

The Importance of Developing the Professional Attitude of Science Teachers as Communicators and Facilitators in Student Learning in the Classroom

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Abstract

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A teacher is a profession that has the task of educating and teaching students. The role of teachers is very important in educating the nation's children, especially in the field of science. Currently, science education in Indonesia is of low quality. One of the people who has contributed to the progress of science education is the science teacher. The professional nature of science teachers can also have an influence in advancing science education in Indonesia. The government is currently improving the quality of teachers in Indonesia, especially science teachers. A teacher not only masters the material and memorizes science, but a science teacher must also understand the phenomena that occur related to science. The purpose of this article is to challenge the role of science teachers as communicators and facilitators for students, as well as how to develop science teachers into professional teachers. The research method used is a qualitative method by collecting data from various sources, literature and also the internet. The expected result of this article is that science teachers will more easily understand the role of a good facilitator and communicator and how to develop this attitude in order to create effective and optimal learning.

Keywords: Science, Profession, Professional

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INTRODUCTION

Education is an effort made to change a person's soul to become a better person in the future. Education is not only limited to learning in the classroom or school, but every action or behavior that we do every day is also called education. Education is something that is continuous and will never end, which will be interconnected with every future period (I Wayan, 2019). Therefore, in education, several building blocks of education are needed, one of which is a teacher. Teachers are the basic building blocks in education. Indirectly, a teacher is not just someone who stands in front of the class to teach certain subjects, but a teacher is anyone who teaches something new to other people.

The layman's view is that someone deserves to be said to be a real teacher if he has become a graduate and teaches at a school. Even though it is actually not that simple. A teacher or educational staff, especially those who have been involved in a school, will definitely be a role model or example for the students at that school, therefore to be a teacher you must have a high professional attitude. In fact, a professional attitude must not only be possessed by a teacher, but a professional attitude is the responsibility of each individual.

A professional attitude is carrying out an activity that is a skill, skill or skill that can meet quality standards, this is contained in the teacher and lecturer law article 1 number 14 of 2005. To become a professional teacher requires further education, namely professional education (Arfandi and Mohammed, 2019). A professional teacher in learning and teaching activities not only acts as a developer of students' knowledge but must also be able to instill good values and character in students.

Science is a subject that is quite complex. There are many phenomena or events in life that are related to the concept of science. Currently, science education in Indonesia is considered to be of relatively low quality. This is based on the results of a study conducted by the OF International Student Assessment (PISA) Program in 2012, Indonesia was ranked 64th out of 65 countries (OECD, 2012). This is a challenge in itself for science education providers in Indonesia to strive to improve the quality of science education.

One of the things that has a big role in the high and low quality of science education is science teachers. The science teacher is a facilitator who directly plays a role in implementing science education, namely science learning in the classroom (Rizal, 2018). The government specifically pays great attention to the teaching profession in order to improve the quality of teachers guided by Law no. 14 of 2005 concerning teachers and lecturers which has mandated protection for teachers in the areas of legal protection, professional protection and occupational safety and health protection.

Improving teacher quality cannot be done instantly, but requires a fairly long and continuous process. This is because considering that teachers are seen as a profession, quality assurance is needed which provides guarantees regarding teacher services as professional educators. Professional teacher development has received greater attention in Indonesia since 2007 where in-service teacher certification and professional programs began to be implemented in the form of Professional Teacher Education and Training (PLPG) and Professional Teacher Education (PPG) (Rizal, 2019).

RESEARCH METHOD

This research uses qualitative methods by obtaining data from various sources such as literature, the internet, and journal publications. This research also uses a descriptive method using the library research method, which uses journals, books and other trusted references as the main subject. Analytical methods are also used to develop the professional attitudes of science teachers through the role of communicator and facilitator. This method aims to be used in research to improve the professional attitudes of science teachers in the world of education.

RESULTS AND DISCUSSION

Understanding the Professional Attitude of Science Teachers

A teacher is someone whose job, livelihood or profession is teaching. According to Sri Miniarti, who quoted Dutch linguist J.E.C. Gerickedan T. Roorda, explained that teacher comes from Sanskrit which means heavy, great, important, very good, honorable, and teacher. So a teacher can be defined as someone who is kind and honorable whose job is to provide knowledge to students. In general, teachers are said to be one of the main components of education which is very important. Teaching is a noble profession or job, because it is in the hands of the teacher that a child's future is determined. As a teacher, you definitely have your own skills that you can use as teaching supplies, just like us as students of educational study programs whose biggest opportunity will be to become a science teacher (Hasan, 2018: 7).

A teacher who is authorized to teach and educate students must have a professional attitude. According to the Big Indonesian Dictionary, a profession is a job that is based on the expertise, skills and vocational education possessed by a teacher. A teacher who must become a professional must have the following requirements: must have a Bachelor's or D4 academic qualification, have competence, have an educational certificate, be physically and spiritually healthy, have the ability to educate students to become human beings who believe and are devoted to God Almighty. Esa, has noble morals, is knowledgeable, capable, creative, independent, democratic and responsible.

The word profession etymologically comes from English: "profession" or Latin: "professus", meaning to acknowledge, acknowledge, declare capable or expert in carrying out certain work (Octavia, 2019:1). There are three pillars aimed at a profession, namely knowledge, skills and academic preparation. Knowledge is something that is known systematically so that it has certain control and predictive power. Expertise is mastering a knowledge that can be used as a reference in acting. Academic preparation can be interpreted as the achievement of several formal educational requirements at the tertiary level.

A professional attitude is very necessary in teaching, especially for science teachers. Science is a science that studies something theoretically or empirically (process) (Salirawati, 2018: 83). A professional science teacher should be able to facilitate students to have good scientific literacy in facing the era of globalization, develop science process skills so that a teacher can apply meaningful learning and train students to think critically in responding to future challenges. Science teachers have a professional responsibility for developing their profession by equipping themselves with a number of competencies in using technology that can be used to make learning activities more effective (Rizal, 2019).

Professional science teachers should not only memorize and understand science material, but science teachers must also master various natural phenomena related to science concepts. Brown, Le May, and Bursten (1991) argue that science is applicable in everyday life and also always experiences rapid changes and developments requiring teachers to broaden their knowledge of the field of science in life.

Characteristics of professional science teachers

The characteristics of a teacher include distinctive traits and good character in order to be a good role model for students. Moreover, teachers must show love and sincerity in the teaching and learning process so that students have a high desire and enthusiasm for learning. Professional teacher characteristics include all attitudes and actions in school, outside school, and in the community. Professional teachers provide services, increase knowledge, provide guidance, and motivation to students in various aspects of life such as how to behave, how to dress, how to speak, and others. Normawati (2019) states seven characteristics of professional teachers, which are as follows.

1. Obeying the laws and regulations.
2. Maintaining and improving professional organisations.
3. Maintaining relationships with peers.
4. Mentoring students.
5. Obeying the leader.
6. Committed to professionalism.
7. Creating a good atmosphere in the workplace.

A person who works as a science teacher must have special authentic characteristics regarding science and teaching. To be a professional science teacher, one must have the following characteristics.

1. Passion or enjoyment of the work Work that is done continuously without a certain time limit will quickly become boring, unpleasant, and unable to fully commit to the work, especially if you do not like the work you do. Therefore, whatever profession a person chooses and pursues, even as a teacher, it must be imbued with charm, liked, loved, and well understood. This is not expected to happen to a teacher, considering that a teacher is a profession that deals with creatures whose souls crave love and attention that continue to be filled with knowledge, and whose physical form continues to develop or act according to the desires of the heart and mind.
2. Mastering the profession in accordance with the field of knowledge Professional teachers must be teachers who are truly experts in the field of knowledge taught to their students. To become an expert in the field of knowledge taught to students, teachers must first receive training in accordance with their profession. If a teacher chooses the teaching profession without completing a level of teacher training, then he or she is not a professional teacher but an amateur or remote teacher.
3. A professional teacher has good communication skills. Teachers must be able to convey and teach their knowledge to students effectively and efficiently. Teachers are expected not only to be skilled in their field, but also to have specialised knowledge about teaching. For example, how to understand students' personalities, how to use methods to convey knowledge objectively, how to communicate with students so that teachers can easily manage the entire teaching and learning process in the classroom and how to interact correctly and appropriately.

4. Comply with professional ethics Every profession certainly has its own professional ethics, this also applies to the teaching profession. Teachers must have attitudes and actions that match their words. Teachers are not only judged by what they say to their students, but also by their morals, patience, honesty, integrity, mindset, dedication, social life, and self-assessment of their actions. Emotional control is a code of ethics that every teacher must have.
5. Entrepreneurship Entrepreneurship does not mean that a teacher must have an entrepreneurial spirit, but it means that a teacher must have an independent attitude and not depend on others. The independence expected of all teachers is a teacher who exudes integrity, acts according to his/her abilities, is aware of his/her own abilities, and always maintains an honest attitude towards all students, namely attitude and behaviour.
6. Having authority The inner teaching power that emanates from the teacher himself and influences his students so that they see him as more mature, experienced, and of higher status than themselves (Rijal, 2018).

Efforts to Develop Science Teachers' Professional Attitudes

The development of professional attitudes of a science teacher needs to be done to improve creative, skilled and inspiring attitudes to form learners and more effective learning. Some things that can be done as an effort to develop professional attitudes of science teachers include.

A. Participating in training or workshops

As a science teacher, attending workshops, training or seminars held either by the Foundation or certain educational institutions is quite helpful in developing this professional attitude.

B. Continuing Education

Science teachers can continue their education to a higher level, in order to update or explore expertise in the field of science more deeply.

C. Collaborate with experts

Build relationships with experts in the field such as laboratory assistants or teachers who already have more experience in science learning.

D. Participate in a community

Participating in a community, especially a learning community, can really help a teacher to build wider relationships with experts and this supports point C.

E. Evaluation of learning

This evaluation needs to be done daily, weekly or monthly, so that learning can be done better by learning from previous mistakes.

F. Leadership skill development

A teacher really needs a high leadership spirit, so leadership skills need to be developed by being more active in organisations and so on.

The existence of this educational development effort, a science teacher can continue to improve the quality of education provided to each student and take part in the progress of education in totality.

Teacher's Role as Learning Facilitator

Teachers are one of the building blocks in a learning process (Afandi and Mohamad, 2021). A teacher is a guide for every learner, where every action and word will be seen by every learner. the task of a teacher is to become a facilitator, namely to facilitate the talents or interests of each learner. Learners not only act as objects of education but as subjects of education. A teacher must always be ready to serve all the needs of students in order to fulfil these needs. There are certain attitudes that a teacher as an educational staff should have, including the following:

1. Listen to the opinions of each learner
2. Not overly defending his/her opinion
3. Forgiving the learners' behaviour as long as it does not exceed the predetermined limit
4. Appreciates learners' achievements
5. Improving relationships with each learner

The teacher as a facilitator must be able to facilitate or mediate for a student to achieve learning goals. In addition, the teacher is also tasked with directing students about all the things students want to know, the teacher is also responsible for making students more active and student-centred learning. Teachers must create a supportive learning environment so that students are encouraged to be more active and participate in every learning activity, teachers create discussion spaces so that students can collaborate with other students and think critically with every problem or learning given to students. Critical thinking needs to be taught as early as possible to every student, because in the reform era like now students are not only required to absorb information, but also analyse, observe, express opinions and also make conclusions from the analysis carried out (Zulkarnaen et al., 2023).

There are several aspects that a teacher should have as an educational facilitator, including the following.

1. Taking an active learning approach
2. Teaching students to be more active in learning activities, such as making project assignments or problem-based learning
3. Encourage learners to learn independently
4. Encourage students to take the initiative and find their own understanding
5. Bridge collaboration between learners
6. Create discussion or group tasks in project work and the like
7. Provide development-orientated feedback
8. Respond to every opinion or question raised by each learner.
9. Form independent learners
10. Teach the learning process and let learners complete the task according to their own understanding such as teaching the most relevant learning, problem-solving and decision-making strategies relevant.

Teacher's Role as a Communicator of Learning

Professional teachers play an important role as communicators in teaching and learning activities. The etymology of the word communication comes from the English word communication and the technical term communication refers to information consisting of feelings, thoughts, ideas and means of communicating to a communicator. Communicators can measure the success or failure of information

or messages conveyed to communicators. Communication is one of the strategic places in teaching and learning activities and education. Education is communication because the educational process consists of several communicator components, communicator components, and message components.

Education can be understood as communication, this is because there are two important factors involved, namely the teacher as a communicator and students as communicators. Therefore, if teaching and learning activities or education are carried out in the communication process, education will achieve its goals effectively and efficiently (Arfandi and Samsudin, 2021). A teacher or educator is required to be a good communicator and have good communication skills in order to carry out the learning process optimally and give a good impression to students. For this reason, teachers must know the needs, characteristics, interests, and hobbies of the students with whom they communicate.

In learning, students' attention is focused on teacher communication and performance. Even if students basically do not like the material presented by the teacher, students will enjoy learning if the teacher can package and design learning communication as well as possible. Vice versa, if the teacher is insensitive and does not communicate well, students will definitely be less interested in learning, even though students actually like the material (Lubis et al., 2022). The interaction between teachers and students in the classroom is group communication, and at some point the teacher turns group communication into interpersonal communication.

Teaching and learning activities are one of the activities that involve humans in acquiring knowledge, skills, abilities, and positive values by using various learning resources. Therefore, teaching and learning activities take place in two-way interactions where students are learners and teachers are communicators. In the classroom, communication plays a very important role in teaching and learning activities. There are three very important skills that teachers must practice in order to successfully fulfil their role as communicators. These skills include the following.

1. A teacher's ability to plan teaching and learning activities
2. A teacher's ability to carry out teaching and learning activities
3. A teacher's ability to create a conducive communication atmosphere.

Although the three skills above are often referred to as important skills in general for teachers, these three skills are equally important because not only the ability to plan according to the plan but also the ability to carry out teaching and learning activities properly, and teachers must also be able to create an atmosphere of communication in teaching and learning activities.

The role of teachers in communicator activities involves the process of conveying information to themselves, students, superiors, parents, and society in general. Communicating with oneself requires self-reflection, both as an educator and teacher, to ensure that every step or action does not violate the teacher's code of ethics. Communication to students is a very strategic role, because no matter how smart a teacher is if the teacher is unable to communicate well with his students, the teaching and learning process will be less than optimal. Through educative communication with students, a harmonious relationship can be built. On the other hand, communication with superiors, parents, and the community is a moral

responsibility. If a teacher knows that his students commit offences such as skipping class, violating discipline, fighting and so on, then the teacher must immediately take an action so that the incident does not happen again to his students. Teachers also do not need to hate students who make mistakes, but should provide guidance and special attention to students who make mistakes, find out the problems or reasons for violations, and the causes of them committing these violations.

Building Inclusive Learning Environments and Managing Effective Classroom Interactions

Inclusive education is an educational approach that recognises the right of every individual to receive a quality education, regardless of their differences or special needs. It is based on the principle that every student, regardless of ability, background or characteristics, has unlimited potential to learn and contribute positively to the educational environment. Inclusive education is not only about including students with special needs in regular classes, but also about changing the overall educational culture and practices. It involves collaborative efforts from all education stakeholders, including teachers, school staff, parents and communities to create an inclusive environment and promote educational equity (Khaerunisa and Rasmitadila, 2023).

Historically, inclusive education was introduced by Scandinavian countries (Denmark, Norway and Sweden). After many countries implemented the concept of inclusive education, the demand for the implementation of such education in the world is increasingly visible. Based on the historical development of inclusive education, the Indonesian government also developed inclusive education. The Indonesian government seeks to implement inclusive education that is friendly to children and began implementing this education in 1990 (Utami et al., 2021: 4-6). In an inclusive environment, each student is valued as a unique individual with their own strengths and needs. This ensures equal access to the relevant curriculum, varied teaching methods and resources needed to support student learning. Inclusive education also involves recognising and respecting students' cultural identities, languages and beliefs, so that they feel welcome and fully engaged in the learning process.

The benefits of inclusive education are not only felt by students with special needs, but also by students without special needs. Interactions between students with different backgrounds and abilities bring advantages in their social, emotional and academic development. Inclusive education creates opportunities to build collaborative skills, empathy and respect for diversity, essential preparation for future inclusive lives and societies. The benefits of inclusive education are also felt by students without special needs, this can be seen in the effective teaching and learning process. Interaction between teachers and students must be done in order to create effective education. Things that can be done include the following.

1. Build positive relationships with students
2. Managing discipline consistently or applying classroom rules clearly and consistently
3. Communicating effectively by using positive body language and using appropriate voice variations

4. Active engagement in learning by encouraging student participation through discussion, open-ended questions and collaborative activities.

CONCLUSION

A teacher's professional attitude is a trait that represents the tendency to react as a teacher and has the necessary abilities to carry out teaching and teaching tasks, while also being able to carry them out competently. This refers to the attitude of a teacher to do a job that meets certain quality standards or criteria and involves special knowledge, skills and abilities that require training to become a professional teacher. Teachers as facilitators must be professional teachers who are tasked with providing learning opportunities to students, providing information on effective learning methods, providing appropriate source books, problem-solving guidance and student self-development. On the other hand, professional teachers as communicators have the task of providing various learning resources to students. His duties include providing information about the source books to be used as well as useful places for learning. This includes informing the resource officer.

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