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Infusing Active Learning Strategies into Station Rotation Model in English Classroom

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Abstract

The purpose of this study was to provide educators and other individuals research data who are interested in the Station Rotation blended learning model with an opportunity to peek inside a classroom setting as the model was being implemented in language classroom with large student enrolment. The research used class action research with two cycles in which first cycle applied three stations in one time; then continued by two station with brain storming closing to maximize the exploration of each station member. Active learning was infused to maximize each students performance during the stations. The result shows that (1) active learning infused into vocabulary station were : The power of two, everyone is a teacher here, etc. ; active learning strategies infused into speaking station were : team quiz, jigsaw learning, fish bowl, etc; and active learning infused in writing station were : the power of two, write here and now. (2)The result of variance shows the difference and the number of observation samples for the value of pre test as many as students and the value of post test as many as 54 students. Based on the result of t-stat analysis of -3.1573944259. The hypothesis used is a two-way hypothesis that uses two tail, the result t table is 1.670648865 with probability 0,002491215. Because the probability value is less than $\alpha = 5$ percent or by looking $|t\text{-stat}| > t\text{-table}$ so it rejects H_0 which means there is a significant difference between the student score before and after the station rotation learning model application with infused active learning strategies.

Keywords : Active Learning, Station Rotation, Blended Learning, English Classroom

Introduction

English is one of the only working languages used by the UN Secretariat, and English is also commonly used in most business meetings (UN, n.d.). Additionally, the increasing number of international students coming over to English-speaking countries shows how important the English language is all around the world. Swales (1987).

Higher educational institutions have increased the English-medium courses taught by many educators because Indonesian students need to have English competency before they graduate from their colleges and universities. Some effort has been put to increase students English quality. But some also believe that with the minimum time of learning basic medium English will not be able to cover all need to English mastery. Different student inputs, students perspective about English, historical study factor play important role on English learning. This facts bring challenges for English teachers in graduate campuses because learning a second language, especially English, takes numerous years of training to become a fluent and native speaker.

The process of teaching and learning English as a foreign language has taken many steps to improve the way of acquiring and mastering this means for communication to become closer to joining the worldwide community. University like Islamic University in Yogyakarta also struggle to reach the goal to make all the graduate students comprehending English. English as a compulsory subject with 2 credit semester require 100 minutes learning process in each week focuses on general English and text comprehension. With the very short time and high level goals combining all aspects of general English i.e. speaking, listening, reading, grammar, vocabulary enrichment and writing pushed English educators to find best teaching strategies to maximize teaching – learning results in the classroom. It will pose more challenge when dealt with large class enrolment.

This research takes place in English subject in three classes of Islamic education department students of Islamic University of Indonesia. Each of three classes had 55-65 students. To accommodate large class enrolment, one of the teaching model chose to accommodate it was station rotation learning model which was one of blended learning models. Blended learning is “a formal education program in which a student learns at least in part through online delivery of content and instruction with some element of student control over time, place, path, and/or pace and at least in part at a supervised brick-and-mortar location away from home” (Horn & Staker, 2015, p. 34). The choice to apply station rotation model in the classroom was because it will enable students to have more opportunity to explore their English capacity and also create more cooperative learning to accommodate students from difference inputs.

This research takes class action research with two circles in which occurred quiet surprising result because in the second meeting, researcher found that only active students could participate well in teacher led instructor station and collaborative stations. Students with low English capability didn't get more opportunity due to their lack of vocabulary and their psychological shy perspective that makes the station was dominated by students with good English. To accommodate this difference the teacher then infusing active learning with the purpose to push and motivate all students to have

opportunity to be active in the stations. Therefore paper means in focus discuss about how active learning to be infused in station rotation blended learning model. Another reason for conducting this study was to add to the literature on utilizing the Station Rotation model of blended learning in the classroom.

Research Question

Delivered from the rational above, research questions discussed were : (1) How is the application of infusing active learning strategies into station rotation blended learning model? (2) What strategies infused into station rotation blended learning model? (3) How is the results of the strategies infusion in students engagement and student understanding

Literature Review

Many studies have been conducted on blended learning modifications. Truitt in her dissertation discussed about how different instruction capacity of educator play important role in succeeding station rotation model. (Truitt, 2016) Allen (2005) explored about infusing active learning in large class enrolment. Allen provided an overview of tried-and-true approaches for incorporating active learning, ranging from the simple to complex. The paper highlighted those that have been implemented in the lecture classroom itself, rather than those that make use of small-enrollment lab and discussion sections, or of virtual environments such as electronic bulletin boards and computer-based learning modules. we will focus for the most part on strategies and activities that typically do not require such a radical reframing of current standard practice, and are therefore more readily accessible to most science educators. Some papers and blogs also discussed about modification of blended learning.

The research focuses on how to modify station rotation model uses many aspects online and offline, direct indirect teaching learning model such as: personalized online Instructions, Teacher Led Instruction, and Independent & Collaborative Practices which then infused with active learning strategies in each station reach general English teaching learning goals.

Theoretical Framework

Blended Learning

The term “blended learning” in general refers to the use of technology to allow students the opportunity to learn at different times, locations, and paces. This term are various models that define how the blended learning looks within the classroom. Many models of blended learning exist in today’s classrooms. Four widely accepted models that are being adopted by educators are the following: the Station Rotation model, the

Lab Rotation model, the Flex model, and the Flipped Classroom model (Staker & Horn, 2012; Walne, 2012).

Currently, blended learning takes place at all levels of education including primary, secondary, and collegiate settings. Each level of education and each classroom within that level looks different. Due to these differences, the model of blended learning that is chosen for the specific learning environment may be different. The implementation of the model chosen will also look differently in each learning environment. And the model we chose is Station Rotation Blended Learning Model.

Station Rotation Learning Model

The Station Rotation model is a blended learning model in which the teacher divides the students within a classroom into three to four groups. These groups rotate through a series of stations, one of which must be technology based (Horn & Staker, 2015; Walne, 2012, see also A Case Study, 2015: 15)

A rotation model implementation in which within a given course or subject (e.g., math), students rotate on a fixed schedule or at the teacher's discretion among classroom-based learning modalities. The rotation includes at least one station for online learning. Other stations might include activities such as small-group or full-class instruction, group projects, individual tutoring, and pencil-and-paper assignments. Some implementations involve the entire class alternating among activities together, whereas others divide into small group or one by one rotations. The Station Rotation model differs from the Individual Rotation model because students rotate through all of the stations, not only those on their customized schedules. (Charterschool)

This teaching model is one of the four model of blended learning. A formal education program in which a student learns – at least in part – through online delivery of instruction and content, with some element of student control over time, place, path and/or pace.

1. Small group instruction by the teacher,
2. Collaborative or independent practice
3. Self-directed online activities.

Station Rotation Model is a course or subject in which students experience the Rotation model within a contained classroom or group of classrooms. The Station Rotation model differs from the Individual Rotation model because students rotate through all of the stations, not only those on their custom schedules.(Christensen Institute). (Heather Stakerand, 2012)

Timeframes will vary, in order to be responsive and proactive to meet students' needs. Additional, whole group instruction provides experiences for students to learn and discuss common texts and concepts.

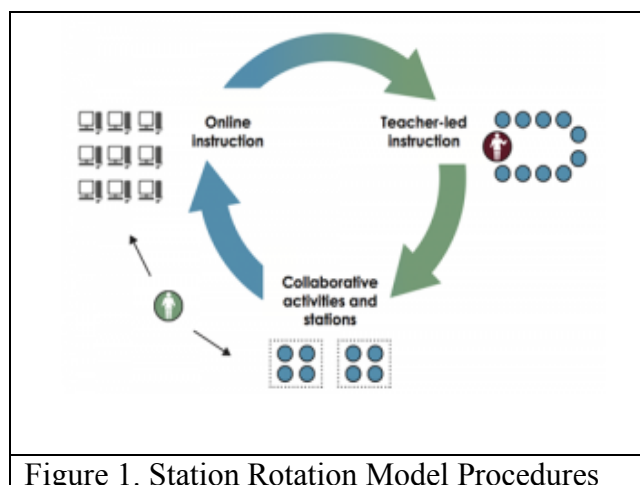


Figure 1. Station Rotation Model Procedures

Station one: *Teacher Led Small Group Instruction*- At the independent practice station, we use an assessment, worksheet, or game to build on a newly introduced skill or reinforce an existing skill or activity. Lecturer will give instruction prepared. Station two: *Collaborative Activities and Stations* - Smaller learning communities also provide students with more opportunities to work collaboratively and engage in a variety of activities that appeal to different learning modalities (auditory, visual, tactile and kinesthetic). Students engage with the world in different ways, so it's important to keep activities and tasks varied to ensure every student is able to receive and process information in a way that works for them. (Tucker, 2015) Station Three : *Online Instruction*- The online component can take many forms ranging from students using dynamic creation tools to researching topics to using adaptive software depending on the objectives of the lesson. However, the addition of an online component requires that teachers have access to technology in some form or another to execute the Station Rotation Model in their classrooms.

The use of these station could be started by any stations. So students should not start only from certain station. Learning stations are not a new concept in education, so this is an easy model for teachers who are shifting from a traditional teaching model to a blended learning model. Teachers can use this model within a traditional classroom setting by simply breaking students into small groups and having them rotate through different stations set up around the classroom or rotating the whole class through a series of learning activities.(Tucker, 2015)

Benefits :

1. Requires very little adjustment to teacher contracts, facility design, or the classroom overall. It's just a new way for teachers to organize the flow of time within their classrooms.
2. Allows teachers to work with smaller groups of students. Can help ameliorate the problem of high student-teacher ratios. Some schools have implemented a Station-Rotation model to deal with large class sizes.
3. Facilitates the use of project-based learning as a station to complement the online-learning station.

Challenges

1. Teachers need to learn new skills, such as how to plan the right small groups for face-to-face time in response to the data that the online- station is generating.
2. Classrooms need a robust learning management system to help fit each student to the right online content and to generate actionable reports for teachers.
3. The online-learning station needs to be easy for students to do on their own with minimal adult intervention.
4. When applied in English subject, non-English spoken students will have difficulties to explore their ideas among their friends in collaborative activities (Speaking station in English subject version) and teacher lead instruction station in listening and speaking station.

At the university level, blended learning is seen as a method where the students access much of their course content using an online format. During the time in class, students may listen to a lecture, participate in small group work, complete labs, or participate in other face-to-face activities (Ireland et al., 2008; Mason, 2005; Snowball, 2014 in).

Active Learning Strategies

Active learning instructional strategies include a wide range of activities that share the common element of —involving students in doing things and thinking about the things they are doing (Bonwell & Eison 1991).

Constructivist learning theory emphasizes that individuals learn through building their own knowledge, connecting new ideas and experiences to existing knowledge and experiences to form new or enhanced understanding (Bransford et al., 1999). The theory, developed by Piaget and others, posits that learners can either assimilate new

information into an existing framework, or can modify that framework to accommodate new information that contradicts prior understanding. Approaches that promote active learning often explicitly ask students to make connections between new information and their current mental models, extending their understanding. Approaches that promote active learning focus more on developing students' skills than on transmitting information and require that students do something—read, discuss, write—that requires higher-order thinking. They also tend to place some emphasis on students' explorations of their own attitudes and values.

Strategies used were active learning strategies from 101 Active learning strategies, a book from Melvin L Silberman. Some of them can be described such as:

1. *The Power of two* - This activity is used to promote cooperative learning and to reinforce the importance and benefits of synergy that is that two heads are indeed better than one
2. *Think-Pair-Share* and reciprocal teaching. Cooperative learning falls under the **student-centered approach** because learners are placed in responsibility of their learning and development. This method focuses on the belief that students learn best when working with and learning from their peers.
3. *Information Search*-This method can be likened to an open-book test. Teams search for information (normally covered in a lecture) that answers questions posed to them. This method is especially helpful in livening up dry material.(Mel Silberman, 2005: 161).
4. *Card Sort* - This is an active team-based strategy that can be used to teach concepts, classification characteristics, or product knowledge or to review information. The physical movement featured can help to energize a tired group.
5. *Team quiz* - The class is divided into three teams. Team A creates a short-answer quiz while Teams B and C review their notes. Team A quizzes Team B. If Team B misses a question, Team C gets a chance to answer the question. The next question goes first to Team C, and missed questions revert to Team B.

Research Design and Method

This research uses class action research. Classroom Action Research is a method of finding out what works best in the classroom so that teacher can improve student learning. We know a great deal about good teaching in general (e.g. McKeachie, 1999; Chickering and Gamson, 1987; Weimer, 1996), but every teaching situation is unique in terms of content, level, student skills and learning styles, teacher skills and teaching

styles, and many other factors. To maximize student learning, a teacher must find out what works best in a particular situation.

There are many ways to improve knowledge about teaching. Many teachers practice personal reflection on teaching, others conduct formal empirical studies on teaching and learning. The class that is used to do this research is Islamic Education, Faculty of Islamic students at Islamic University of Indonesia.

Some steps will be done due to some guidance towards class action research. Lewin's description of the process of change involves three steps. (*Kurt Lewin 1958*). (1)*Cycle 1* covers preparation, learning contract and first teaching period. After each practice, the class will discuss how they did, and the teacher would help students chart their progress on a class graph. Each practice session would be only a few minutes long. (2)*Reflection* –in this step, teacher and researcher evaluates the weakness of the strategies used then decide to use the same strategies, composing different ones with revised version.. 3). *Cycle 2* -This stage of action research is the action, or transformation, phase. It includes actions relating to learning processes and to planning and executing behavioral changes in the client organization.(Richard, 1976); 4) Evaluation and Conclusion-This stage of action research is the output or results phase. This stage includes actual changes in behavior (if any) resulting from corrective action steps taken following the second stage. Data are again gathered from the client system so that progress can be determined and necessary adjustments in learning activities can be made. (Richard, 1976) then ended by taking final conclusion.

Results and Discussion

1. Station Rotation Implementation

a. Activity Plans

Preparation All the Things Needed such as (1)Preparing Lesson Plan, (2) Preparing References (3)Doing Pre Test, (4) Evaluating pre test result, (5) Starting Cycle 1 in the first half semester, (6)reflecting first half semester lesson (7)Preparation for second Plan, (8) Starting Cycle 2 in last half semester, (9)Evaluation and discussion (10)Summarizing and Conclusion.

The classroom in which this study occurred should have a Promethean board (an interactive whiteboard), two student desktop computers/laptop, and eight student laptops. Lecturer also has a laptop that will be used to instruct the class and to complete the necessary communications and paperwork that come with the classroom. These are the primary devices that were in the classroom, but from time-to-time as more devices became available on the

school's mobile cart, more devices can be brought into the classroom to lower the student to computer ratio such as android hand phone.

To ease student comprehension and to adjust station rotation steps with English topic, teacher transformed station rotation original term procedures into English topic terms which can be described in this table below:

Station Rotation Term Procedures				Station Transformed in English Class
Teacher	Led	Small	Group	Writing Station
Instruction				Reading Station
				Speaking station
Collaborative Activities and Stations				Speaking station
				Vocabulary Enrichment
Online Instruction				Vocabulary Enrichment
				Reading Station
				Writing Station

Table 1. Station Term Transformation

b. Cycle 1 : First Half Semester

Rotating Stations in One Teaching Duration

Due to this is a very first semester, students mostly discussed about learning contract. Each Students gets information about how the lecturer do station rotation learning practices during the semester. They also learn how the classroom rules will run, how the learning approach will be done, how the score will be taken. Reading Text subject is a two credit, thus it will take 100 minutes every week only.

In the second meeting or second week, students get a pre-test question. The questions are 50 and each question represents each grammar focus which allow the lecturer to know about basic student English capability. This part uses all the stations into one teaching learning duration. the demonstration will be directly combining 4 stations in one time was described in the table below:

Meeting	Topic	Stations Used
1	Introduction Station Rotation orientation	Introduction, Learning contract, English subject orientation and station rotation procedure comprehending
2	Written pre test	Pre Test
3	Family	Vocabulary Station and Listening Station
4	Education and global condition	Vocabulary Station and Speaking station
5	Islamic education	Infusing active learning in vocabulary station (the power of two) and online drive and the power of two into reading station (online instruction)

Meeting	Topic	Stations Used
6	Grammar : part of speech	Applying flipped classroom the meeting before then discussed the results.
	Inclusive Education	Infusing jigsaw learning in reading station (collaborative activities and stations) and role play into speaking stations

Table 2. Teaching and infusing process illustration

Applying two station in one time teaching, it was quiet surprising result because in the second and third meeting, researcher found that only active students could participate well in teacher led instructor station and collaborative stations. Students with low English capability didn't get more opportunity due to their lack of vocabulary and their psychological shy perspective that makes the station was dominated by students with good English. To accommodate this difference the teacher then infusing active learning with the purpose to push and motivate all students to have opportunity to be active in the stations.

c. Reflections

After demonstrating stations in some steps, lecturer did some pre-test and resulted some score average 45. A clearly labelled chart was displayed/ posted, so that the students know where to go for each rotation. The first found by infusing active learning strategies into each station instead of using the original version of station rotation, students with medium English capacity started to build their self-efficacy and their e class engagement.

d. Cycle 2 :

Infusing Active Learning into the Stations

Steps that demonstrated were: (1)Lecturer explained about mid test result and review it. (2)Lecturer evaluated students feedback by using brainstorming methods to find the obstacles during station rotation application. (3) To maximize the time lecturer flipped the class to allow students to learn deeper about grammar. The purpose of the check-in is to continually remind students of the importance of their independent work time. (4) Lecturer had prepared the post, instructions, material, modules worksheets and evaluation paper. (5)The evaluation was done at home and students should learn more about the

material online at home. (6) The final examination became the last measurement to see how students improve their English.

Evaluation and Conclusion

2. Active Learning Strategies infused in the Stations

After doing such a long teaching learning process, in the last semester it could be concluded that some active learning infused to the stations is described below:

Station Rotated	Active Learning Strategies Infused
#Vocabulary Station (Online)	#The Power Of two
# Speaking Station (Collaborative and Station)	-
# Vocabulary Station	#Everyone is a teacher here
# Writing station	#Think, Pair Share
# Reading Station	#The Power of Two
#Speaking Station	#Team Quiz
# Vocabulary Station	# Everyone is a teacher here
# Speaking Station	# Fish bowl
# Reading Station (online drive)	
# Reading Station	# The great wind blows
# Writing Station	# write here and now

Table 3. Active Learning Strategies Infused

Results

From the pre-test and the post test result, it can be concluded that:

Independent Sample t-test examining is :

The test results showed in the following table

t-Test	Pre Test	Post Test
Mean	19,622950	24,86885246
Variance	35,00546448	147,1825137
Observations	61	61
Pearson Correlation	0,096124892	
Hypothesized Mean Difference	0	
Df	60	
t Stat	-3,1573944259	
P(T<=t) one-tail	0,001245608	
t Critical one-tail	1,670648865	
P(T<=t) two-tail	0,002491215	
t Critical two-tail	2,000297822	

Resource : Data mined in 2018

From the test using independent t-test sample, the average value before using station rotation was 19,622950 and the mean value after using role play was 24,86885246. So it can be concluded that there is improvement descriptively.

The result of variance shows the difference and the number of observation samples for the value of pre test as many as students and the value of post test as many as 187 students. Based on the result of t-stat analysis of -3.1573944259. The hypothesis used is a two-way hypothesis that uses two tail, the result t table is 1.670648865 with probability 0,002491215. Because the probability value is less than $\alpha = 5$ percent or by looking $|t\text{-stat}| > t\text{-table}$ so it rejects H_0 which means there is a significant difference between the student score before and after the station rotation learning model application.

Conclusion

From the implementation of station rotation learning model applied to English subject at Islamic Education Department, Islamic University of Indonesia, it can be concluded that:

1. Most active learning infused into vocabulary station were : The power of two, everyone is a teacher here; active learning strategies infused into speaking station were : team quiz, jigsaw learning, fish bowl, and active learning infused in writing station were : the power of two, write here and now.
2. From the test using independent t-test sample, the average value before using station rotation was 19,622950 and the mean value after using role play was 24,86885246. So it can be concluded that there is improvement descriptively. Based on the result of t-stat analysis, it rejects H_0 which means there is a significant difference between the student score before and after the station rotation learning model application.

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