



# Scientific Approach in Instructional Supervision

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**Abstract.** The purpose of this research is to know, explain, and explore the approach. The method used in this research is a literature study. The results of the literature study are: (1) the concept of a scientific approach in the supervision of learning; (2) the position of supervision of learning with a scientific approach; (3) techniques for implementing instructional supervision with a scientific approach; and (4) advantages and disadvantages of instructional supervision with a scientific approach. The role of scientific supervision is very important as an effort to build teacher development that has an impact on student development. Scientific supervision is concerned with coaching teachers to improve teaching effectiveness. The scientific approach views teaching as a science or science. Thus scientific methods can be used to improve teaching.

**Keywords:** Instructional Supervision · Scientific Approach Supervision

## 1 Introduction

The development of the times has brought developments in science and technology that require educational institutions to be able to keep up with the flow of these developments. Therefore, adjustments are needed to teaching in schools so that education is not left behind and the learning process becomes more effective and efficient. Educators whose abilities are adequate are the main focus of an educational institution. The competence of the teacher is indispensable in determining the quality of education.

The success of education in education units is strongly influenced by the role of the principal as a researcher in learning leadership for teachers. Principals play an important role in the success and failure of educators in teaching (Prestiadi et al., 2022). The failure of learning can be overcome by the efforts of the principal who can know early the teacher's weaknesses in the process of evaluating student learning outcomes (Mustabsyiroh et al., 2021). Suhardan supervision on is of the implementation of activities in schools, not just physical and material supervision. Supervision is the supervision of activities in the form of the learning process, supervision of teachers in teaching, and supervision of other situations.

According to (Gunawan, 2011) supervision teaching aims to advance the conditions of better teaching activities to achieve educational goals in schools, foster/shape the teaching experience of teachers by utilizing the latest teaching tools, and support teachers in assessing student progress. According Slameto supervisor's advice is to motivate

teachers to have the willingness to solve teaching problems and improve the curriculum. According to Sergiovanni in (Fitriansyah, 2017) put forward various approaches to supervision, and others (a) scientific supervision, (b) clinical supervision, (c) artistic supervision, (d) integration between the three approaches.

The role of supervisors in developing teachers' intellectual abilities is very strategic in supporting insights into the development of science and technology, critical thinking and in dealing with student problems quickly and scientifically. The scientific supervision approach views teaching as a science, so this approach is more focused on the effectiveness of teaching by making various efforts in the form of teaching improvements carried out with various scientific methods. From all these discussions, researchers are interested in raising research with the title "Increasing the Effectiveness of Learning with a Scientific Supervision Approach".

## 2 Methods

In this study, the author uses a research method in the form of a literature study by looking for theoretical references that are relevant to the case or problem found. According to literature study is a study whose preparation is the same as other research, but the source and method of data collection by taking data in the library, reading, recording, and processing research materials. According to is a method to find documents or data that are considered important through newspaper/magazine articles, journals, libraries, brochures, documentation books and through electronic media, namely the internet, which has to do with research conducted by the author. Literature study is a method used to collect data or sources related to the topic raised in a study.

Literature studies can also be obtained from various sources such as journals, documentation books, the internet and libraries. After the author gets the data that has been obtained, then an analysis is carried out using the descriptive analysis method. Where in this method is done by describing the facts which are then followed by analysts and concluded to get conclusions about the study of literature. The step taken by the author is to look for studies that have been done by others according to keywords related to the title of the article, after that the author will review the theories found and explain in his own language.

## 3 Results and Discussion

According to Burton in general, supervision is an effort to provide support and assistance to teachers in carrying out their functions professionally, so that teachers can guide their students in learning to be better than before. According to (Muazni, 2015) the scientific approach views teaching as a science (science) so in this approach, it is more focused on the effectiveness of teaching, namely various efforts are made in the form of teaching improvements carried out with various scientific methods.

John Dewey in (Imron, 2012) stated the objectives of instructional supervision using a scientific approach are as follows: Helping to develop the teacher's ability to solve classroom problems scientifically; and when helping to solve these problems, it should not be influenced by traditional factors and activated by the spirit of inquiry.

According to Sahertian in (Bano, 2018) supervision of a scientific nature has the following characteristics: (1) Implemented in a planned and continuous manner, (2) Systematic and using certain procedures and techniques, (3) Using data collection instruments, (4) There are objective data obtained from real circumstances. According to Imron (2012) the application of a scientific approach, as a teacher coach towards effective teaching improvement, a supervisor can carry out three things, including: Apply the findings obtained from the results of research by researchers; Conduct research with relevant researchers regarding teaching and related to it; and using the scientific method and having a scientific attitude in determining the effectiveness of learning.

Supervisors need to apply the findings of researchers so that it is known which learning is effective and less effective. From the results of the research, various theories have been tested, in order to contain various old theories as well as an improvement on various existing theories. In addition, supervisors also need to gain real experience in determining the effectiveness of learning. Thus the problem of learning in schools can be solved. According to Burhanudin in (Rohman, 2009) mentioning the scientific characteristics in supervision is: Systematic which means supervision is carried out regularly, planned, and continuously; Objective, that is, data obtained based on the results of real observations; Use valid and reliable procedures and instruments that can provide information as feedback; and to conduct an assessment of learning outcomes.

According to (Imron, 2012) the scientific approach in instructional supervision can be selected into three. First, the supervision of learning with a scientific approach can be viewed as part of the scientific management movement. Second, supervision of learning with a scientific approach can be viewed as a picture of the results of research and the application of problem-solving methods. Third, the supervision of learning with a scientific approach can be viewed as part of the ideology of democracy.

In this position, instructional supervision using this scientific approach is seen as being able to respond to shortcomings in assessing the effectiveness of learning. These deficiencies can include: (a) the lack of clarity of the standards used to assess the effectiveness of learning, (b) the difficulty of determining the best method, and (c) the difficulty of determining teachers who can carry out their duties properly.

The emergence of a scientific approach in instructional supervision makes supervisors make use of research results, using procedures according to procedures in a scientific approach. With this, it is difficult for supervisors to release the supervision of learning with educational research.

The supervision of learning with a scientific approach at the beginning of its heyday, which was around 1940, led more to the political atmosphere at the time. The political atmosphere at that time was more towards democracy, participation, social respect and needed support from teachers and the community so that the supervisor's assistance to teachers was placed within the framework of these principles. The growing ideology is used as an umbrella for scientific activities. Various hypotheses are formulated and tested, action research is carried out, and research designs are made, all aimed at proving the truth of democratic ideology and require teacher participation.

According to Pie Sahertian in technique of scientific supervision approach can be done with merit rating, which is an assessment scale or check list given to students or

students to assess the process of learning activities with teachers or lecturers in the classroom. The results of the study were given to teachers as a return to the teacher's teaching performance in the last semester. This data speaks to teachers who make improvements. The use of this recording device is closely related to research, however, scientific data recorders are not yet a guarantee of carrying out more humane supervision.

In contrast to Syaiful Sagala in (Rohman, 2009) who offers a scientific approach technique of supervision in the form of PTK (Classroom Action Research) writing this scientific paper will be useful for teachers to improve their intellectual abilities, and can show problem solving faced by teachers through research activities. Soetjipto in (Rohman, 2009) stated that the supervision technique that uses a scientific approach is as follows: Set the desired work reference criteria. The duties and responsibilities assigned to do something about a particular teaching performance must be specified in such a way, so that the tasks become detailed and become clearer for the teacher concerned; Set performance targets. From the components and analysis of abilities, supervisors and teachers determine the targets to be achieved; Determine performance activity; and monitoring activities to achieve performance.

According to carrying out instructional supervision, supervisors need to also apply procedures for how in the scientific method. Supervision needs to formulate problems based on the theoretical framework of learning, compile hypotheses, collect data, analyze data using relevant analysis techniques, test hypotheses, and finally draw conclusions. By applying such procedures, the supervisor will get an idea of the learning carried out by the teacher together with his students. In applying the procedures as in the scientific method, there needs to be a scientific attitude from the supervisor. The scientific attitude, among others, is to be clear in looking at problems without any tension, keeping a distance from the observed, objective and using recognized frameworks in a scientific approach.

The advantage of this approach is that every effort is based on objective considerations and measurements, based on research results. According to (Imron, 2012) with the rapid development of science, instructional supervision using a scientific approach can be estimated to have an optimistic future. With a scientific approach, humans conduct research and are free to critically examine their environment. By critically examining their environment, humans will be able to solve their own problems. In the world of education, using this approach will be easy to determine the effectiveness of teacher teaching. On that basis, supervisors can take supervisory measures by improving the effectiveness of teacher learning. Menurut (Gunawan, 2011) supervision with a scientific approach indicators of teaching success seen from the components of learning, variables of the teaching and learning process. So that the center of attention of the scientific approach is more emphasized on the development of the learning component as a whole.

Although the scientific approach has its advantages, but the scientific approach also has its drawbacks. The scientific approach will not be free from criticism because there are many other factors that influence the effectiveness of learning, but it still cannot be captured by the scientific approach. The scientific approach is only one way to establish the effectiveness of a learning. According to (Imron, 2012) there are limitations of scientific approaches and scientific research in contributing to the development of learning as follows: The number of propositions produced by scientific approaches is still relatively small compared to the actual need for learning; Learning researchers generally screen

and confirm established knowledge more with rigorous selection; In conducting the study, the researchers screened knowledge by strict selection. Therefore, it can make the cause of the limited or least proposition of the established knowledge involved, then the verification becomes small; In general, researchers do not find class problems thoroughly so that only partial ones are obtained. In addition, the supervisor of the supervisor must take supervision measures based on the findings obtained from the researcher, making the limited authority of the supervisor in using his authority to supervise teachers; and many scientific findings suggest the concept of effective learning of different sizes. This led to a lack of trust from teachers and supervisors in any of the findings.

When viewed from the existing limitations, this scientific approach can still be used. There are several recommendations related to this, namely: (1) researchers should abandon or reduce practical problem-solving research and focus more on more fundamental things in learning; (2) researchers re-use re-application with applied research by limiting the strictness of selection and questioning the benefits of things done to society; (3) researchers conduct research that is ideally ideal for students; and (4) researchers improve learning from facts and increase knowledge related to learning.

## 4 Conclusion

Based on the results of the discussion, it can be concluded that instructional supervision with a scientific approach views teaching as a science. In nature, this approach is more focused on the effectiveness of teaching, namely various efforts in the form of teaching improvements made by various scientific methods. A supervisor must apply the procedure as in the scientific method. Supervisors need to formulate problems based on the theoretical framework of learning, draw up hypotheses, collect data, analyze data using relevant analysis techniques, test hypotheses, and conclude. The advantage of supervision learning with this scientific approach is that it can solve big problems. Supervisors can conduct research with other researchers so that relationships are established. Meanwhile, the disadvantage of this approach is that if the supervisor does not have the desire to conduct research, it will not be able to solve a problem. In addition, if the supervisor does not cooperation with the researcher then this study does not run and does not get results. Therefore, supervisors should conduct research using procedures and objectives.

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