academic frameworks at universities in Malaysia, however, additional consideration on the protocol, legislation and legacy matter of copyright, curation content patent and proprietary, nobilities, security and universities representation and reflection are needed, particularly its acknowledgment in digital award, grants and innovation sense and inserting it in a education that really need to consider the values of a participatory, practical, partnership and teamwork.

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