The investigation of teaching style: Electrical engineering teachers’ views in vocational high schools

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Abstract. Conceptually, practical and structured teaching techniques will produce complex teaching skills and as the primary means of change that must be possessed by a teacher. This research is survey research method. The instruments used were interviews and questionnaires. Participants as informants consisted of 16 vocational teachers from 4 Vocational High Schools in Bandung. The conclusion of this study is that the teaching style applied by the electrical engineering teacher in the Vocational High Schools is a conventional teaching style based on the data obtained which is 43%. The teachers uses a classical teaching style that conveys old values and the teacher determines the subject matter by himself without asking students for opinions so that it is not in accordance with the interests of students, and there is no role of students in the teaching process so students only play a passive role. Therefore, teachers should change their teaching styles by using teaching styles that are more centered on 21st century learning which have diverse teaching styles so that students do not easily feel bored in learning and make students more involved in every aspect of learning activity so students will be trained to active in learning.

1. Introduction

The quality of the teaching style of a teacher is an important determinant that plays a role in the teaching process that results will have an impact on student learning achievement [1], but other contributions are also very influential, such as teacher’s ability, curriculum applied, teaching methods, classroom conditions in the school environment and the home environment of students. Students achievement can be improved through quality teaching, even when other conditions such as class size are not conducive. Student achievement is greatly influenced by the professionalism of a teacher in teaching. There are several factors of teacher teaching style that can affect student achievement including the teacher explanation factors that are less about goals, situations outside the classroom that students feel are more interesting than material lessons given by teachers, and students do not like the subject matter given the teacher. Disappointment of a student with the teacher and subject matter given by the teacher can be overcome by choosing the teaching style of the teacher in line with student learning styles. Student attention in teaching and learning more focused because of the attention given by students to the material lessons explained by the teacher, so that this will support the achievement of lesson objectives achieved. In general, professional vocational and non-vocational teachers are assessed using four elements, namely pedagogical competence, professional competence, social competence, and personality competence [2]. The perception of a teacher's interpersonal and emotional behavior is by far the most important factor in terms of teaching skills of a teacher [3]. The teacher's fundamental nature of the
teaching base that he has from the beginning of teaching such as the intention to become a teacher, the extent to which the teacher masters his knowledge and the teacher's self-confidence when teaching in front of his students are assumed to have a special connection to student learning outcomes [4].

Determination of the teacher's teaching style is the most important way of change that must be fulfilled by the teacher [5]. Previous research discusses the professionalism of teacher teaching styles in education. The initial step in the teacher's teaching style techniques used in the research aims at teachers in the early stages of their careers, one of which is to motivate teachers in providing learning by applying teaching styles that will later be appropriate [6]. Teaching techniques that are conceptually effective and structured will produce complex teaching skills [7]. For example, teacher teaching skills are more visible during the practical learning process. In general, teachers provide practical lessons using easy-to-understand, explicit and operational language to achieve teaching quality [8]. The quality of teaching is more important for student achievement than organizational strategies such as grouping abilities [9].

Growing up as an educator requires hard work and commitment [10]. This naturally encourages educators to regularly engage in wise self-examination of their instructional beliefs and behaviors, because developments arise only when educators carefully question, challenge their own instructional beliefs and behaviors. Teaching styles that need to be applied in the learning process should be varied, innovative, and easily accepted by students, and each teacher has different ways of delivering the material. So that the teacher's teaching style in the delivery of material is divided into four types, namely Classical Teaching Style, Technological Teaching Style, Personalized Teaching Style and Interactional Teaching Style.

Teaching styles that need to be applied in the learning process should be varied, innovative, and easily accepted by students, and each teacher has different ways of delivering the material. So that the teacher's teaching style in the delivery of material is divided into four types, namely Classical Teaching Style, Technological Teaching Style, Personalized Teaching Style and Interactional Teaching Style. In addition to paying attention to the different ways of conveying material through teaching styles, teachers must also pay attention to several factors that influence their teaching style, one of which is school facilities and facilities [11]. When the teacher does not reach the teaching target due to inadequate means, the result is the teacher will have a feeling of being tired or bored [12]. From this, we can assume that if a teacher does not get the means to achieve their goals and expectations in teaching, as a result they will feel helpless and will not be able to carry out their role as teachers as they wish [13]. Besides the facility factor, another factor that influences the teaching professional of a teacher is the confidence factor in teaching. Often, teachers feel they lack the knowledge needed to deal with student behavior problems. Teachers have sufficient ability regarding useful approaches, but they do not apply this ability in classroom situations that they face directly [14]. Therefore, from these things the researcher wants to examine more deeply about the teaching style of the teacher carried out by the vocational teacher during the learning process in the classroom for vocational students. This is strung together in questions such as what teaching styles are used by the teacher during the Vocational student learning process? what obstacles do teachers face when applying certain teaching styles in the learning process of Vocational students? what are the students' responses to the teacher's teaching style. In my opinion, this research will have the potential to play a leading role in the world in the field of education, especially the teaching style of teachers, teacher professional development, and of course in the field of pedagogical sciences.

2. Method
The research method used is a survey method whose stages consist of interviews by interviewing 16 vocational teachers chosen by random sampling and observations made by researchers directly by looking at the situation during the learning process in class. In this study using research instruments that have been adapted from previous studies on "Does teaching style explain differences in learner achievement in low and high performing schools in Kenya?" [1]. The data were obtained through interviews for three months in March to May 2019. There are three research subjects, namely teachers, principals, and students. There are 16 vocational teachers majoring in Electrical Engineering from 4 Vocational High Schools as research informants aimed at exploring information relating to how teaching
styles are used in the learning process, and the obstacles that teachers find when applying certain teaching styles in the learning process of students in Vocational High Schools. headmasters from 4 Vocational High Schools in Bandung as research subjects aimed at exploring information related to the teaching style used by teachers in delivering material in the learning process. There are 40 outstanding students in Electric Power Engineering classes from 4 Vocational High Schools as research subjects which aims to explore information related with how the teaching style used by the teachers in the learning process in the classroom and student responses to the teacher's teaching style.

The research used three instruments in data collection, namely interview guidelines, observation guidelines and documentation guidelines. The instrument indicators used in this study are guided by theories of various teaching styles of teachers according to the classical teaching style, technology, personalization and interactional. Data obtained from interviews and subsequent observations were processed using data triangulation. Triangulation is a data collection technique that combines various data collection techniques and data sources that have been obtained. Data triangulation is carried out to examine the use of methods in data collection for example information obtained by researchers through interviews is the same information as data collection techniques that can help achieve valid or reliable results. Data collection techniques used in this study were observation obtained through observation and vice versa [15].

3. Results and discussion

Based on data analysis obtained through interviews 11 of 16 vocational teachers still use the classical style method when conducting the teaching process. The reason is because according to the teachers the classical teaching style is still very easy to apply without having to provide learning media first. Some teachers also said that the classical teaching style was still used because they were more confident using the classical teaching style than other teaching styles which made them have to prepare several methods before teaching. The following will present a discussion of the results of a teaching style survey of vocational teachers in Vocational High Schools in Bandung:

| Types of Teaching Style         | Percentage of Teaching Style |
|---------------------------------|------------------------------|
| Classic Teaching Style          | 43.75%                       |
| Technological Teaching Style    | 25%                          |
| Personalized Teaching Style     | 12.50%                       |
| Interactional Teaching Style    | 18.75%                       |

3.1. Classic teaching style

Based on the research results described, the classical teaching style used by teachers during the learning process has been reflected in the learning activities carried out by 11 out of 16 teachers. The application of classical teaching styles is carried out in almost all learning activities, especially at the beginning of the learning process. Based on the results of interviews obtained 11 out of 16 teachers conveyed the old values through prayer together when he would start the learning process. The lesson is delivered by the teacher and without involving the role of students in the learning process so that students are also more likely to be passive because when delivering the subject matter all the teacher's material is conveyed and students only listen to the teacher's explanation and record what the teacher explained. Based on this, it can be seen that teachers often use classical teaching styles indicated by the delivery of old values in learning activities, materials used in learning activities are not based on student interests, teachers as centers that understand material and students also play passive roles in learning [16]. Classic teaching style in which the teaching process in the classical style can be interpreted that the teaching style applied seeks to maintain and convey the old values from the previous generation to the next generation.
3.2. Technological teaching style
The learning process carried out of 4 Vocational High Schools in Bandung, the focus of learning does not lie in the competence of individual students. Learning activities carried out include all students, meaning that the material delivered by the teacher is not based on the competencies of each student but all students are involved in learning both students who excel and students who do not have more achievement during learning. This can be seen from the way the teacher gives practice questions in each learning process. All students are given the same questions without any differences from one student to another. Learning by applying technological teaching styles uses media or props that dominate the course of learning activities. This is in accordance with the opinions of Cecero and John [17], which states that in this style of learning the element with the greatest role is the content or learning material that has been programmed in such a way that it uses both soft software and hardware that can be radio, television and program equipment are programs that are designed in such a way that students can learn individually the learning materials using these devices.

3.3. Personalized teaching style
Personalization teaching styles in learning activities still need to be improved. This can be seen from the learning activities in the Electrical Installation Engineering class where the role of the teacher is still very dominant, meaning that all learning activities are still fully controlled by the teacher so that students become passive in learning where basically the teaching style of personalization requires active students where the learning process goes according with the abilities and talents of students such as personalized teaching styles through learning discussion methods students are required to actively ask and answer questions so that the classroom atmosphere becomes more active. In addition, in the style of teaching personalization, the role of the teacher in learning activities is only limited to the student's companion and guiding the development of students, but what is seen in teacher learning activities still plays an important role in learning activities [18]. This can be seen from the role of the teacher who does not only accompany students in learning but the teacher is also the giver of the material as a whole in learning activities.

3.4. Interactional teaching style
Interactional teaching styles are seen in several learning activities where students and teachers have an equally dominant role [19]. Based on the results of direct observation in class, in some learning activities seen at the beginning of learning activities 5 out of 16 teachers deliver material by means of students divided into groups and teachers gives assignments that require students to be active in learning activities. One of the activities that appears is where the teacher and students have the same dominant role is when the student conducts the experiment, the teacher explains things related to the material then the students conduct experiments from the material. In this activity, teachers and students appeared to dominate and act as activities. This is consistent with what was stated by Singh and S. Sarkar, who stated that interactional teaching style is direct or interactive learning that is a learning model that is directly directed by the teacher through specific tasks that must be completed by students under direct teacher supervision [20].

4. Conclusion
The teaching style applied by vocational teachers in Vocational High Schools is a classical teaching style. This can be seen from the overall learning activities carried out including the teaching style used by the teachers during the learning process, the obstacles encountered by the teachers when applying the teaching style in the learning process, and the student's response to the teacher's teaching style. In practical learning activities in the field, teachers applying technological teaching styles are only related to the use of media or teaching aids in learning activities, other aspects in technological teaching styles do not appear in learning activities. The application of a personalized teaching style does not appear in learning activities in this vocational high school.
Student responses to the teacher's teaching style appear to vary from each teaching style applied by the teachers during the learning activities. When applying classical and technological teaching styles students give good responses while in personalization and interactional teaching styles, student responses are not good because in this teaching style students are required to be dominant in learning activities while problems that often arise related to students are the passive role of students in activities learning.

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