

Strengthening Moocs of Academic Community Through Scaffolding Electronic Automation

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MOOCs services need to be strengthened through electronic scaffolding. Scaffolding was developed for prospective members of the academic community and is in the form of surveys and quizzes. The technique is embedded in the design community MOOCs Engineering Technology field. The MOOCs development model that features scaffolding for community development is based on survey results of engineering technology readiness of community members. Based on the quantity domination, engineering technology community members have received the input start readiness and technical concepts. Scaffolding electronics will be automatically assigned by the system in MOOCs as an input to every member of the community through the assessment. Scaffolding is electronically embedded into synchronous features and is asynchronous for giving out support for more effective collaboration activities.

Keywords: *scaffolding, scaffolding automation electronics*

Introduction

The internet has offered many resources in implementing community activities. Conduct community activities can be done either through distance learning or internally on campus (Morphew, 2000). Various valuable supplements to the traditional approach of community activities are generally in the form of e-mails between faculty and students, post-project at www, online registration and add and subtract community, online access to learning resources that are needed in the discussion, access to the online library catalogue, send the job on-line, etc. The Internet also provides a wide range of reference material such as text, images, video, databases, archives, and much more to add to the resources of the university library and interlibrary loan. Negroponte (1995) stated that the Internet provides a new continuous media to reach out and find meaningful knowledge. It is possible to apply the collaboration either partly or entirely through the Internet.



Automation scaffolding in MOOCs is used to answer questions about how the academic institution will meet the needs of higher education of the 21st century. The academic community believes it should be developed to empower students, addressing the needs of students, and develop policies to retain students in academic activities, with a practical approach (Carney, Maltby, Mackin, and Maksym, 2011). Indirectly, the academic community will give perspective on how the community can benefit. The focus of the academic community, in general, is still idealist. Parts of the academic community have had a robust partnership model that is sustainable. Academic community activities require an excellent membership election to be effective in addressing the public, while also preparing students to be problem solvers in their respective fields.

In particular, the article explains how the academic community accepts new members through direct scaffolding provided by the system. The academic community generally has a place for sharing through the communication model. The similarity of their requirements is to have a project. In general, communication is performed in the virtual community has been developed and refined by various studies. Even in the extreme, the community had never met. They know each other only online. The online virtual environment is offered as part of a program with long-distance communication and regional projects have been implemented by some Academic Institutions.

Their research looked only at learning activities carried out in virtual classes. Formal classes in internet-based learning to serve the learning needs or expand training without having to add special needs such as the condition learners and learning environment condition. During this time, the study looked at learners participating in Internet-based classes from home or from school or college. Research also has not shown the readiness of learners in the virtual environment. There is still plenty to be examined including the condition of self-learners, the interaction, and learning devices.

Activities in MOOCs, in general, is learning. Activities of the academic community are formal learning activities (Canagarajah, 2002). Some studies report on the constraints of students, who perform tasks in the electronic discussion system on computer-mediated communication (CMC) which is synchronous (NetMeeting) (Veerman, Andriessen, and Kanselaar, 2000). MOOCs learning activities use collaboration and sharing the challenges in implementation (USART & Romero, 2013). During the collaboration discussion, learners find strengthening awareness about the conception that characterise effective pedagogical interaction (Petrenko, 2015). The cornerstone of thinking to the discussion of several collaborative researchs is a condition for dialogue discussions between teachers and learners or fellow learners. Veerman et al. (2000) explained that whether the use of synchronous CMC can meet the conditions of collaboration, dialogue learners were characterised in terms of their contributions, constructive and argumentative, and with their focus on the meaning

of the concept. Studies have shown that the learning that takes place still requires focused analysis about the argument. Second, the learning instructions have not met expectations.

Prioritising the academic community is done through the membership-based Similarity Project. The similarity project is an effort to create the same conditions in the community (Hernández-González, García-Moreno, Rodríguez-García, Valencia-García, and García-Sánchez, 2014). Several studies have tried to identify some of the discussions. Trend discussion in the study showed collaboration between learners. Studies analysing and coding a synchronous discussion among other learners strengthen their interaction with related articles, social interaction, and interaction with the operation of the system in evaluating the effects on the interaction of learners (Yeh, Lo, & Huang, 2011). The research shows 1) The learners have a positive attitude towards the system and ongoing motivation to use the system in the task of writing in the future, 2) Analysis of products writing suggests that learners generating content should have better organisational skills to support the system, 3) The procedural facilitation provided by the managed scaffolding system to communicate in the category of interaction associated with the article. Limitations and future research directions are also discussed. This study analyses and encodes the synchronous learners with three categories (interaction related articles, social interaction, and interaction with the operation of the system) to evaluate the effect of the system on the interaction of learners.

Scaffolding on the online environment provides a process orientation and synchronous online chat rooms to facilitate the practice of real-time collaborative writing. It allows users to work synchronously on collaborative writing assignments via the Internet. The possibility of a deepening requires individual uniqueness. Such as the need to analyse and encode a synchronous chat learners in three categories: 1) interaction associated strains (Frejd, 2019), 2) social interaction learners (Smith, 2019), and 3) interaction with associated context (Alles, Seidel, and Gröschner, 2019) as a measure to evaluate the effects of the collaboration system on the interaction of learners in the discussion.

A support scaffolding procedure is needed. Learners seem to need support to focus more on what should be done rather than argumentation in general, but they also may need support to conduct an overview, to keep track of their discussions and to organise their interfaces. Text-based electronic communication appears to be sensitive to such issues that could cause a significant interaction. Research has led to the learning activities that use electronic discussion and found it requires the strengthening of procedures with the argument (Nicolson & Fawcett, 2007).

Scaffolding tangible procedures corroborate video collaboration capabilities following the characteristics of learners. Video is being increasingly used in education and training, but it can lead to specific difficulties in terms of the learning process, because of the transient

nature of the information submitted (Biard, Cojean, and Jamet, 2018). To address the potential cognitive overload, learner control can be provided (for example, a pause button), learners who are beginners may not find the information relevant enough to know when to stop the video. Procedural learning involves memorising the sequence of behaviours organised and separated. Research by Biard et al (2018) has tested the assumption that providing control buttons are not enough for younger learners, and it gives the disruption of procedural steps therefore making it less effective when it comes to learning clinical skills. There is a requirement for procedural scaffolding segments in the video content learning. The segmented learning video shows how to strengthen the representation of the procedure in the memory for younger learners and reduce the cognitive load.

Research methods

Research surveyed 114 respondents and the students have joined the academic community. The scaffolding acceptance test developed requires formative stages. The construction scaffolding acceptance test activities are conducted in 3 stages (Figure 1). The results of the analysis were of the characteristics to measure the condition of students in several stages in receiving information in the form of text, images or video and digest the information of the characteristics of the different information. Subject code academic community members are students majoring in Computer Science. For illustration purposes the analysis of support needs to focus on what should be done by the students after getting explanations that are general or global inclined. Students who have the academic community need the support of other various forms of additional information, to keep track of their share and to organise their interfaces. Text-based electronic communication seems to have not been able to develop towards solving problems. Subsequent analysis of the subject that causes a significant interaction with the information is disturbed. necessary The development of procedures for electronic scaffolding is therefore necessary.

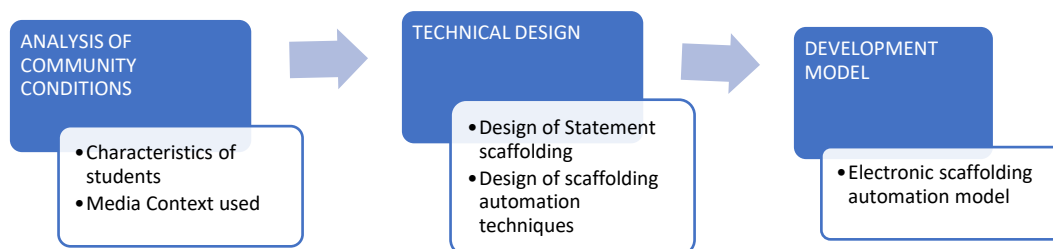


Figure 1. Construction scaffolding Procedural

Building a scaffolding design creates the technical design of the development. The scaffolding design is done by a student who wants to enter into an academic community. Scaffolding is used to afford learners in proving self-knowledge against each community based on the information that has been obtained. The next scaffolding is the student's understanding of the academic community. Scaffolding will be the basis for prospective

students who will enroll in the academic community to be able to build that knowledge through personalisation using learning objects developed in MOOCs. The next scaffolding provides the ability for someone to decide to decide based the capabilities built by the students themselves. The construction will give the student the freedom to choose.

Development models are produced from the runway development obtained from the analysis. The analysis will be realised by a quiz/survey to test the abilities of students to the fundamental knowledge of the academic community. These capabilities are a requirement to be a member of the academic community. These questions will provide scaffolding to students, whether a student chooses to follow the academic community or another academic community.

Research result

Instructional design requires a focus on if students get brief information of anyone, including the lecturers with the form of order procedurally. But if it has a profound meaning, then according to survey results (Figure 1), was seen by students doing the learning in the context of the community to facilitate the collaboration because of the ability to receive input from anyone. The visible dominance of students capable of a level up too often students do not feel any difficulty while receiving feedback. Technical and procedural ability makes students able to receive the scaffolding procedure. The ease of giving scaffolding how to build a project similarity of content or problems in science through others. In total, it shown in Figure 2.

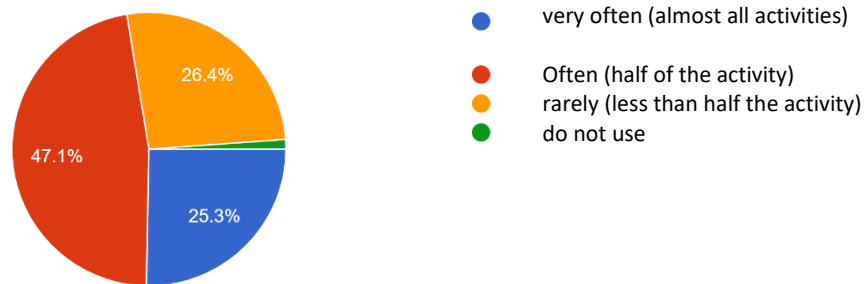


Figure 2. The ability of students to receive information from others



Figure 3. Mapping Students with Technical Ability

The student has demonstrated its performance as someone who can collaborate with the ability to accept input of others but constructing the need to build more useful information. Students cognitively, indeed some have obstacles, but not much. The generic has been able to receive feedback clearly through technical measures. Thus reflected in the technical capability (Figure 3).

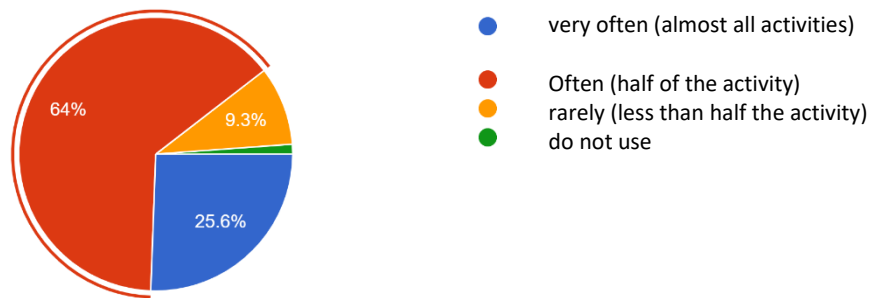


Figure 4. The ability to create new ideas and new collaborations

The ability to generate new ideas from students is very objective (Figure 4). At the time of collaborating, students have the capability of developing a product in other student learning. Significantly students have been able to develop.

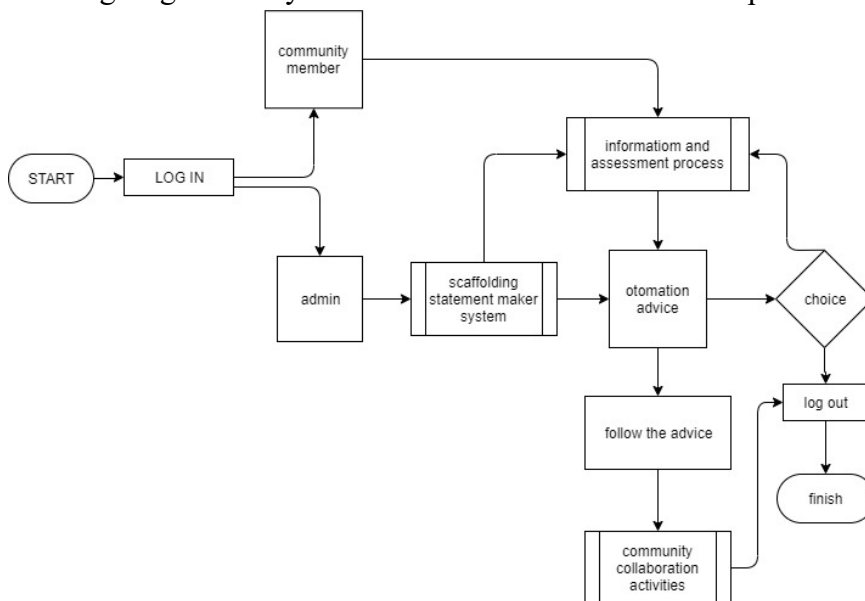


Figure 5. General scaffolding design

Development of a model is based on student capability in receiving information obtained from anywhere. In the statement scaffolding maker, admin community, they must provide information about the community and the requirements to become a community (Figure 5).

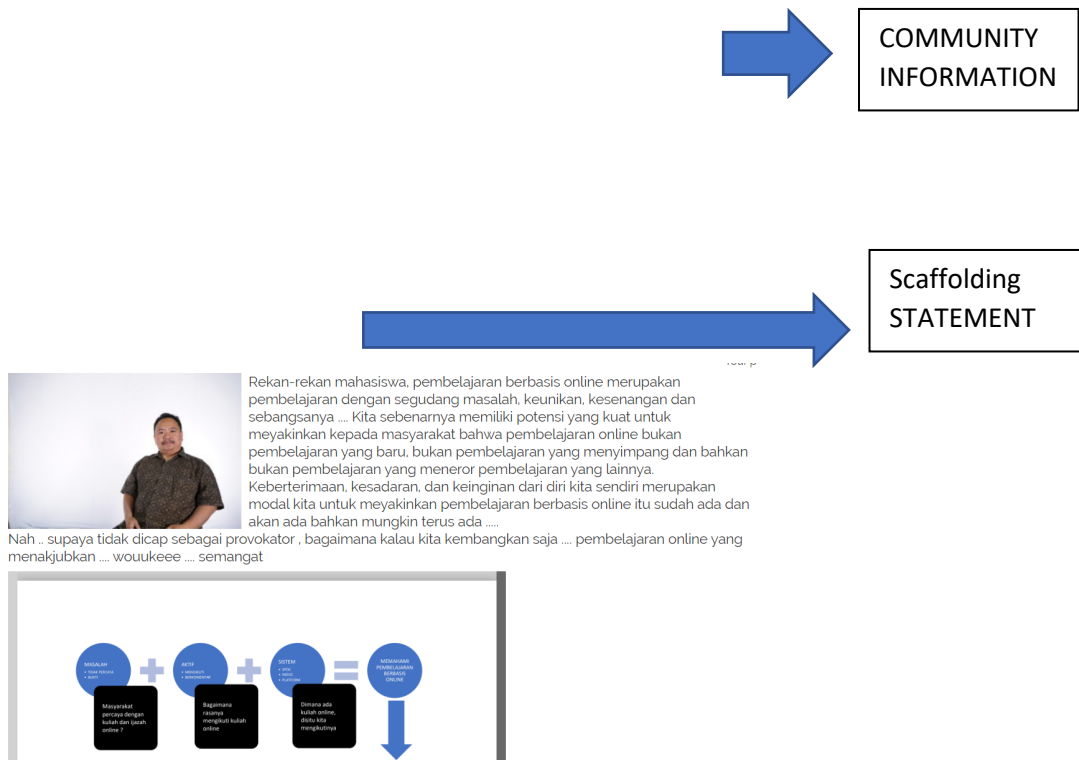
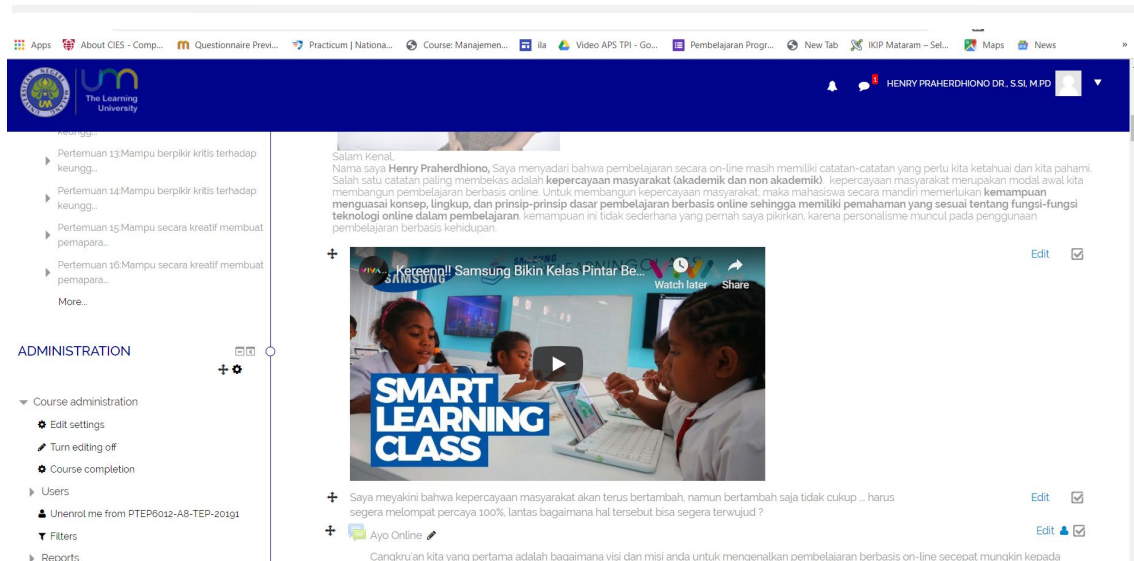


Figure 6 Implementation of community information on LMS platform

Students undertaking the review of the information provided. Information in the form of info-graphic embedded into the system Massive Open Online Courses. The information provided in the form of 1) images of the community, 2) community explanatory text (in Figure 6 is a community of web developers) and 3) Map project program, 4) video documentation of the information related to the community (Figure 7).

The assessment will involve a condition of membership. The assessment content is 1) knowledge of members of the community, 2) understanding of the members of the community, 3) the suitability of the vision and mission of the community members.



The screenshot shows a web browser window displaying a learning management system. The top navigation bar includes various icons and the user's name, HENRY PRAHERDHONO DR., S.Si, M.Pd. The main content area features a video player with the title "Keren!! Samsung Bikin Kelas Pintar Be..." and a thumbnail image of students in a classroom. Below the video player, there are several text-based posts or comments, including one that says "Salam Kenal. Nama saya Henry Praherdhiono, Saya menyadari bahwa pembelajaran secara on-line masih memiliki catatan-catatan yang perlu kita ketahui dan kita pahami..." and another that says "Saya meyakini bahwa kepercayaan masyarakat akan terus bertambah, namun bertambah saja tidak cukup... harus segera melompat percaya 100%, lantas bagaimana hal tersebut bisa segera terwujud?". The left sidebar contains an "ADMINISTRATION" section with options like "Course administration", "Users", and "Reports".

Figure 7. Information video types

Automation scaffolding result 1) how to identify the process / best model to use in choosing a community of academics, (2) due to the model it cannot see the difference between the input of students and student involvement in the academic community, 3) develop models of scaffolding that build a relationship based on mutual trust and respect, 4) scaffolding recognises and respects the differences in how to determine the academic community, 5) automation scaffolding to give consideration and approach multi-disciplinary, 6) Automation scaffolding used evaluation strategies that are consistent with the overall approach taken by the community partnership, and 7) the system as a whole is aware of mature learners.

Discussion

Community is a real learning environment and of crucial importance in the 21st-century learning conditions of a globally connected world. Sharing thoughts are becoming increasingly frequent in intensity, and more and more learners collaborate on a project of community similarity (Hernández-González et al., 2014; Rice, 2009). Conditions and information content that are accurate and well-written will strengthen the understanding of the audience, especially concerning the same specific project (Kelly, 2003). Conditions and content management information owned by a particular community is intended to resolve a problem for the community itself. Community members will convey technical information and ideas accurately and efficiently to the project faced (Reis, 1997). The project, through a community effort will do collaborative work. So, logically, there should be much more thought in collaborative works, rather than works done individually (Duin, 1991; Oliver, Montgomery, & Barda, 2019). As can be seen in the case of the completion of the project, similar project development and management consultancy is about a system of information by students. Done by 6 parallel and 4 classes of different forces. That is



because in the era of information, providing information in the form of writing is part of the work in all technical careers (Reis, 1997).

The academic community in colleges has similar problems in controlling how to handle personal differences in the context of education, employment, academic achievement as experience learning (Sayre, Holmes, Hasselback, Strawser, & Rowe, 2000). Our development is modelled on a scaffolding function as a means of justifying one's ability to register as a member of the academic community. The design of the reception to be a member of the academic community is how learners are sensitive to literacy-based orientation. The difficulty in literacy is that there is always a new drive to a specific academic field as a member of the community. In the research community by Canagarajah (2002) the question becomes more complicated when teachers lead students to think to enjoy membership in various communities simultaneously. The most challenging problem is how to help or give scaffolding so that they become good engagement with the academic discourse. How should they position themselves against their academic community? In the academic community development activities should be approached as an heutagogy learning activity in MOOCs (Praherdhiono, 2016). MOOCs scaffolding embedded in the academic community to map the orientation is the more critical of the relationship between members of the community with the organisation. Scaffolding proved useful in helping students determine membership.

Models generally give an overview of the relationship between the platform used by the student and the academic community. Both students and community members are familiar with MOOCs and most of them keen to experience it on a personal level (Ulrich & Nedelcu, 2015). Students welcomed the idea of the university to provide MOOCs for members of the academic community. Research Ulrich & Nedelcu (2015) explains that the use of MOOCs can improve the visibility and prestige to the university itself, and some student members benefit for the academic community. Students and faculty reveal realistic expectations about their institutions as potential providers MOOC. Although such benefits are already anticipated, the students do not all agree with the use MOOCs to the academic community. Members of the academic community generally has focused on the entire system of membership, development and evaluation, while the candidate community to focus more on personal development, social and interpersonal problems (personal development, coaching, conflict management, participation of the academic community) and candidates for the academic community generally of newer generations and very responsive to the learning environment in the MOOC.

Academic community colleges have a unique procedure. In general, the development of the ability to convey information through video or in writing requires specific skills. Especially technical written information requires skills in the manipulation of information and the ability to create abstract content (Johnson-Eilola, 1996). They also need to have the



ability to survive in a world that is interconnected. The main competencies include: (1) use an interactive tool (both language and technology), (2) interact in heterogeneous groups, and (3) act independently.

The Membership Similarity Project is a learning environment tailored to the workplace environment. Teams collaboration often requires people to use real-time communication tools (such as chat, video conferencing, webinar) as an effort in constructing the direct feedback of various types or to make decisions. However, procedural learning is often associated with traditional learning when seen from a collaborative and communicative education (Carter, Anson, & Miller, 2003). Procedural learning is often associated with behavioural learning monotonous, less interaction and less dialogue with other learners (Nagelhout, 1999). Procedural learning is also regarded as having the systematic nature of how to do writing activities that use technical tutorials to help new writers (Kelly, 2003). Students of science and technology have a variety of Indonesian proficiency levels, using Indonesian to produce writing with collaborative techniques. Students need to collaborate with scaffolding and procedures for less proficient students, in addition to getting scaffolding to conduct technical activities. This was also done by Rice (2009) which suggests that the significant challenge in the information presented is how to create a new teaching strategy to address the coordinative work, poly-contextuality, interdisciplinary linking activity separated by time, space, organisation, and purpose together. Scaffolding in the procedural context shows there is an excellent need for learners to build an interactive learning environment, multi-tasking and multi-users where web systems developed, can help practice and collaboration in synchronous interaction effectively and efficiently.

The learning environment for procedural scaffolding is the online discussion feature. Online discussion is actually a feature that is often used in teaching (Palmer, Holt, & Bray, 2008). Advances in computer technology make researchers and lecturers give support to the collaborative activities to improve the similarity of views on the case of projects in the field of writing (for example, Elola 2010; Parker & Chao, 2007; Rice 2009). As an example, Rice (2009) proposed a method of collaboration that can be run in a discussion on Web 2.0 practices. Through online discussions, learners can become better in coping with the collaboration of similarity project context. Online discussion is not just a practical tool, but also the emergence of a dialogical situation (Rice, 2009). In particular, the study will provide a scaffolding procedure in strengthening individual knowledge and towards the strengthening of the collective knowledge. Collaboration has actually been established in the field of humanities. Similarity Project found observations in the field of writing novels (Elola, 2010). However, as stated by Gorsky and Caspi (2005), collaboration still need to be coupled with the strengthening of the learners in the procedures to be more involved in online discussions and Web-based tools. Although it is not necessarily lead to better



learning outcomes, we now need to know the key factors in online interaction to enhance the learning procedure.

Selecting MOOCs as a place in the academic community has several advantages. MOOCs served as a modality that is affordable and easily accessible which offers an opportunity to democratise education (Guajardo Leal, Navarro-Corona, and Valenzuela González, 2019). MOOCs support determination member election. Scaffolding designed to be used in constructing of the academic engagement, a concept that has been discussed in the study of in-person training, to understand better how students participate in this educational modality. Scaffolding development in line with how to build academic engagement in online learning, through mapping aims to identify the characteristics of production in a given subject. The results show that there was a considerable increase in the articles published linking academic engagement and MOOC.

Analysis of development used the qualitative method, with exploration approach, although there is some technical development. The study of the patterns of participation and learning design emerged as a significant topic of interest in the field. In addition to providing a general overview of production on the subject, this study provides accurate information that would identify how to accept membership in the academic community for more in-depth review. Thus, the method offers a descriptive qualitative analysis of literature search methods that are applicable and flexible for a variety of research interests (Guajardo Leal et al., 2019). Most publications are mapped using qualitative methods, with exploration approach, although there are some correlational studies.

The learning activities require a project similarity condition of procedural learning and put on the features of an online discussion. Larsen-Freeman (2000) found not the main group of collaborative learning developing to be typical, but the procedural instruction in collaboration between the learners and teachers is essential. Nunan (1992) also suggests important questions to consider in the collaborative learning are what class of organisational patterns and types of class assignments, where students are given the knowledge in the procedures of how to negotiate meaning. In some cases similarity in the fields of humanities, scaffolding procedures in accordance with how to accomplish together in the field of language (Nunan, 1992). Features online discussion is a recommendation for the future how to improve procedures for collaborative interaction synchronous environment. Englert, et al (2007) also has the same view on the need for technology that provides comfort and encouragement procedural giving rise to an increase in project writing. So for the purpose of extending the capabilities of computer-supported collaboration, research suggests the similarity scaffolding procedure in technology-supported projects and synchronous discussions online.

Automation scaffolding is an effort to help students decide on the selection of the academic group membership. Several studies using scaffolding generally use characteristics dialogic scaffolding which is the way the scaffolding process enacted through dialogic interaction between teachers and learners (Rojas-Drummond, Torreblanca, Pedraza, Vélez, & Guzman, 2013). In addition, many studies use the tools of social-cultural Discourse Analysis and Ethnography of Communication. The differences of these studies is the scaffolding provides automation for the application of the data system to give a role to quiz and survey engine that helps the teacher's role dialogically to interact with students to increase their understanding in the context of the academic community. This role is not composed of a social-cultural perspective to understand the student's decision and the process of development. The system helps to build bridges between conceptualisation scaffolding and dialogical approach for studying the processes of deciding the academic community. The results demonstrate the potential of the system to provide help on how to interact and dialogue.

Automation scaffolding is made online because students have been accustomed to receiving information online. Several studies have revealed that the addition of many scaffolding features can increase student motivation and collaboration, called scaffolding as motivation, and generally in the design of distance learning (Tuckman, 2007). Installation of scaffolding general is still done manually to increase engagement, and performance, particularly among users. Selection of automated is done in an online system based on the study skills of the use of web-based learning (Morphew, 2000). Strengthening the use of scaffolding in the choice of academic groups based on the students' ability to receive information obtained that covers the same content or a variety of different content. All research activities are generally limited to comparing scaffolding-based learning methods, and motivations. Automation scaffolding in MOOCs is part of the scaffolding motivation to achieve knowledge of the selected community groups. Scaffolding in theory should be able to support learning skills, where students keep focus on the content of information. The results of some studies also show that students who do not get the scaffolding would be problematic. Students who get the scaffolding will perform better.

Conclusion

Automation Scaffolding is a feasible procedure for accepting new members in the academic community. Scaffolding project is based on the similarity. Strategy admission of the use of the scaffolding procedure is intended to provide the ability to motivate learners to decide for themselves what is the particular work environment. The ability to collaborate in deciding to require synchronous online discussion feature support is effective. Learning environment supported collaborative systems continuously needs to be developed.



The excellent scaffolding procedure is to improve the collective ability within the similarity collaboration project. Scaffolding procedures include how to strengthen the process and how to use synchronous online discussion space to facilitate collaborative practices. Thus, allowing many learners to work synchronously through discussion features. The need for scaffolding procedure has an important role in increasing collaboration capabilities to solve the problems together in a learning environment with the condition of similarity project.

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