



Transformation of number head together method as adaptive way from COVID-19 effects.

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ABSTRACT

Background: COVID-19 affects education systems and leading to the closure of schools, universities and colleges. As the consequence, the learning process is done from home in which needs some adjustment on the delivery method of teaching-learning. To be specific, the teaching-learning process is about how teacher and students interact each other based on a certain method of learning.

Purpose: This study aims to investigate to what extent the NHT method can be used for an alternative method in promoting teaching-learning process in COVID-19 era.

Design and methods: The study used library research method which investigates data from the documents, such as articles, news, books etc. related to NHT. The findings are validated by using triangulation data source technique.

Results: the study reveals Transforming the method of teaching from offline class to online class is a way to solve in transferring the knowledge to the students. NHT is one of the many methods can use the meetings conference platform.

Keywords: COVID-19; NHT teaching method; teaching transformation

Introduction

COVID-19 (Coronavirus Disease-19) pandemic has affected education systems around the world, leading to the closure of schools, universities and colleges (Aji, 2020; Lathifah et al., 2020). One of many policies taken by many countries including Indonesia is closing all educational activities. Various activities such as school events, seminars, conferences, sports competitions and other activities are recommended according to circumstances in order to maintain common health. The current circumstances have made the government and related institutions have to present an alternative educational process for students. In other words, the students are no longer doing the educational process at site institutions.

As the consequence, the learning process is done from home (Richmond et al., 2020). Learning from home needs some adjustment as many methods of learning are created based on students' interaction on site. In some cases, parents are forcibly involved to help their children in learning process. Naturally parents send their children to school as the children learn better from the teachers and friends. The parents, also, are already believed in the schools especially teacher to guide the children in a good shape.

However, involving the parents with their own circumstances into learning process bear many obstacles. At the end of the lesson, it is still questionable that the children have or not accomplished the learning goals.

Based on the situation, the teachers need to improve their pedagogic skills. The teacher must be responsible on the achievement of their students. The teachers must lead the students

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to get the learning goals. However, the students access on the learning process are also need to be considered.

Many researches on learning method used in COVID-19 pandemic are shown various results. The learning process convert to online platform that connected to internet. Lesson that need much more physical activity is suggested to use Schoology by recording the activity in a video format (Jayul & Irwanto, 2020). For non-physical activity, students and teacher can use Google Classroom (Daniati et al., 2020). Both of the activity are recorded in a free learning management system of education. to build a communication among teachers and students, a message services is used such as WhatsApp (Sukmawati, 2021).

The usage of WhatsApp is similar like teachers giving only the material and task to the students. However, the students need more explanation rather than reading the materials. In some other way the government provide a TV program in a national channel. Similar to WhatsApp, the TV program gives small impact to learning (Putri, 2021).

However, learning is a process that need more attention from teacher and students. Together, they collaborate to reach learning goals. The method of learning that the teachers commonly used needs to be readjusted to not only the students' intake and so the learning sources and facilities.

The online learning is a condition that forces teachers and students to use a certain platform to interact each other. This interaction can adapt a single method of learning before the pandemic. To be specific, the learning process is about how teacher and students interact each other based on a certain method of learning.

A method was proposed by Spencer Kagan named number head together- NHT (Kagan & Kagan, 2009). The idea of this method is asking the students to collaboratively review the materials studied and check the students understanding autonomously (Arifin & Halim, 2021).

Based on the circumstances above, this study aims to investigate to what extent the NHT method can be used for an alternative method in promoting teaching-learning process in COVID-19 era. Moreover, this study is answering the principle of the NHT method, the procedures, and the kind of adjustment that teachers probably used for their online teaching.

Methods

In order to answer the purpose of the study, library research method is used. It is an investigation that uses data from the literature as theory (Gall et al., 2003). The data is studied and analyzed in order to obtain a hypothesis or conception to obtain objective results. With this type of information, it can be fully taken to determine scientific action in research as a research instrument that meets the research support standards.

The study design uses qualitative approach. The qualitative design method is universal in nature, and will be changed or developed based on site conditions. The research technique used is literature study, namely by researching and understanding books, documents or other relevant written sources related to NHT.

After obtaining the data, the interpretation or interpretation of the data sources is carried out to obtain facts about the study to be discussed. Once collected, the data is organized in a systematic and structured way.

The findings are validated by using triangulation data source technique. Triangulation data source technique is a procedure how to make the findings valid based on the supportive evidence from a book or any other medias.

Findings & Discussion

Teaching-learning process

Teaching-learning process relates to a number of activities to achieve the instructional goals (Hasanah et al., 2020). The teacher and the students are collaborated to do all the activities set. Either in pandemic or normal situation, the role of the students is similar that is to study lessons by integrating physical, intellectual and emotional aspects.

Adapting to the pandemic era, the students study from home using technology devices in which is supported by internet connection. Ironically, before the students did not allow to use any smartphone to support their study. Now, the students have to follow the lesson activity from their smartphone. Furthermore, the format of lesson activity is changing too. Before the students see the white/black board for the material of lesson—some of the teachers wants the student to copy the material to the students' notebook. Now, the students can wait the sharing file for their materials.

The missing part of lesson activities here is the students dominantly wait for the teacher sharing files. The students download the materials and as the time goes, the students just keep the files on their devices.

However, a lesson activity is necessary to improve the students' achievements. In the lesson activity, the students interact based on the trigger given and/or set by the teacher. The trigger is the instruction consisting how the students achieve the instructional goals of the lesson.

The students have energy on their mind and body as living organism to improve based on the motivation given. The role of teacher is driving the students' energy to grow the students' potential. As the students' potential growing, the students become an autonomous learner which study everything for the students' sake themselves. It means the learning activity will work better when the students have awareness to study by themselves.

As stated above, a learning activity is a combination of physic, mental, intellectual, emotional to achieve the instructional goals. Sardiman (2014) exemplify that a student thinks along with his action. The students here need to be given many opportunities to do the learning activity by themselves.

The learning activity can be categorized as follows. Visual Activities, which include for example, reading, paying attention to demonstration pictures, experiments, other people's work. Oral activities, such as: stating, formulating, asking, giving suggestions, expressing opinions, conducting interviews, discussions, interrupting. Listening activities, for example listening: descriptions, conversations, discussions, music, speeches. Writing activities, such as writing stories, essays, reports, questionnaires, copying. Drawing activities, for example: describing, making graphs, maps, diagrams. Motor activities, which include: doing experiments, making construction, repairing models, playing, gardening, raising livestock. Mental activities, for example, for example: responding, remembering, solving problems, analyzing, seeing relationships, making decisions. Emotional activities, for example, are interested, feel bored, excited, excited, passionate, courageous, calm, nervous.

In increasing student learning activities, students can take an active role in the learning process (Sardiman, 2014). There are several things that are done, namely: 1) Providing opportunities for students to express the obstacles they experience; 2) Maintaining interest, willingness, and enthusiasm for learning so that it results in learning actions; 3) Using time in an orderly, reinforcing and joyful manner focused on learning behavior; 4) The teacher stimulates students by reinforcing self-confidence.

Cooperative learning

Humans need cooperation because humans are social beings who have different potentials, backgrounds and hopes for the future. cooperation is a very important need for survival. Without cooperation, there would be no individual, family, organization or school

The cooperative learning model is a teaching model where students learn in small groups with different levels of ability. In completing group assignments, each group member works together and helps to understand a learning material.

The cooperative learning model is different from just learning in groups. This difference lies in the presence of basic elements in cooperative learning that are not found in random group learning. Cooperative learning model procedures that are done correctly will allow educators to manage the class more effectively. The characteristics of cooperative learning are as follows: 1) Students work in groups cooperatively to complete the learning material. 2) The group is formed from students with high, medium, and low abilities. 3) If possible, group members come from different races, cultures, religions, ethnicities and genders. 4) Learning is more oriented to groups than individuals.

Not all group work can be considered cooperative learning. The cooperative learning teaching system can be defined as a structured work or group learning system. The five main elements included in this structure are as follows: 1) Positive interdependence among group members, because the success of the group is very much dependent on the efforts of each group member to learn from each other and teach their friends so that their group mates understand. The scoring system in this method is able to spur low-ability students to work without feeling inferior because after all they can contribute values to their group. On the other hand, students with high abilities do not feel disadvantaged by friends with low abilities because they have also contributed value. 2) Individual responsibility, because each member is required to work to contribute ideas to complete the task and at the end of the lesson students must try to get high scores so that they are able to contribute value points to their group. 3) Face to face between members, so that each member can interact to combine different thoughts in solving problems so as to create a sense of mutual respect, take advantage of the strengths and fill in the weaknesses of each member who has different backgrounds so that they can broaden their horizons to better understand the lesson. 4) Communication between members, because in this group process all members will try to communicate well with each other in order to reach a consensus to solve problems which in the process they must be able to use wise words. This is because within the group there are differences in the backgrounds of each member so that this process can enrich students in mental and emotional development.

Basic principles of number head together

In learning process, it is normal when teachers set up a class into groups, there will be a little trouble. The students want to join a group based on their own selection. When the students chose the members of a group, sometimes there will be like and dislike. This like and dislike condition leads to ineffective group discussion. The students create a gap between who take or not take participant.

As an alternative, Spencer Kagan emerged cooperative learning method that one of it is NHT. NHT is commonly applied in learning process. As the principle goes, the NHT gives equal opportunity to students to share their ideas correspondently and consider any opinions raised in a discussion. NHT method can be adaptable to many subjects in school.

NHT is a part of cooperative learning that invites all the students do learning process in collaborative way. The basic principles of this method is giving maximum potential of the opportunity to make a group to solve a case given. The students are set to an activity of

exploring, analyzing, and reporting any evidence they found from many resources. The activity needs a teamwork interacting actively to share in a group and/or in a class.

By letting the students interact each other, the students learn better the material. The students do not feel the teachers lecturing them but the students appreciate the information from others. This method leads the students to perform well by sharing a new information either from a book or their own experience.

In short, NHT gives many advantages to the users, namely learning achievement, developing socioemotional skills, and acknowledging various perceptions. Learning achievement grows based on the quantity of the information found and shared. The distance learning gives students to internet access that the students can browse information as much as they want.

Developing socioemotional skills are applied by understanding and appreciating others. The students as a group have enough time to learn from others. the students' interaction occurs in a discussion develop internally social and emotional skills together.

The emotional skills lead students to acknowledging point of view from others. The students who read more information give more points on a certain topic. The presented points add the quality of discussion. As a result, the students' perception become various. The various perception is required acceptably by the students.

NHT online procedures

NHT main procedures are making group, discussion, and sharing the discussion result. Below is the adaptive version on Kagan's NHT. This version needs a conference platform. In this case, the platform is using Zoom Meeting Conference application. The procedures of online NHT are as follows: preparation, grouping, browsing, sharing, confirming.

Preparation is a very beginning of the steps. This steps are done by the teachers. The teachers create a scenario of learning based on the today's topic into a specific number of problems i.e. 4-5 problems. The problems can be a guidance or question that supporting the today's topic. For example, today's topic is about disaster, then the problems and/or guidance can be understanding what the disaster is, major cause of disaster, etc.

Grouping is a second steps of this NHT online version. The group member is as size as the problems. The teachers as the host of the Zoom Meet make breakout rooms and assign the students into each room separately. The rooms are identified with numbers (room 1, room 2, room 3, and so on). Each student, next, is invited to answer one problem and identified by the number of the problem chosen

Browsing is a third step that gives chance to the students to explore many sources to solve the problem. As each student in a group has their own problems, all members do browsing. The online learning mostly used internet connection, so that the students can easily access various sources using their browser application in their devices. In this step, the probability of students getting same sources from a website is high. To make it various, the students are not only copying and pasting the information but also they have to paraphrase the information as their understanding level.

Sharing session is doing two times. The first sharing session in their breakout rooms to assure that all members get already solve the problem. The second sharing session is by going back to main room. All of the students are invited back to main room with their solution. The teacher leads the second sharing session following the planning on preparation step. The teacher gives a slight explanation as a bridge to the topic and comes out with the problems given. The teachers are invited the correspondent number of problems from each group to share their findings.

Confirming is the last session of NHT online version. This session would be the control of material delivered regarding to a topic. The teachers have to be aware of the flow of

discussion in sharing session. As the students got many information from many sources, the teachers need to clarify which information that the students should follow.

NHT advantages and weaknesses

As a method, of course, NHT has its advantages and disadvantages. The advantages are as follows. Each student can carry out discussions seriously. Students who are smart can teach students who are less intelligent. This method can provide opportunities for students to share ideas and consider the most appropriate answers. So that through this process, interaction between students appears in solving the problems at hand. Another advantage is that with the use of the NHT method, the possibility of knowledge construction will be greater so that students can arrive at the expected conclusions.

While the weaknesses are the higher opportunity that the number which has been called, is called back by the teacher. Not all group members are called by the teacher. The tendency of clever students to dominate groups, which can lead to passive attitudes towards other group members. Student groupings require different seating arrangements and require special time.

Conclusion

As education is everyone's needs, the school or education institution have to adapt to any situation. Transforming the method of teaching from offline class to online class is a way to solve in transferring the knowledge to the students. NHT is one of the many methods can use the meetings conference platform. In addition, NHT online version gives a similar achievement but difference learning experience to the students. Still, NHT have the advantages and disadvantages together, but the point is, NHT can be a current solution to give all learning activity to the students.

This research recommends further research on how the effect of NHT online to the students. alternatively, this research gives an initial research for what kind of media used, how effective the method for supporting learning achievement.

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