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Boosting Students' Participation Through the Implementation of Virtual Station Rotation Model

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Abstract

In the amid of Covid-19 pandemic, almost all schools and other educational platforms are forced to switch the conventional learning into an online learning system. Based on several previous studies, it is found that students' low participation is one of the major problems experienced by teachers and lecturers. In line with that, this article aims to modify traditional station rotation model into a virtual model in order to fulfill teachers' need to accommodate and increase student participation in online learning. This article starts with an evaluation of previous research that discusses the concept and procedures to implement the traditional station rotation model in learning. The discussion leads to the potential of modifying the traditional station rotation model into the virtual model. The implementation of the virtual station rotation model in this article will emphasize the possibility of applying this model to increase student participation in online learning which is currently being carried out by almost all schools. The results of the research reviews discussed in this article show the great possibility of applying this model to online learning in order to increase student participation. Furthermore, this research can be used as a reference in applying and developing this learning model both in the implementation of classroom teaching and further research.

Keywords: Station Rotation Model; online learning; blended learning.

The sudden emergence of the Covid-19 outbreak greatly shocked all countries. This is not only because this epidemic affects the health sector of a country's population, but it affects almost all sectors, including education. The COVID-19 pandemic is even declared to have caused the biggest disruption to education in history, with an almost universal impact on students and teachers around the world, from pre-primary to secondary, technical and vocational education and training (TVET) University, adult learning, and skills development (Nation, 2020) . In the amid of Covid-19, in-person meeting can no longer be implemented, and must be switched into online learning. Thus, universities and other educational platforms have responded to the pandemic with quick digital transformation of their educational activities (Adedoyin & Soykan, 2020). Online learning refers to a

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distance learning by utilizing internet and other technological devices in order to achieve learning objectives, media for delivering teaching materials, and management of programs (Fry, 2001).

Theoretically, online learning provides unique opportunities for students to follow any learning material, because it is considered to be able to adapt it to the styles and preferences of each student. Students can also control the learning process, engage in social interaction and dialogue, and develop various modes of representation and become more self-aware (Oliver & McLoughlin, 1999). The interaction here refers to the interaction of teachers and students, among students, and students with content (Gillett-Swan, 2017). In adult learners, learning should be learner-centered by multiplying models of inquiry to create situations where students build knowledge and share it with experts and peers who, on support, offer authentic evaluation and timely feedback.

In fact, the concept of interaction, as it applies to online learning, is more complicated than it has been treated in traditional in-person meeting (Zacharis, 2009). Low learner participation is declared as one of the most serious issues in online education (Song, Rice, and Oh, 2019). This problem triggered by poorly designed interaction opportunities for learners. Swan in 2017 added that teachers are still having difficulties in providing beneficial learning experiences as they themselves may be still adapting to use some of the online platforms.

Furthermore, these challenges are in contrast with research that shown that and effective and meaningful online learning are only happen. when learners are provided with engaging and interesting interaction activities (Picciano, 2002). Besides, Indonesian law and act of education, UUSPN No. 20/2003 stated that education that develops the ability, character and dignity of the nation should be applied in an interactive, fun and challenging activities in order to engage students to actively involved in each teaching and learning process by nurturing their talents, interests and physical and psychological development of learners (Indonesian Minister of Education and Culture Regulation, 2013).

Referring to this problem, it is very important to apply a learning model that can accommodate and increase student participation in every online learning. This article will be focused on modifying traditional station rotation model into a virtual model in order to fulfill teachers' need to accommodate and increase student participation in online learning.

Virtual Station Rotation Model

In the traditional Station Rotation model, students are provided with at least three stations that requires students to move physically to each of them in turn within an allotted time (Mondragon, 2018). Each station is prepared with different teaching and learning strategies in order to have the students accomplish a certain task and complete the whole cycle of activities; focusing on a single topic or competency. Oliver in 1999 stated that the stations include direct instruction from the teacher, small groups or whole class activities, group works, individual mentoring and assignments. These three stations are commonly called station 1, 2, and 3. Station 1 is commonly used for Small Group Instruction which is facilitated by the teacher, Station 2 consists of Independent work or Collaborative activities and Station 3 is for the Online Learning. When the time is up, the teacher gives a sign and instructs the students to rotate and go to the next activity at the next station. The population is all students of 8th grade, and two classes were taken as samples. To decide the sample, the writer used a cluster random sampling, using the lottery method of sampling. In this sampling technique, the writer wrote name of class VIII-1 until VIII-9 on a piece of paper then put them into bottle and shook the bottle twice. One roll of paper

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was taken out at a time. The writer got VIII-1 for the experimental class and VIII-6 for the control class. The number of students in both classes are equal; 37. Therefore, 72 students were taken as samples.

The traditional station-rotation model gives students the opportunities to rotate around three stations provided by the teacher (Paul & Richard, 2017). Indirectly, by applying this learning model students are encouraged to be able to communicate well with group members as well as to manage their focus and concentration. In other words, student participation in every lesson is clearly visible in this learning model. This is in line with Varghese in 2019 who stated that students will be less distracted and become more interested to learn than ever before.

In this online learning situation, the traditional Station Rotation Model is obviously impossible to be implemented in a classroom, and must be modified into a virtual station rotation model. To be able to apply this model virtually, teachers must be equipped with an online meeting application such as Zoom, Google Meets, etc. Similar to the traditional application of this model, teachers will still prepare approximately three stations for students to complete their missions. The difference is, teachers must prepare it in the form of a presentation and present it with the help of the Breakout Rooms and Share Screen features in the either Google Meets or Zoom application.

Implementing a Virtual Station Rotation Model

The virtual station rotation model covers three types of activities or what so called station rotation. The three stations are; 1) virtual teacher led instruction, 2) Online station or collaborative activities, and 3) offline station (Tucker, 2020). Moreover, to be able to implement a virtual station rotation effectively, teachers should follow several steps in preparing a virtual station rotation model (Mason, 2020).

1) Planning

First, teachers should backward their planning by investigating some questions, such as: What do you want your students to know, What learning activities are your students familiar with or enjoy, What routines and procedures do you need to facilitate rotations, and How will you hold students accountable and assess students' progress.

2) Setting Up Slides

This step requires a slides deck for teachers' rotation home base. Furthermore, students have to be able to access it at the same way they access their assignment and resources. Google Slides is one of the examples where teachers are able to create collaborative slides. These slides are where the teachers outline the activities and procedures, provide direction for each station, and include resources links. The detail explanation of each of these three stations in the virtual station rotation is discussed in Table 1.

Based on Table 1, various meaningful activities can be done through this model. For instance, in a language learning setting the teacher may start their activity by delivering an instruction for the groups and sharing the teacher's expectation upon their meeting. This activity might follow by a group work where the students have to collaborate synchronously in a group setting to complete a certain task. Next, each student will be given a time to work asynchronously to write a report about their recent group discussion. By doing this activity, all students are challenged to be active and proactive in joining their group discussion. Finally, the teacher should gather them all together to discuss and give feedback on students' work. This station rotation model may be ended by having games which let the students having a more positive perception of their learning environment as well as release their stress.

3) Rehearsing

It is important to attempt teachers' slides before

Table 1. Virtual Station Rotation Activities

Teacher-led station	Online Station	Offline Station	Extension Activity
1. Small-group instruction 2. Skill-building 3. Troubleshooting 4. Feedback 5. Question and answer session	1. Personalized practice 2. Research & exploration 3. Online collaboration 4. Multimedia lessons 5. Edpuzzle videos	1. Labs / experiments 2. Active reading 3. Writing 4. Creating 5. Old School / Non-Tech options	1. Work for early finishers 2. Passion projects 3. Further exploration 4. Games

they are conducted in the real classroom. Teachers are encouraged to test out the process with their students. This is to anticipate that technology as well as the rotations does not work properly. Thus, teachers should allocate their time to go through the slides along with the students and share strategies and solutions to cope their challenges.

4) Implementing

How teachers implementing their rotation is obviously depends on their teaching schedule (Mason, 2020). Technically, in the first rotation a group of students (group A) conducts guided learning activities led by the teacher while the second group (group B) conducts online activities by browsing the internet related to learning material. At the same time, the last group (group C) conducts discussions about the learning material being taught.

This first rotation is to be repeated for another two times to be able to facilitate all groups to experience the same activities (Mahalli & Nurkamto, 2019). For the last steps, at the time of virtual meeting with all students, each group will be invited to present the results of their group discussion either online or offline (recorded), and continues with class discussion. Finally, all of these rotations are possibly implemented by maximizing the Breakout Room and Share Screen features in Zoom application.

Researches on Blended Learning Classroom using Virtual Station Rotation Model

Virtual station rotation is a simple learning model that facilitates small group of students to interact actively with their teacher. This article notes many benefits of a traditional station rotation model that are explained by researchers. These characteristics are assumed to be in line with the implementation of the virtual one as they both applied the same procedures.

First, Mahalli & Nurkamto in 2019 finds out that the implementation of station rotation model on university students are able to facilitated them to be active in independent learning without having the urge to meet the teacher in person. Moreover, the researcher added that this model can also facilitated the students' flexibility to ask for confirmation when they are unsure among their small group members. As a summary, the researcher found out that the stations which combined with technology allowed students to learn independently at their own pace.

Second, this learning model is declared able to assist teachers to cater various types of students to achieve better learning results within a single classroom (Varghese & Ranjith, 2019). This is a result of giving extension activities for the brighter students as well as encouraging them to teach their less bright peers after they complete their work. In contrast, the weaker students take benefit as they get a fair attention from the teacher at a point when others are engaged in independent work. In addition, the researchers state that the

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implementation of this model helps students become less distracted and more interested to learn than ever before. Consequently, the researchers strongly suggest that this model can be implemented in all school, especially the one that wish to include all kinds of learners in the future.

Third, this model encourages students to be active learners, technology literates and also increases students' responsibility (Nisa & Mubarok, 2018). This model allows students and teacher to interact directly in an intimate discussion. Besides, students are able to explore their understanding by sharing knowledge among their group members and do independent research from another source on the internet. In other words, students are able to explore their skills both individually and also collaboratively. For teachers side, utilizing technology in this model helps teachers monitor students' participation and its patterns closely in order to identify further students' need and scaffold learning accordingly (Vonderwell & Zachariah, 2014).

Fourth, station rotation model offers choices and differentiated activities which cover various students' needs. In addition, the differentiated approach that implements in this model instruction triggers higher order thinking skills among the students (Zacharis, 2009). In line with this statement, (Christina, Rusijono, & Bachtiar, 2019)Christina et al. (2019) emphasizes that teachers should remember that the most important part of enhancing students' higher order thinking skills is not only to have them solving the written problems but also to prepare them to face the real problems in their real life. The way we teach them and the process of learning drives the students to develop their thinking skills.This is a decent start for the students to nurture their higher cognitive levels. Also, this model drives the students' creativity to innovate and to produce new things. The researchers emphasized that this model not only grows students' wisdom but also enhances their problem-solving skills. On top of that, the students are having an enjoyable and meaningful learning experiences which undoubtedly becomes a good climate for their learning process.

Last, this station rotation model is significantly improved students' achievement in core subjects (Ayob et al., 2020). It is believed that this model used in blended learning classrooms is constructively built good perceptions in the teaching and learning process. Equally, Govindaraj and Silverajah in 2017 states that students' learning experience are enhanced as this model offers various activities in each station, which is consequently affects the improvement of students' score. Another possible reason is that immediate feedback shared by the teacher can improved students' high cognitive level. As a summary, these researchers agreed that the implementation of this model benefits students in terms of both their cognitive level and their core subject scores.

Based on the explanation above, the station rotation model is positively benefit both teacher and students in their learning process. Students will be able to explore and construct their own understanding independently at their own pace before they share and confirm it to their teacher. It is surely enhanced their higher level of thinking. Moreover, they are challenged to actively participate and mingle in an enjoyable small group discussion. Equally, teachers will be able to cater various students' need within one classroom. It is also facilitating both brighter and weaker students to get a fair attention without feeling bored, isolated or left behind. Also, it is able to be applied in almost all level of students.

According to the benefits mentioned by those researchers on the positive impacts of implementing the traditional station rotation model, it is assumed that it carries the same impact with the implementation of the virtual one as they follow the same procedures. Furthermore, in the amid of Covid-19 pandemic where physical interaction is limited, having an intimate virtual discussion among

peers is strongly improve their interaction and motivation in a learning process. By doing various activities provided in each station, students will face enjoyable learning experiences that challenged their focus and interaction at the same time. Students' anxiety of being out of one's comfort zone; inequity in accepting teachers' attention and explanation particularly in "group" assignments; and, the inability or difficulty in peer interaction is reduced. On the other hand, teachers will not feel discouraged seeing the low participation of students in online learning which is caused by monotonous learning activities. The implementation of this model also helps teachers to provide variations of activities in the online learning situation.

Nonetheless, the implementation of this model can be tricky. First, there is a possibility that each group move at their own speed and certain station might become overcrowded if more than a group happen to be working at the same speed. In order to cope this potential challenge, the waiting groups can opt for a different station, returning when the station is less crowded. Second, it's not always possible to ensure that each activity consumes each group the same amount of time, but teachers can reserve a few minutes at the end of class for students to go back and complete any activity they missed.

Conclusion

This paper reported the procedures in implementing the virtual station rotation model in an online classroom. Past studies that used the traditional model are discussed to strengthen the assumption that the virtual station rotation model carries positive impacts for both teachers and students. In short, virtual station rotation model promising significant potentials on students' interaction and participation in online learning. Besides, by utilizing the potential of a virtual station rotation model, teachers will not feel discouraged seeing the low participation of students, while at the same time tackle their need for providing variations of activities in the online learning situation. According to these promising benefits of a virtual station rotation model, the writer

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