EDUKATIF: JURNAL ILMU PENDIDIKAN
Volume 4 Nomor 4 Tahun 2022 Halm 6295 - 6301
Research & Learning in Education
https://edukatif.org/index.php/edukatif/index

Analysis of Critical Thinking Abilities Held by SMK Students Based on The Teacher's Evaluation

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Abstract

Siswa yang memilih pendidikan kejuruan diharapkan mempelajari keterampilan yang dibutuhkan untuk transisi dari sekolah ke dunia kerja. Fleksibilitas ini merupakan komponen penting dari kapasitas mereka untuk berpikir kritis tentang situasi saat ini. Salah satu kemampuan yang memungkinkan seseorang untuk mempelajari sesuatu secara lebih utuh, mengemukakan argumen, menarik kesimpulan, membuat penilaian, dan mengevaluasi akibat dari tindakan yang akan dilakukan adalah kemampuan berpikir kritis. Keterampilan berpikir kritis dapat dikembangkan dan diajarkan dalam lingkungan pendidikan. Tujuan penelitian ini adalah mengukur besarnya kemampuan berpikir kritis yang dimiliki siswa SMK berdasarkan evaluasi guru. Penelitian ini merupakan penelitian deskriptif guru di SMK Siti Banun Rantau prapat dan pemahamannya tentang kemampuan Teknik Komputer Jaringan (TKJ) tahun 2021/2022. Pemberian survei kepada pengajar tentang tema produktif, adaptif, dan normatif merupakan salah satu pendekatan untuk mengumpulkan informasi tentang kemampuan analisis siswa. Dari data yang terkumpul selama ini, dapat disimpulkan bahwa siswa yang mendominasi belum mampu melatih kemampuan berpikir kritisnya dengan baik. Hal ini karena kapasitas dan kompetensi pendidik harus ditingkatkan agar dapat menginspirasi siswa untuk berpikir kritis selama proses pembelajaran.
Keywords: Kemampuan Berpikir Kritis, SMK, Persepsi.

Abstract

Students who select vocational education are expected to learn the skills required for the transition from school to the workplace. This flexibility is a crucial component of their capacity to think critically about their current situation. One of the abilities that allows a person to study things more fully, present arguments, draw conclusions, make judgements, and evaluate the repercussions of actions to be made is the ability to think critically. Critical thinking skills may be developed and taught in an educational setting. The goal of this study was to measure the amount of critical thinking abilities held by SMK students based on the teacher's evaluation. This is a descriptive study of teachers at SMK Siti Banun Rantauprapat and their understanding of network computer engineering abilities (TKJ) in 2021/2022. Giving surveys to instructors on productive, adaptive, and normative themes is one approach of gathering information on students' analytical ability. As a result of the data collected thus far, it is possible to conclude that pupils who dominate have not properly exercised their critical thinking abilities. This is because educators' capacity and competency must be enhanced and improved in order to inspire students to think critically during the learning process.
Keywords: *Critical Thinking Abilities, SMK, Perception.*

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Email : meinanhrp@gmail.com
DOI : https://doi.org/10.31004/edukatif.v4i4.3374
ISSN 2656-8063 (Media Cetak)
ISSN 2656-8071 (Media Online)

DOI: https://doi.org/10.31004/edukatif.v4i4.3374

INTRODUCTION

Students who choose to attend schools that emphasize vocational education are expected to acquire the skills necessary to successfully navigate the transition from school to the world of work. This adaptability is an essential component of their capability to think critically about the circumstances in which they find themselves. The curriculum and instruction in vocational schools emphasize content-specific knowledge that is relevant to the job. It is not uncommon for teachers at vocational schools to have some sort of hands-on experience in the disciplines that they instruct students in. Before becoming teachers, many of them have experience working in their respective areas for a while (Delcker&Ifenthaler, 2021).

In every facet of education, the process of learning comprises two distinct transmissions: first, with regard to the types of thoughts that should be thought. The second aspect of postmodernism is a form of thought that questions the conventional wisdom of the day (Slagle, 2017). Students entering the 21st century need to be equipped with various abilities, one of which is the ability to think at a higher level. Skills such as critical thinking and creative thinking fall into this category. The level of thinking shown by students can be broken down into essential thinking and higher order thinking. Thinking at the most basic level involves using only limited talents when dealing with mundane and mechanical things (ÖNÜR & KOZİKOĞLU, 2020).

On the other hand, for students to engage in higher order thinking, they must be able to understand, evaluate, and even modify past material in a way that prevents it from becoming boring(Suhirman et al., 2020).The ability to think critically is one of the talents in a person that allows him to analyze things in more depth, offer arguments, draw conclusions, make judgments, and evaluate the consequences of actions to be taken. Skill development and teaching in critical thinking can occur in an educational environment. This provides further assistance to government efforts to strengthen students' critical thinking skills in the 21st century. In addition, the development of critical thinking skills is needed for empowerment because these skills can affect students' cognitive learning outcomes(Fitriani et al., 2020).

Research on students' critical thinking skills using STEM education with the Project Based Learning method on 160 junior high school students in Japan from four classes showed that students' critical thinking skills were categorized as advanced thinkers 41.6%, practical thinkers 30.6%, thinker’s beginners 25%, and challenged thinkers 2.8% with the average score of students' critical thinking skills is 2.82(Mutakinati et al., 2018).Meanwhile, research on lecturers at several universities in Makassar on students' critical thinking skills shows that students' critical thinking skills need to be improved because only 32.05% of students are considered capable of critical thinking. This research shows that there are many obstacles in developing students' critical thinking skills, where these deficiencies can come from the lecturers, the students themselves, the frequency of scientific meetings, and the facilities provided by the institution(Amin & Adiansyah, 2018).

Students' ability to test arguments, draw conclusions based on reasoning, judge, evaluate, make judgments, or solve problems is also related to their critical thinking skills. Critical thinking skills can be strengthened through learning in schools, especially vocational education, as a provision to increase the chances of graduates getting jobs in competitive fields. Therefore, maximizing the development of critical thinking skills in the classroom is very important because it can have an impact on student learning outcomes.The purpose of this research is to determine the level of critical thinking skills held by SMK students based on the evaluations provided by their teachers. The descriptive analysis approach was used for this study, which was conducted in the Department of Engineering and Computer Networks (TKJ).

DOI: https://doi.org/10.31004/edukatif.v4i4.3374

RESEARCH METHOD

This research is a descriptive study with the research topic being the teachers at SMK Siti Banun Rantauprapat and their knowledge of the network computer engineering (TKJ) competencies in 2021/2022. The administration of questionnaires to the lecturers of productive, adaptive, and normative topics was the method that was utilized for the collecting of information on the analytical capabilities of the pupils. The sample size is determined by the use of a proportionate random sampling. The researchers in this study focused their attention on the analytical prowess of the pupils as their variables. Interpreting, analyzing, making conclusions, assessing, explaining, and self-regulating are all essential signs that may be used to determine whether or not a person possesses the requisite thinking abilities(Much. Solikhin, 2021). Through the use of a questionnaire, information on the analytical capabilities of the pupils was gathered. The lesson begins with the instructor providing a series of comments about the students' ability to think critically, followed by four (four) possible responses. The number of pupils who demonstrate critical thinking abilities throughout class time is one of the alternative response choices. A descriptive analysis, using percentages, was performed on the data in order to describe the degree of accomplishment for each indication of critical thinking abilities(Setiana et al., 2020).

RESULT AND DISSCUSION

Interpretation ability

Based on Figure 1, information is obtained that the dominant teacher states that only 25-50% of students can interpret the material well. However, more than 10% of teachers said that students' ability to interpret the material was more than 75%. These results are in line with research on grade IX students of SMP Negeri 10 Gorontalo on quadratic equations through online learning reaching 60.89%(Zakiyah et al., 2021).

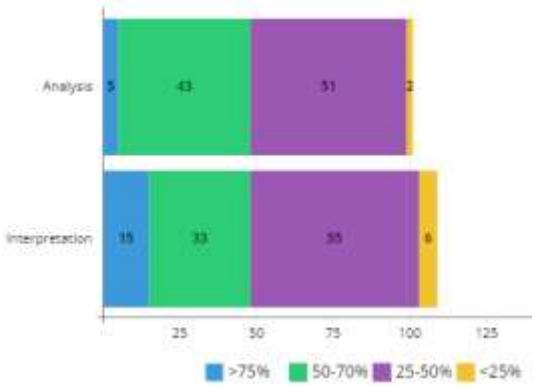

Figure 1. Interpretation and Analysis Ability of the Students

Analysis ability

According to the information that is acquired from Figure 1, the dominating instructor believes that between 25 and 50 percent of the pupils are able to evaluate the content. There are even others who contend that pupils have analytical skills that reach up to seventy percent of students. One factor that might contribute to a student's increased success is their analytical capacity.

However, according to the findings of study conducted by Try NesiaNurhemy(Nurhemy et al., 2019), solving problems is also an efficient method for increasing analytical abilities while using learning materials. Students in class XI MIA 1 at SMA Negeri 2 Sukoharjo(Wulandari et al., 2018) were able to increase their analytical skills while using the Group Investigation (GI) learning model, according to the findings of prior research that applied this learning model.

DOI: https://doi.org/10.31004/edukatif.v4i4.3374

Inference ability

According to the data shown in Figure 2, it has been determined that the dominating instructor believes that 25-70 percent of students are able to draw conclusions about the subject matter. However, a great number of studies have shown that only a small percentage of pupils are able to draw meaningful inferences from the information that they are being taught. Research on the adoption of problem-based learning and discovery learning models in the classroom is able to help students to draw conclusions about challenges. These models describe data processing, supervision, and management(Janah & Dimas, 2021).

In the meanwhile, study on SMA YPI Tunas Bangsa Palembang acquired the average value of students' mathematical reasoning abilities as 66.11, with drawing inferences from a statement being the sign of mathematical reasoning abilities that students did not master (Muslimin & Sunardi, 2019).

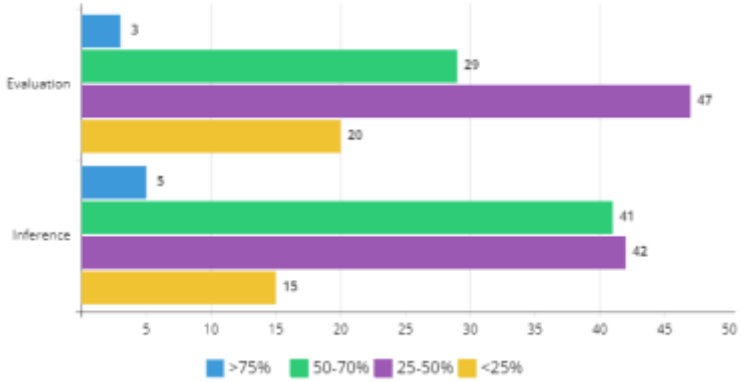

Figure 2. Inference and Evaluation Ability of the Students

Evaluation ability

According to the data shown in Figure 2, it has been determined that the dominating instructor believes that between 25 and 70 percent of students are able to evaluate their own learning. Even 20% of those who participated in the survey are of the opinion that very few kids can still comprehend the content of the lessons. In light of these findings, the delivery of educational materials, particularly in the context of online education, may benefit from the use of audio-visual media(Lestari et al., 2021).

In addition, research shows that asynchronous learning plays an important role in the effectiveness of the implementation of online home-based learning. This is because it allows students to relearn the learning materials that were taught through synchronous learning. This is related to the concept of understanding the learning materials (Cendana & Mooy, 2021).

Explanation ability

Based on the information that was obtained, it was found that more than half of the teachers stated that between 50 and 70 percent of the students were able to explain the material that they were learning, but some teachers stated that some students were unable to explain. Figure 3 displays this information. The cognitive abilities of students are also connected to their capacity to explain learning information to other students. After participating in learning activities, students' cognitive capacities may be improved through research on the implementation of flipped classrooms in the context of Education for Sustainable Development (ESD), which can also increase sustainability awareness(Nissa et al., 2021).

In the meanwhile, research conducted at SMAN 7 Bekasi on the cognitive capacities of students concluded that the multi-representation technique had a beneficial effect(Clarisa et al., 2020).

DOI: https://doi.org/10.31004/edukatif.v4i4.3374

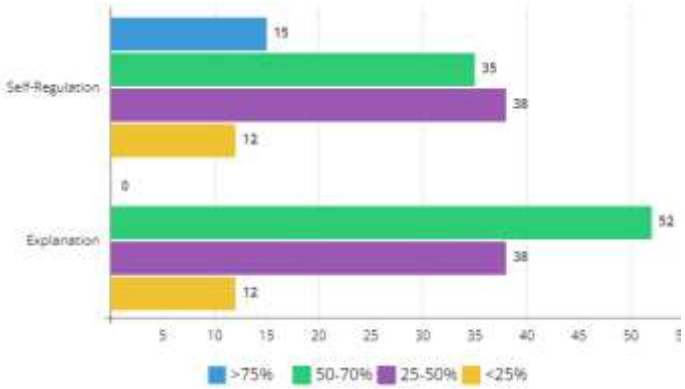

Figure 3. Explanation and Self-regulationof the Students

Self-regulation

Figure 3 illustrates that the majority of educators believe that only 25–50 percent of their students are capable of effectively self-regulating, whilst some educators believe that the majority of their students have this ability. At SMA 2 Bukittinggi, several research on the topic of self-regulation of learning have been carried out, all of which have reached the conclusion that there is a good correlation between the role of self-efficacy and student self-regulation in the context of distant learning(Firdaus, 2020).

On the other hand, different research indicated that jigsaw cooperative learning had an effect on learning that was dependent on self-regulation, but that it had no influence on the tactics that were used to learn(Arjanggi et al., 2013).

Students Critical Thinking

According to the data shown in Figure 4, it is clear that the vast majority of educators continue to believe that just 25–50 percent of students possess effective critical thinking abilities. The assessment indicators for critical thinking skills among students are still quite inadequate, despite the fact that up to 20.37 percent of teachers examine students' critical thinking abilities.

On the other hand, more than ten percent of educators are of the opinion that more than seventy-five percent of pupils are capable of using critical thinking abilities with regard to self-regulation and interpretation. The findings indicated that there was a substantial connection between the development of students' critical thinking abilities and the outcomes of their educational experiences(Huda & Rahman, 2020).

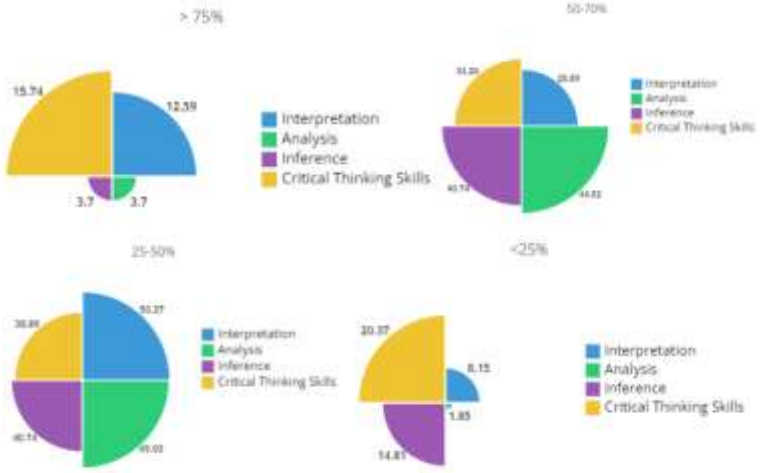

Figure 4. students Critical Thinking Based on Indicator

Other study has shown that students' critical thinking abilities exist in the areas of interpretation, analysis, and conclusions; yet, these skills are still at a level that is inadequate and unsatisfactory. Therefore, more ideal efforts are required to teach students to think critically in order to prepare them for learning in the 21st century(Saputri et al., 2017).

CONCLUSION

As a consequence of the data and the conversation that has taken place so far, one might conclude that the dominating students have not effectively employed their critical thinking abilities. This is because of the capacity and competency of instructors, both of which need to be bolstered and enhanced to encourage students to be able to think critically throughout the process of learning. It is vital to design learning models for educators to have realistic expectations regarding the level of critical thinking abilities possessed by students.

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