



Interpersonal Communication between Teachers and Students through Science Practicum Activities in Increasing the Learning Motivation of Public High School Students in Depok City during the COVID-19 Pandemic

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Abstract

The Depok City Government is an area that decided to implement teaching and learning activities with an online learning system to break the chain of covid-19 spread. During the Covid-19 pandemic, we use innovative online learning media, especially science subjects, to increase student learning motivation while studying at home. Science practicum activities are one of media that can help students' understanding, for this reason, the creativity of science teachers is needed to continue to carry out simple practicum activities at home. The purpose of this study is to find out and analyze interpersonal communication between teachers and students through science practicum activities in increasing the learning motivation of state high school students in Depok City during the Covid-19 pandemic. The research method used is descriptive qualitative, using the Paradigm of Constructivism, the theory of interpersonal communication used is the Theory of S-O-R (Stimulus-Organism-Response) and the Theory of Symbolic Interactionism. Data collection is carried out through documentation, interviews, observation, and triangulation. The results showed that interpersonal communication between teachers and students through science practicum activities was very good, thus increasing the learning motivation of high school students in Depok City during the Covid-19 pandemic. Researchers hope that this research can be developed again better by developing theories and other research methods related to interpersonal communication.

Keywords:

*Interpersonal communication
Practicum methods
Learning motivation.*

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1. Introduction

Corona Virus Disease 2019 (COVID-19) was first discovered in the city of Wuhan, China in late December 2019. This virus is transmitted very quickly and has spread to almost all countries, including Indonesia, in just a few months. So that WHO (World Health Organization) on March 11, 2020 designated this outbreak as a global pandemic. This has made several countries set policies to impose lockdowns in order to prevent the spread of the coronavirus. In Indonesia itself, a Large-Scale Social Restrictions (LSSR) policy is imposed to suppress the spread of this virus. On this basis, all activities carried out outside the home must be stopped until this pandemic subsides, including teaching and learning activities. The Depok City Government is one of the regions that decided to implement teaching and learning activities with an online learning system to break the chain of covid-19 spread.

However, during this pandemic, which is learning online, students at state high schools in Depok City are not effective, in contrast to face-to-face learning, students are even more enthusiastic in learning and doing assignments given by teachers. Then good interpersonal communication skills of teachers are needed to convey learning materials to their students. Because interpersonal communication aims to form and maintain social relationships with other people.

Communication is a basic human activity. By communicating, humans can relate to each other whether in their daily lives at home, at work, in the market, in society or wherever humans are. There is no human being who will not be involved in communication. Communication is very important for human life. The development of human knowledge from day to day due to communication. Communication also forms a social system that needs each other, therefore communication and society cannot be separated (Mulyana, 2017). Interpersonal communication is communication between individuals that is an interaction in which the exchange of information occurs. In this interaction the sender can serve as a listener and vice versa. Learning activities using interpersonal communication make communication run effectively because interpersonal communication takes place both ways, teachers and students. The responses of listeners and messengers can be directly seen in these communications (Sareong & Supartini, 2020).

This study model used is the S-O-R (*Stimulus, Organism, Response*) model. The material object is a human being whose soul includes the components: attitude, opinion, behavior, cognition, affection and conation (Mcquail, 2011). The point of emphasis in this communication model is more about the message conveyed being able to foster motivation, foster passion for the communicant so that the communicant quickly receives the message received and subsequently there is a change in behavioral attitudes. Onong Uchjana Efendy (Effendy, 2003) explained that there are three important elements in the S-O-R communication model, namely: Message (*Stimulus, S*), Communicant (*Organism, O*) and Effect (*Response, R*).

In addition to using the S-O-R Theory, researchers also strengthen research by adding symbolic interactionism *theory*. Symbolic interactionism *theory* emphasizes the relationship between symbols and interactions. The important concept of symbolic interaction theory According to Morissan (2013) in the book Theory of Individual to Mass Communication the theory of symbolic interaction has three important concepts, namely mind, self, and *society*. The three concepts have different aspects, but derive from the same general process, namely social action, is a complete unit of behavior that cannot be analyzed into certain subsections.

At the high school level, the science department has important lessons for students to learn, namely chemistry, physics, and biology subjects. Many students think that science lessons are very difficult because the material is a lot of theories and also the calculation formulas. To facilitate students' understanding of science lessons, it can be done in class when the teacher explains and can be done in the laboratory by conducting experiments that will increase students' understanding and learning motivation. According to Hegarty-Hazel as quoted (Khalil, Lazarowitz, & Hertz-Lazarowitz, 2014) practicum is a form of practical work that is located in an environment adapted to the aim that students engage in planned learning experiences and interact with equipment to observe and understand phenomena.

In learning activities, motivation is very necessary to arouse students' passion for learning so that learning activities can run well. The definition of learning motivation according to Sardiman (2018) is "The overall driving force in the student that gives rise to learning activities, which ensures the continuity of learning activities and gives direction to learning activities, so that the goals desired by the learning subject can be achieved". The indicators of learning motivation according to Uno (2007) are the desire and desire to succeed, the presence of encouragement and needs in learning, the existence of hopes or ideals for the future, the existence of rewards in learning, the existence of interesting activities in learning, the existence of a conducive learning environment, so as to allow a student to learn well.

The implementation of practicum has a very important role in teaching and learning activities in the science department, because the practicum activity will generate learning motivation, awaken basic skills in conducting experiments, have a vehicle for learning a scientific approach, and practicum can also support the understanding of the material of students in the science department. There are three objectives that can be honed in practicum activities, namely: cognitive skills, affective skills and psychomotor skills. In cognitive skills, students can train themselves so that theories can be understood, different theories can be integrated and can apply theories to daily life. Affective skills aim so that students can learn to plan activities independently, cooperate, appreciate and communicate information about their field. Psychomotor skills aim to prepare tools, install and wear certain instruments.

During the Covid-19 pandemic, there was a gap in the implementation of science practicum activities and demanded alternative solutions that were most likely to be carried out. Due to this pandemic, practicum activities are carried out remotely (online), and this provides a considerable gap with the learning activities that students should carry out in normal circumstances (face-to-face). The implementation of community activity restrictions (This PPKM is carried out to limit interactions, meetings between people and people and groups with groups, which is expected to reduce the transmission of COVID-19) does not allow students to come and carry out practicum activities in school laboratories. Distance Learning (DL) with online technology tends to be chosen for the implementation of teaching and learning activities during a pandemic, because it is relatively easy and has a very wide reach. The pre-practicum stage can be carried out by utilizing online technology, namely through discussions related to practicum using various communication platforms. Meanwhile, the core activities

are carried out by providing videos about the material to be announced. However, teachers must be able to see the interests, attention, study habits, socioeconomic conditions, psychic and physical factors of their students. So that the teacher is able to encourage his students to be motivated to learn and also be able to better understand the material being taught.

Science teachers need creativity in finding ideas when carrying out science practicums during the Covid-19 pandemic. So that the science practicum can be carried out and does not depend on the laboratories in the school, but with the help of tools and materials around. The implementation of science practicum activities in online learning during the Covid-19 pandemic can run effectively if there is creativity and teacher priority for the practicum to be carried out. That is by providing clear practicum guidance so that it can make it easier for students to carry out practicum activities.

There are several things that can be considered in the implementation of science practicum activities in online learning carried out, such as:

- a. Choosing the right practicum activity theme, for example, in choosing the theme of one of the practicum activities, students can do it independently at home. That is by considering the tools and materials that can be provided creatively and independently, by students so that practicum activities can run in accordance with the way the practicum works.
- b. There are competencies that can be developed in accordance with learning objectives, such as the development of ways of working and practicum equipment that can train creativity in the midst of the limitations faced. In addition, by improving interpersonal communication skills in conveying the breadth of understanding known by students.
- c. Alignment of evaluation with the content of the practicum carried out, such as the assessment of performance aspects in practicum activities with the conformity of the guidelines for practicum activities carried out. Appropriate assessment will increase the motivation and enthusiasm of the students in carrying out practicum activities carried out independently.

During the current Covid-19 pandemic in carrying out teaching and learning activities online, time is the main limiting factor, therefore you must consider it appropriately and carefully. So that the implementation of practicum activities can coincide with the provision of science material theory, teachers are required to be able to divide time between theory and practicum. In looking for ideas for science teachers in carrying out science practicums during the Covid-19 pandemic, it is a new challenge.

In this journal, the author examines the role of interpersonal communication between teachers and students through science practicum activities in increasing the learning motivation of state high school students in Depok City during the Covid-19 pandemic.

2. Research Methods

This research is a descriptive research with a qualitative approach. Qualitative descriptive research aims to describe, describe, explain, explain and answer in more detail the problems to be studied by studying as much as possible an individual, a group or an event. In this study the researcher chose to use a constructivist paradigm that considers that the real reality exists in the mind of the subject under study. The paradigm of constructivism in learning gives freedom to students to build / shape their knowledge as a need / desire. The need in forming such knowledge is carried out in one's own efforts to find information that is assisted by others in this case the teacher. Researchers interact with teachers and students as informants who can provide information in this study

Research on interpersonal communication between teachers and students through science practicum activities carried out there at SMA (Sekolah Menengah Atas or Senior High School) Negeri 1 Depok City and SMA Negeri 2 Depok City during the COVID-19 pandemic. The object of this study is the interpersonal communication activities of teachers and students during online learning with science practicum activities to increase motivation to study at state high schools in Depok City. Meanwhile, research is a source of information that is unearthed to reveal data and facts that occur in the field. The subjects of this study were teachers of chemistry, physics, and biology subjects as many as 17 teachers and students of classes X, XI, and XII majoring in science at SMA Negeri 1 Depok City and SMA Negeri 2 Depok City as many as 15 students, and Parents as many as 10 people from both schools. This research activity began after the ratification of the research proposal and research license. Starting from February 27, 2022 to July 13, 2022.

The data collection method in this study consists of the technique proposed by Sugiyono (2016) which consists of interviews, observations, documentation and triangulation or combination. Data analysis technique is an activity in qualitative data analysis carried out interactively and takes place continuously until it is completed, so that the data is as saturated as possible. Activities in data analysis are: *Data Reduction (Data Editor)*, *Display Data (Data Presentation)*, *Conclusion Drawing / Verification*.

3. Results and Discussion

SMA Negeri 1 Depok and SMA Negeri 2 Depok are among the leading schools that have succeeded in producing students who qualify for many of the best State Universities in Indonesia. So that SMA Negeri 1 Depok and SMA Negeri 2 Depok are schools that are hunted by many prospective parents to send their children

to school here. One of the benchmarks that is quite quickly known, related to whether or not the quality of education is to look at the beliefs of parents mandating their children to be educated in a certain educational institution. The most important thing of all is the high public recognition of SMA Negeri 1 Depok and SMA Negeri 2 Depok as favorite schools in Depok. With superior quality and educational facilities, it is hoped that SMA Negeri 1 Depok and SMA Negeri 2 Depok will continue to spawn the nation's best sons/daughters who are able to become future leaders.

4. Result

Based on the results of interviews conducted at SMA Negeri 1 Kota Depok and SMA Negeri 2 Kota Depok, science practicum activities can improve students' cognitive, affective and psychomotor abilities and can increase student learning motivation. Various media and methods used by teachers in online practicum activities both with *Zoom Meeting*, *Google Meet*, *WhatsApp*, and *Google Classroom* can increase students' understanding of the material taught by the teacher.

From the questions given by researchers and answers from teachers, students, and parents, it is explained that interpersonal communication between teachers and students through science practicum activities during the Covid-19 pandemic can run well and effectively. **Table 1** presenting the results of interviews with teachers.

Table 1. Results of interviews with teachers.

No.	Question	Interview Results
1.	Do teachers continue to carry out practicum activities during the Covid-19 pandemic?	Practicum online learning remains, it's just that the number is somewhat different according to conditions
2.	With what methods / media do you do practicum activities online?	The method used is to independently perform a simple practicum at home. Using zoom meeting media and YouTube as well as learning videos. Media: Online simulation and simulation phet application goopi.id (Game Open Online Physics Instructional), A simple experiment with tools and materials at home. Methods: Practicum with the help of online media and YouTube, Explaining the tools and materials that his a used as a physics experiment
3.	What kind of practicum activities can you do online?	Usually a simple practicum that does not require tools, materials and complicated procedures or students are given project assignments that are in accordance with the Basic Competencies listed in the RPP (Rencana Pelaksanaan Pembelajaran or Lesson plan).
4.	How do you communicate about the practicum activities that will be carried out to the students?	For SMA Negeri 1 Depok City, teachers communicate verbally using the Zoom meeting application while nonverbal communication uses the Moodle application and WhatsApp groups. For SMA Negeri 2 Depok City, teachers communicate verbally using the google meet application while nonverbal communication uses the google classroom application and WhatsApp groups
5.	Do you only convey verbal messages? Or nonverbal too?	All teachers convey communication both verbally and nonverbally.
6.	What preparations do you do before students do practicum activities at home?	Teachers prepare learning tools ranging from PPT (Power Point), video examples of practicum activities, and practicum worksheets.
7.	Are there any obstacles in the process of delivering material before conducting online practicum activities? How do you deal with it?	There are obstacles such as limited communication only from the computer screen not directly so that students cannot understand or not, an internet connection that is sometimes unstable, the timeliness of students to immediately take part in learning, limited quotas for some students so that the <i>zoom meeting</i> or <i>google meet</i> process must be short and fast, limited material that can be done practicum activities that can be done simply at home .

No.	Question	Interview Results
8.	What is the form of assessment that you do with online student practicum activities?	The assessment is carried out by assessing the results of practicum videos carried out by students, the completeness of the practicum results report sent in the form of documents (PDF (Portable Document Format), Word), photos of practicum activities, as well as the timeliness of students in collecting assignments.
9.	How do you know if students can be motivated through online practicum activities?	Sees from the activeness of students asking questions when the teacher delivers practicum activity materials, expressions in videos when carrying out practicum activities, completeness of tools and materials and wearing lab coats when doing practicum, completeness of experimental reports that do not cheat from friends or from the speed of time collecting assignments.
10.	How do you evaluate the results of online practicum activities?	Conduct a review of the results of the student experiment then describe the important things in the practicum activity, justifying if there is a wrong understanding of the students.
11.	Do you provide a question and answer / discussion opportunity for students who do not understand about the practicum activities that will be carried out?	Teachers provide opportunities for students if there is something they do not understand in practicum activities both during learning and outside of learning, teachers also always provide discussion columns on learning applications used by schools.
12..	According to you, what are the difficulties faced when conducting practicum activities online?	Not all practicum titles in KD (Kompetensi Dasar or Basic Competencies) in the RPP (Lesson Plan) can be carried out, because they are limited to tools and materials and children's internet quotas, practicums are limited with certain considerations, teacher control over students is lacking, there is a possibility that students do not do practicum, practicum abilities / skills, introduction of tools and practicum materials is lacking, students are not yet independent.

Table 2 presenting the results of interviews with students.

Table 2. Results of interviews with students.

No.	Question	Interview Results
1.	Does your teacher give assignments in the form of independent chemistry/biology/physics practicum activities at home during online learning?	Yes, chemistry, physics, and biology teachers conducted several practicum activities during the pandemic.
2.	With the method / media, does your teacher give a practicum activity assignment?	Teachers use <i>google classroom media</i> , <i>google meet</i> , <i>zoom meeting</i> , <i>Moodle</i> , and <i>WhatsApp</i> groups.
3.	How does your teacher explain about online practicum activities?	The teacher explains directly the practicum activities using meetings in <i>google meet</i> / <i>zoom meeting</i> and also provides a complete description of the assignments of practicum activities on the learning application used by schools both <i>google classroom</i> and <i>Moodle</i> , as well as communicating / reminding again via <i>WhatsApp</i> group
4.	Do you understand your teacher's explanation for the practicum activities that you will do at home?	Student is very familiar with the explanation given by the teacher because it is clearly and detailly informed and students can re-read the teacher's assignments in the learning application used.
5.	Have you ever asked a question to a teacher if someone doesn't understand?	The big part asks the teacher questions if there are things that are not understood, but there are also those who feel embarrassed or afraid of disturbing the teacher so they ask friends who already understand.

No.	Question	Interview Results
6.	What form are the reports of the results of your practicum activities collected in?	Guru they asked to make a practicum video then uploaded to <i>YouTube</i> and made a report on the results of the practicum.
7.	Can practicum activities make it easier for you to understand the learning material?	Practicum activities make it easier to understand the material taught and its application in everyday life.
8.	Is it after the practicum activity that your teacher discusses / evaluates the results of the practicum activity?	Most teachers evaluate the results of practicum activities before entering the next material, discussing the important things of practicum results and correcting incorrect understanding.
9.	Do you have difficulty in doing practicum activities at home? What are the obstacles?	What happens is that the time for collecting tasks is tight because it overlaps with other lesson assignments, an unstable internet connection, limited internet quota, conditions at home that are not conducive to doing practicum tasks.
10.	Can practicum activities increase your learning motivation and understanding of materials related to practicum?	Practicum activities are quite motivated because they are bored with the learning process which is only in the form of theory and calculations, better understand the material with practicum activities, and better understand the application of the subject matter in everyday life.

Table 3 presenting the results of interviews with parents.

Table 3. Results of interviews with parents

No.	Question	Interview Results
1.	Can you see the process of communicating between teachers and students during online learning? Is it possible to communicate effectively?	There is communication that is established between teachers and students during the online learning process, as can be seen from <i>WhatsApp</i> , the teacher group often informs and coordinates both student activities and assignments given by teachers, even during the pandemic, teacher communication with both students and parents has become more intensive than before the Covid-19 pandemic.
2.	Do you know that there is an assignment from a teacher in the form of a science practicum activity?	Knowing the existence of practicum activities because children ask for help to find tools and materials that will be used for practicum activities and assistance to help the video recording process.
3.	Does the practicum task make it difficult for children to do or find the tools and materials needed?	Tools and the materials used are still relatively easy to get at home or can be purchased <i>online</i> .
4.	How do you see the enthusiasm of the child to do the practicum task?	The children are very enthusiastic about working on practicum activities that use interesting materials, and are curious if their practicum results fail, they will again try repeatedly until they succeed.
5.	Are there any obstacles/difficulties experienced by fathers/mothers and children during online learning?	There are obstacles during online learning such as the difficulty of parents to wake up children in the morning to start learning, the concentration of children who quickly switch because they are always holding gadgets whether it is right to learn or even do something else.
6.	What is your response regarding the delivery of material provided by the teacher during online learning?	The big part is already good way of delivering it, it only depends on how the child's character is in digesting the material and the child's concentration.

5. Discussion

a. Interpersonal Communication of Teachers and Students through Science Practicum Activities in Increasing Student Learning Motivation Seen from the S-O-R (Stimulus-Organism-Response) Theory

In order for learning to run smoothly and effectively, a teacher must choose a learning method that suits the conditions of his students. Science Practicum activities as one of the learning methods that can help students to more easily understand the material that the teacher teaches. During the Covid-19 pandemic, practicum activities cannot be carried out face-to-face in the laboratory as before. So teachers are an important part of this practicum activity, teachers must understand how to carry out effective communication to continue to carry out practicum activities online. This needs to be done so that students can easily understand the activities to be carried out and still be able to understand the purpose of the practicum activities to be carried out. The steps that can be taken by the teacher to carry out interpersonal communication with students are by using *the Stimulus Organism Response Theory (S-O-R)*.

There are three elements in S-O-R Theory, namely Message (*Stimulus*), Communicant (*Organism*), and Effect (*Response*). In this study, the Message (*Stimulus*) is that teachers assign science practicum activities to students online at home. Meanwhile, the Communicant (*Organism*) in question is a student who gets an assignment to carry out practicum activities at home (online). As well as the effect (*Response*) caused during the communication process is that students are able to carry out practicum activities at home using simple tools and materials at home or the surrounding environment and make videos and practicum reports.

In the process of communication according to Effendy (2003) it is very related to changes in nature, namely the aspects of "how" instead of "what" and "why". The process of changing attitudes will be seen if the *Stimulus* provided by the teacher can be well received by the students. Communication will take place well if there is attention from the communicants. The next process of the student (communicant) understands the intention conveyed by the teacher. After the communicant manages and accepts it, then there is a willingness to change attitudes.

Based on the results of this study, namely through interviews, observation, documentation, and triangulation of interpersonal communication that can be applied by teachers in student science practicum activities, it is by using *stimulus-organism-response (SOR)* communication theory.

5.1. Stimulus (Message)

Stimulus is the act of the communicator giving a message to the communicant. In this case, the teacher's teaching and learning activities (KBM Kegiatan Belajar Mengajar or teaching and learning activities) as his communicator, which conveys a message to students (communicants). There are two possibilities for providing *Stimulus* (Message) to *Organism* (Communicant) that can be rejected or accepted. *The Stimulus* (Message) received by the *Organism* (Communicant) well and getting attention proves that the *Stimulus* (Message) is effective, but if the *Stimulus* (Message) it is rejected it means that the *Stimulus* is not effective for influencing attention. The acceptance or avoidance of a *Stimulus* (Message) depends largely on the characteristics of the student.

Science learning (chemistry, physics, and biology) provides *stimulus* through practicum activities in accordance with the curriculum, namely the project-based learning (PjBL) learning method. During the Covid-19 pandemic, practicum activities were carried out online using *Zoom Meeting*, *Google Classroom*, and *WhatsApp* to conduct initial communication with students explaining the work procedures, tools and materials used, as well as things assigned to students such as making videos and reports on practicum results. Before the pandemic, practical activities were carried out face-to-face, making interactions between teachers and students more optimal in supervision and practicum work and the tools and materials needed were readily available, and facilitated communication in practicum activities. Meanwhile, online learning activities provide more knowledge, information sharing, and motivation for practicum activities independently.

Online science practicum activities provide theory / knowledge about how to do a project, how to solve problems when there are obstacles when practicing, how to explain the results of experiments, and how to compile practicum reports correctly. From the above, it can be concluded that practicum activities can increase learning motivation. This is in accordance with the indicators of learning motivation, namely perseverance in doing tasks, being interested in various problems and solving them. Learning motivation can also be encouraged by rewards, interesting activities, and a conducive learning environment. A student who always has a high motivation to learn, will actively involve himself in learning activities.

5.2. Organism (Communicant)

The second component in *the Stimulus-Organism-Response (S-O-R) Theory* is *the Organism*. *An organism* (Communicant) is a person who receives a *Stimulus* (Message) as well as carries out a thought process to understand and practice the message after receiving *the Stimulus* (Message). *The organism* in question is the student who receives the learning, the student processes the message conveyed in the learning activity by the teacher. The teacher must convey communication both verbally and nonverbally with the media that has been created by the teacher to the students, with messages that must contain attention and understanding so that

students are easily receptive. Students are expected to be able to have an understanding and understanding related to the message conveyed.

Students complained that science practicum activities were carried out online. Because they experience some difficulties, namely there are some tools and materials that are difficult to get at home, less conducive conditions at home to make practicum videos (too crowded), a large internet quota for uploading videos and the stability of an unstable internet connection.

Teachers also have problems in science practicum activities which are carried out online. Like the difficulty of teachers controlling practicum activities, students can directly only see from the results of the videos made, teachers must be creative in designing interesting science practicum activities, using simple tools and materials at home, because not all materials can be carried out practicum activities.

5.3. Response (Effect)

The last component in stimulus-organism-response (S-O-R) theory is the presence of a *Response* (effect/influence). *Response* is a reaction after receiving stimuli that cause influence or effects after communication occurs. After experiencing the thinking process, there is a response that shows that the communication process is going well. The effects that occur after receiving the message / activity of the science practicum are enthusiasm, motivation, imagination, creativity, courage, innovation, inspiration, and not giving up easily to carry out science practicum activities.

Through science practicum activities with a project-based learning method, students become subjects or learning centers, emphasizing the learning process that has the final result in the form of a product in this case in the form of a video of the practicum results. Teachers give students the freedom to determine their own learning activities, work on learning projects collaboratively until results are obtained in the form of a product. The success of this learner is greatly influenced by the activeness of his students.

Based on the results of this study, students are able to process and receive *stimulus* so that students can process messages, then change their views and motivation to carry out science practicum activities.

b. Interpersonal Communication between Teachers and Students through Science Practicum Activities in Increasing Student Learning Motivation Seen from the Symbolic Interactionism Theory

This theory of Symbolic Interactionism basically focuses on the analysis of the behavior of individuals with individuals of the other in small groups. This theory is not aimed at analyzing societies on a large scale, such as indigenous peoples or the general public. He pays more attention to the behavior of small communities that have a certain uniqueness in the social interaction between them.

In the view of the theory of Symbolic Interactionism, human beings are creatures of makers or producers of symbols; a thought reminiscent of the statement of the philosopher Jeman of the neo-kantian camp of Ernst Cassirer that man is an "*animal symbolicum*". Everything (objects) that exist in human life have a symbolic meaning. These meanings do not come by themselves, but rather are presented and then agreed upon and made into symbols. Symbols here are understood as signs that contain an agreement of meaning. Therefore, human behavior, both as individuals and groups, is dotted with the symbolic meanings of the object.

The use of the Theory of Symbolic Interactionism can be applied to this study because it focuses on the analysis of behavior in small groups, namely learning activities in the classroom. Science learning in schools during the distance learning period can be done by utilizing virtual classes using the *Google Classroom* and *Moodle* applications. *Google Classroom* and *Moodle* as a means of nonverbal communication can be a means of distributing assignments, submitting assignments and even assessing the tasks collected. This application also makes it very easy for teachers and students to carry out the learning process in more depth. This is because both students and teachers can collect assignments, distrust assignments, assess assignments at home or anywhere else without being bound by time limits or class hours.

Google Classroom and *Moodle* are designed to make it easier for teachers and students to interact in the online learning process. This application provides an opportunity for teachers to explore the scientific ideas they have to students. Teachers have the flexibility to share scientific studies and assign independent assignments to students. In addition, teachers can also open discussion rooms for students *online*.

The *Google Classroom* and *Moodle* apps can be used by anyone who is part of a class designed by a teacher that matches a real class or a real class in the school. The app is also designed to help teachers save time when it comes to automatically creating copies of documents for each student when assigning assignments. The *Google Classroom* and *Moodle* apps can also create drive folders for each student's work to keep things organized and controlled.

The means of verbal communication used by teachers when learning online include using *Zoom Meeting* and *Google Meet*. With this application, teachers can convey preliminary information on the initial material before practicum activities, tools and materials used and work procedures so that the same understanding of all students is obtained and so that the tasks given can be done properly.

According to Mulyana (2017) the premises of symbolic interactionism obtained from this study, namely:

- 1) The individual responds to a symbolic situation. In the science practicum activity, the delivery of teacher communication both verbally and nonverbally and it is hoped that from the delivery of this teacher,

students can respond to the same meaning of the symbols given by the teacher in the form of words, hand gestures, pictures, videos, and so on. For example, in *Google Classroom* and *Moodle* there are symbols for sending assignments, quizzes, materials, and others that are understood by all students.

- 2) Meaning is the product of social interaction, since it is not inherent in the object, but rather negotiated through the use of language. In this case, the teacher in the practicum activity provides preliminary information about the initial activity before the practicum activity begins, students who understand will be able to immediately do the assignment given by the teacher while students who do not understand will be able to have a discussion with the teacher.
- 3) The meaning that the individual interprets can change over time, in line with the changing situations found in social interactions. This is related to the results of practicum activities carried out by students can vary depending on the results of their thoughts and the tools and materials available.

6. Conclusion

Interpersonal communication between teachers and students through science practicum activities in increasing the learning motivation of high school students in Depok City during the Covid-19 pandemic has been good, this can be seen from the results of interviews with science teachers, students, and strengthened from the results of interviews with parents as support. Teachers have implemented interpersonal communication between the two that establishes good social relations and maintains the quality of communication between the two.

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