

## **CHAPTER II**

### **LITERATURE REVIEW**

#### **2.1 Background**

There are five models under blended learning which is Rotation model, Flex model, A la Carte, and Enriched Virtual model. And then it's also shows that rotation model divided into some other model the first one is Station Rotation, Lab Rotation, Flipped-classroom, Individual-rotation. Station Rotation is a subcategory of rotation Model from Blended learning. In this part the researcher will discuss more about Blended Learning, Rotation Model and Station Rotation.

#### **2.2. Blended learning**

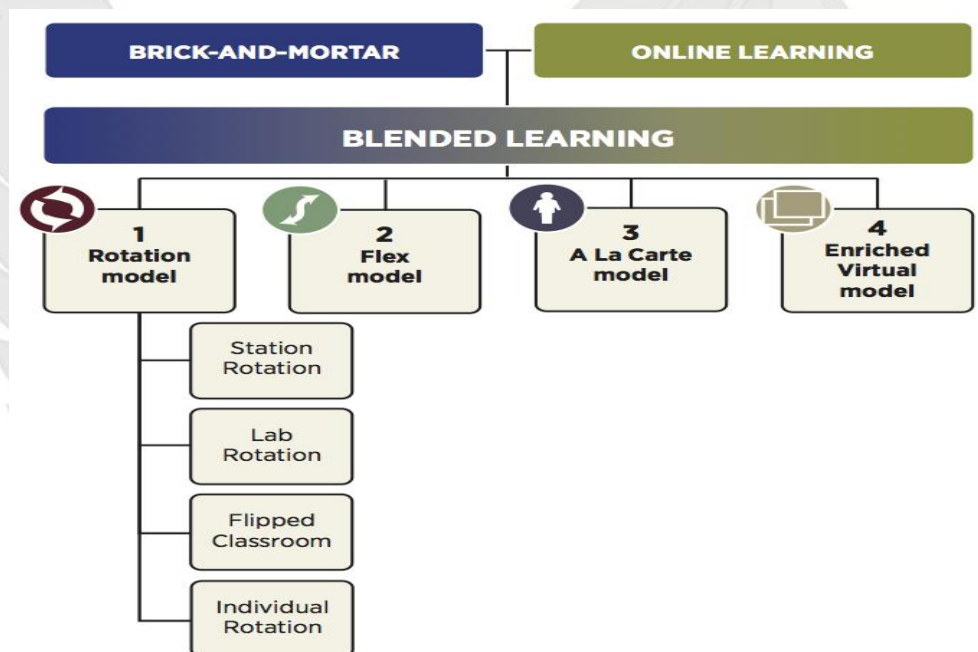
There have been many interpretations of the meaning of blended learning due to the evolution of terminology. According to Lorthridge et al (2013) blended learning is using two or more instructional delivery methods to impart knowledge and skills to the learner. Other definition comes from Wani and Dalvi (2013) blended learning is a combines e-learning tools with traditional classroom training.

Most researcher hold that blended learning is a learning method that incorporates several modes either several instructional methods or several educational environments such as that of online and face to face instruction (Driscoll, 2002) So the researcher can conclude that blended learning it's a combined of several instructional methods.

Arabasz and Baker (2003) revealed that 80 percent of all higher education institutions offer blended learning as a courses.

Underlying these data increasingly awareness that blended learning approaches and designs can significantly enhance the learning experience.

Albrecht (2006) reports high students' satisfaction with blended learning, and others gave reported faculty satisfaction (Vaughan & Garrison, 2006) this is confirmed by Marquis (2004) in a survey that found that 94 percent of lecturers believed that “blended learning is more effective than classroom based teaching alone.



Blended Learning 1  
(Catlin R. Tucker, 2016)

### **2.2.1 The Strength of Blended Learning**

Strength of blended learning parallel with the growing use of ICT in the educational setting, blending learning approach can be contributing tools to complete face to face experiences (Ginns & Ellis, 2009). Also, blended instruction offers an active learning environment with flexibility in using resources for the students and provides more time for faculty members to spend with learners in small groups or even individually (Oh & Park, 2009). In addition, blended learning has the potential to change students' experiences and outcomes through learning (Davis & Fill, 2007). Hameed, Badii, and Cullen (2008) in their study considered the efficiency of e-learning when mixed with traditional learning; they concluded that blended learning approach provides the most flexible method to e-learning. Another advantage of blended learning environments is its potential to offer many sources for learners. Azizan (2010) concluded that utilization of technology in physical classrooms offer extra resources for the students and this is expected to enhance learners' confidence and competence as well as improve the quality of learning. Chen and Jones (2007) outlined other advantages of blended learning such as deep understanding of topics by using web-based resources as well as active participation of students in class. Furthermore, online learning engagement provides an interactive setting for communication among teachers and students in the classroom and may facilitate cooperative activities even beyond the classrooms (Yuen, 2010).

### **2.2.2 Models under Blended Learning**

There are several models under blended learning according to Clayton Christensen institute (2015) Flex model, this model describes a program in which online teaching are the back bone of student learning, even if it directs students to offline activities at times. Students move on an individually customized, fluid schedule among learning modalities, and the teacher of record is on site. The

teacher of record or other adults provide face to face support on a flexible and adaptive as-needed basis through activity such as small group instruction, group project and individual tutoring. A la Carte Model, This model describes a scenario in which students choose to take one or more courses entirely online to supplement their traditional courses and the teacher of record is the online teacher. Enriched Virtual Model, This model describes a full school experience in which within each course, students divide their time between attending a brick and mortar campus and learning remotely using online delivery of content and instruction.

### **2.3 Rotation Model**

In the Rotation model learners rotate at fixed points in time or at the teacher's discretion between different learning stations. Course or subject in which students rotate on a fixed schedule or at the teacher's discretion between learning modalities, at least one of which is online learning. Other modalities might include activities such as small group or full class instruction, group projects, individual tutoring and pencil and paper assignments. Students learn mostly on the brick and mortar campus except for any homework assignments. (Horn and Staker, 2015)

## **2.3.1 Models under Rotation**

### **2.3.1.1. Lab Rotation**

The Lab Rotation model, like a Station Rotation, allows students to rotate through stations on a fixed schedule. However, in this case, online learning occurs in a dedicated computer lab. This model allows for flexible scheduling arrangements with teachers and other paraprofessionals, and enables schools to make use of existing computer labs. (Horn and Staker, 2015)

### **2.3.1.2. Flipped Classroom**

The Flipped Classroom model flips the traditional relationship between class time and homework. Students learn at home via online coursework and lectures, and teachers use class time for teacher-guided practice or projects. This model enables teachers to use class time for more than delivering traditional lectures. (Horn and Staker, 2015)

### **2.3.1.3 Individual Rotation**

The Individual Rotation model allows students to rotate through stations, but on individual schedules set by a teacher or software algorithm. Unlike other rotation models, students do not necessarily rotate to every station; they rotate only to the activities scheduled on their playlists. (Horn and Staker, 2015)

### **2.3.1.4 Station Rotation**

”The Station Rotation is a subcategory of the rotation model, which is defined as a course or subject in which students rotate on a fixed schedule or at the teacher’s discretion between learning modalities. The station rotation model does exactly what the name suggests-students rotate through learning stations in the classroom.” (Catlin R. Tucker, 2016)

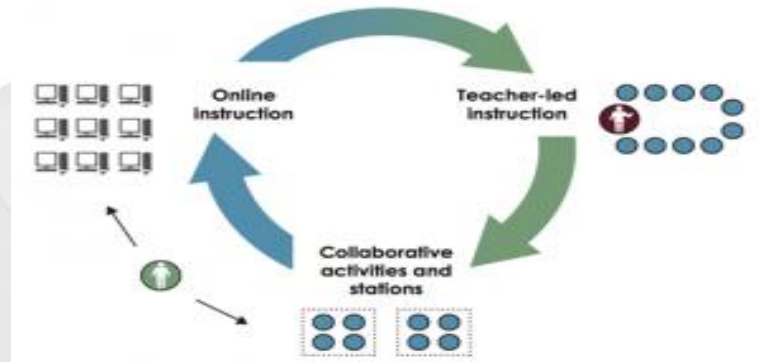
Horn and Staker (2015) define Station Rotation as a rotation that takes place within a classroom or set of classrooms. A course or subject in which students experience the rotation model within a contained classroom or group of classrooms, It differs from the individual rotation model because students rotate through all of the stations, not only those on their custom schedule.

Another definition of Station Rotation is from Sarria (2012) A rotation-model that implemented 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.”

From all definition of station rotation the researcher conclude that the Station Rotation model is a rotation model that is implemented in a given course and it is different from any other rotation model because students will rotate in all stations not only on their custom schedule.

Teacher can use this method to create small learning communities within larger class setting, design differentiated task to challenge various skill levels, and spend more time working individually with students. Instead of one –size-fits- all instruction where students move lockstep through a lesson, a teacher can use the station rotation to design dynamic

learning station activities that employ different learning modalities and allow for more differentiation and individualization to improve comprehension, retention and the students' ability to apply information. (Horn and Staker,2014)



Station Rotation

#### 2.4. Connection between Math and Station Rotation

“An innovative classroom is a creative classroom. To be creative means to break away from tradition and to do something unique, original, or different. To be of value to a classroom, creativity must be of a positive nature. Also, environmental conditions determine to a great degree whether or not the creative drive in humans becomes actualized. An effective way to provide physical stimuli for creative production is to use the "Station Method.”

The station method has proven to be a positive and creative way to utilize classroom space. A major caution, any teacher or instructor employing the station method must be willing to work hard. It takes organization, planning, and creative energy and thinking to operate stations at the optimum level. But, once achieving this level, all personal efforts will have been worthwhile. The children acquire a knowledge of and respect for the equipment and materials which they use. The children can be taught to use almost any of the hardware that is now available in the classroom.” (Carpenter, 2009)

According to Caitlyn R Tucker in her book *Blended Learning in action* ” station rotation can replace a traditional lesson especially in reviewing math problem as a class.

In the book *Math Work Stations: Independent Learning You Can Count On, K-2* by Debbie Diller shows that math could easily fit to the station rotation because during math activities reinforces and or extends prior instructions, allowing children the opportunity to develop their mathematical understanding. Math stations are time for children to practice problem, solving while reasoning, representing, communicating and making connections among mathematical topics as the teacher observes and interacts with individuals at work or meets with a small group for differentiated math instruction.

## **2.5. The Planning of Station Rotation**

The Station Rotation method is a natural extension for teachers, who use the learning stations already. When planning a station rotation lesson teachers usually begin with the whole class to outline the activity in each station, review expectations, articulate goals for the day, and distribute any materials to the whole group. However, teacher who doesn't have enough time and doesn't want to spend more time on the lesson can print out instructions for each station, create viewable Google documents with links and resources, or record short video tutorials for students to watch at each that explain what students supposed to do in that station.

The number of stations can be vary based on the lesson, there is no limitation of number for the stations. Other teacher has three stations, while the other prefer six. Teacher should decide specific number of stations that are going to use because that's how many individual activities they have prepared, or they can make decision based on how much time they have. (Catlin R. Tucker, 2016)



Here is how Rohrer and Samsons (2014) sets up the Station Rotation class

1. Think about students who might work well together or who have similar instructional needs or learning styles. Make three groups of students (or more or less depending on the number of students and staff you have). And give each group a name such as the red group, the blue group and the green group. If students will not stay with the same students throughout the station rotation, then do not use group names. Instead, each student should be listed on the rotation schedule for moving through the station
2. Select a time in your daily classroom schedule to have station rotation. While you can make other time frames work with a station rotation. We will use three 20-minutes consecutive segments for our example. The attention span of your students should be considered in determining how long the station rotation will be.
3. Give each station a name. You can be as creative as you wish, but it can be as simple as station 1, station 2, and station 3. The names of the stations will remain the same throughout the school year
4. Assign paraprofessionals or other staff if available to be at one of the stations.
5. Decide what type of activity will be at each station. being mindful of how long the students will be at each station. Consider including the following at one or two of the stations: direct instruction by the teacher of a new concept, independent work stations. Sensory activities or following a task analysis of a personal hygiene skills checklist.
6. Make one of the stations an independent work station if only you and one other adult are available. At this work station, the students will be engaged even though they do not have an adult to provide direct instructions or supervision.

7. Create a schedule for each student to follow. This might be a checklist type of schedule listing the stations in the order they are assigned. It is possible that the students will not stay with the same grouping throughout the rotation.

8. Determine how you will indicate when it is time to move from one station to another. We suggest using a time timer and a digital timer for both auditory and visual cues.

## **2.6. The Indicators of the benefits of a Station Rotation**

The three main reasons why Station Rotation is beneficial instead of other traditional approach to teaching according to Tucker (2006) are that it:

1. Creates smaller learning communities within the larger class
2. Employs variety of tasks and activities to increase engagement and allow students to engage with information in different ways
3. Makes it possible for teachers to spend more time working directly with individual students to improve learning outcomes

Other reasons of Station Rotation according to Staker and Horn (2015)

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 classroom
2. Allows teachers to work with smaller groups of students. Can help ameliorate the Problem of high student teachers ratios. Some schools have implemented a Station Rotation model to deal with large class sizes.
3. Facilitate the use of project -based learning as a station to complement the online E-learning station.

The researcher took the indicator based on the reasons the expert gave and developed it so that the indicators of the benefits of a Station Rotation are:

- 1. Creates smaller learning communities within larger class**
- 2. Employs a variety of tasks and activities to increase engagement**
- 3. Allow students to engage with information**
- 4. Make it possible for teachers to spend more time working directly with individual Students**
- 5. Improve learning outcomes**
- 6. Individualize their teaching**

These indicators are benefits for Station Rotation because smaller learning communities according to Onosko (1991) could promote higher order thinking skill. Classroom variety task and activities to increase engagement, allow students to engage with information is about education engagement an according to Cooper (2009) Education engagement is important for a classroom.

Learning outcomes covers the desired outcomes that students expect from participating in any particular program of higher education. It also covers the expectations of professional bodies and employers.(Nygaard, 2006)

According to Scriven (1969) teacher individualizes their teaching could increase learning so that students could become creative, lucid explainers, to practice good written communication, formulate ideas, synthesize knowledge, reason well and posses good memories.

## 2.7. Christian Perspectives on Station Rotation

As a teacher we know that our students are made in the image of God and they are unique because they are different from one another. The same goes for the way we teach. We need to realize that our students have different styles in learning maybe some of them are more visual or kinesthetic than the others but the important thing for us as a Christian teacher is to always find a way to help our students study effectively.

Since sin disrupt a classroom never functions as a perfect community. Sin affects all areas including education. They prefer to teach comfortably in their own comfort zone and there is no motivation on trying new method they forget the needs of the students. Sometimes for the sake of catching up with the materials the teacher doesn't care if the students understand or not, she or he only pays attention to the students who are smart and fast learning if they understand means everyone in the class should also understand. This would make the other students feels unfair and left behind because they will start to think of themselves as a bad student.

Teacher shouldn't let their students understand learning by themselves they should be the one who guide their students by using different method and strategy so that the students could learn and understand better. Station Rotation is a method that is helpful for the teachers now days to apply it in their class it makes possible for the teacher to do re-teaching and remedial without needing extra time.

In Station Rotation the teacher is in charge with one of the station and through this the teacher role as a shepherd is shown by guiding and making sure every student participates in the learning so that no one feels

like they've been left out. This is in line with the aim of Christian education which is to help and guide students become responsible and responsive disciples of Jesus Christ (Van Brummelen, 2009)

With this method also not only the teacher be the one that responsible for students learning but it helps the students to become responsible with their own learning through working in pace while moving to each station. Station Rotation helps teaching the students to become wiser with their own learning.

Station Rotation method also provides discipline in students' life when the students already accustomed to follow the rules or teacher's instruction it teaches the students to learn to follow authority of the teacher and helps preparing the students to become Gods faithful disciple who listened and obeying what they are told to do. Discipline is the opportunity to redirect students. As in Hebrews 12:5-11 says that discipline is not harsh treatment, but rather through discipline, students should see the grace of God, God's love and forgiveness. In disciplining the students, teachers need to use authority that given from God to perform their task of guiding and enabling students. Teachers use the authority to serve students, both through encouragement and when necessary through rebuke (Van Brummelen, 2009). When teachers apply the authority through discipline, teachers do so for the sake of giving students understanding and wisdom about the way to life as in Proverbs 6:23 says "For this command is a lamp, this teaching is a light, and correction and instruction are the way to life."

In this method the students learn to show their act of love towards their friends not only by interacting with fellow students and the teacher

but also voluntarily helping their friends in need who still doesn't understand the material really well.

