



## The Impact of Skill and Attitude Performance Students of Electrical Engineering Education on Work Opportunities in Business and Industry

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### **Abstract**

This study aims to determine the extent of the impact of the skills and attitudes of Electrical Engineering students in relation to job opportunities in the business and industrial world. The method used in this research is descriptive qualitative research method. The subjects in this study were 70 students of Electrical Engineering Education who attended Industrial Practices. The results obtained in this study of 70 students, 64.29% managed to get good acceptance in the business world and industry and got a satisfactory score because they have competency skills which include the ability to work in teams, enthusiasm for following practice and initiative and attitude competence which includes willingness receive input and persistence, while 35.71% do not receive acceptance in the practice place and do not complete the industrial practice in the field is influenced by attitude factors including: 1). low self-discipline (44.00%), 2). low persistence of students (20.00%), 3). The ability to receive input from PKL supervisors for improvement towards a better direction (4.00%) and skill factors include: 1). The enthusiasm possessed in following the PI (12%), 2). The ability to work hard during PI (13.33%), 3). Able to work together in a team during PI (13.33%). From the results obtained, it can be concluded that the determining factor so that students can successfully follow practice and be well accepted in the business world and industry is to increase their enthusiasm for following practice and when doing practice there is a need for teamwork including being willing to accept input from supervisors essential needed in industrial practice.

**Keywords:** *Skills; Attitudes; Industrial Practices; Business World; Industrial World*

### **Introduction**

The Electrical Engineering Education Study Program was held for the first time in 1984 at the D3 level based on the Decree of the Minister of Education and Culture of the Republic of Indonesia Number: 100/ DIKTI / KEP /1984 concerning the Establishment of the Electrical Engineering Education Study Program at the FKIP Nusa Cendana University and since 1994 all new students have a bachelor degree status.

The Electrical Engineering Education study program continues to develop itself to follow the demands of the world of work and produce graduates who work in accordance with their fields, namely

becoming vocational teachers or working in other related fields. The Electrical Engineering Education Study Program basically prepares students and produces professional and dignified Educators in the field of Electrical Engineering who have a global perspective. For this reason, the general goal of this study program is to produce graduates who are quality, creative, innovative, productive and weighty in the context of developing science and technology. To realize the mission and goals of the study program, one of the things that is needed in the world of business and industry as a stakeholder is the mastery of skills and attitudes as well as a good work ethic that must be applied from the beginning of college. The problem faced is that most of the students in the Electrical Engineering Education study program are students who come from various vocational schools in NTT who have variations in the formation of skills and attitudes plus character education efforts in general are mainly focused on the elementary and junior high school levels while challenges related to character is in fact at the high school level / including vocational high school which becomes the input for higher education later. This is reinforced by Leming's (2006) research that character education efforts have not yet entered SMA/SMK as a graduate producer for business and industry as well as those who will continue to tertiary institutions.

Social cognitive theory states that learning technical skills is building a mental model that provides a conceptual representation of the skills to generate responses and serves as a standard for corrective responses given after feedback is received (Bandura, 2001). In social cognitive theory both internal and external factors are considered important. Events in the environment, personal factors, and behavior are seen as being integrated in the learning process (Woolfolk, 2009). One problem in learning motor skills is that learners cannot observe aspects of their practice that are beyond their sight. Not being able to see what other people are doing makes one have to rely on kinesthetic feedback and compare it to its conceptual representation. The absence of visual feedback makes learning difficult. Research on the effectiveness of using models to teach motor skills. Verbal explanations create a positive model that helps maintain the learner's attention and encodes the information in memory. Weiss and Klint (1987) found that students in the visual model group and the non-model group who verbally repeated a series of actions were better at learning motor skills than students who did not repeat them verbally. Overall, some forms of verbalization can be very important in mastering motor skills.

Learning complex skills usually occurs through a combination of observation, and practice (performance). The learner first observes models that explain and demonstrates skills, then puts them into practice. According to Gagne (1985), motor skills are one of the five learning capabilities. According to him, motor skills are movements in a series of organized physical movements, or coherent individual actions that form part of a more comprehensive activity that as a whole these actions / movements are motor skills. The conditions faced in the Electrical Engineering Education Study Program, based on data from students of class 2019, obtained 41.93% from SMK and 58.06% from SMA, for the distribution of SMK, 84.61% came from SMKs outside Kupang City and 15.39%; 88.89% came from vocational schools in Kupang and its surroundings, 88.89% came from outside Kupang and 11.11% came from Kupang city and its surroundings. With the various variations that exist, of course the approach to performance skills and attitudes also varies depending on their previous learning environment. For this reason, this research is intended to see to what extent the role of skills and attitudes can have an impact on job opportunities in the business world and industry.

## **Methods**

### **(a) Research Design**

This study uses a qualitative descriptive approach in analyzing the impact of the skills and attitudes factors related to job opportunities in the business world and industry. To analyze the skill and attitude factors, a questionnaire was used as a measuring tool to determine the extent of the impact.

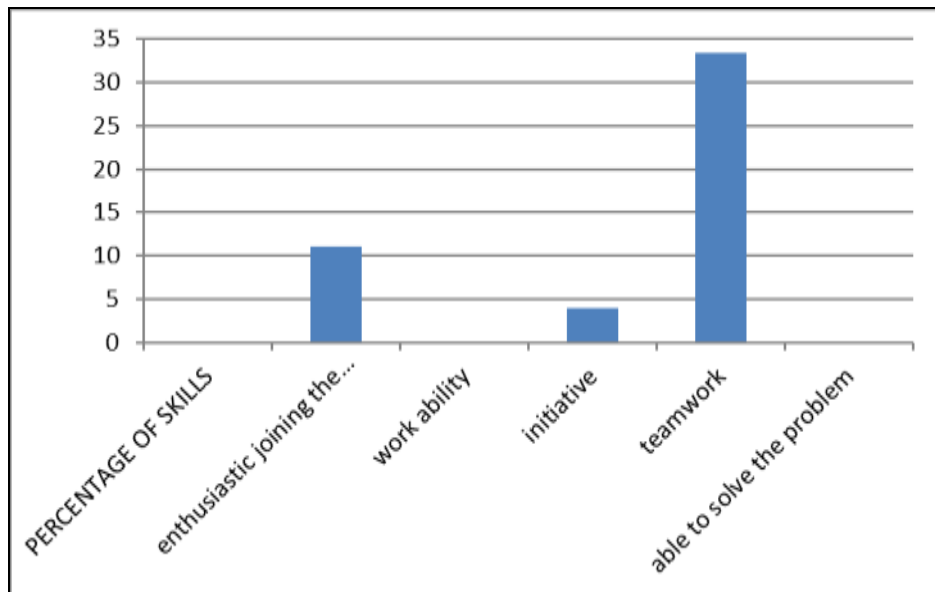
## (b) Research Variabels

The variables used in this study are: (1) skills, including: work ethic, ability to work hard, initiative, teamwork, overcoming obstacles. (2) attitude, which includes: self-discipline, persistence, helping friends and providing constructive feedback, solving real-world problems, building relationships positive learning environment.

**Findings**

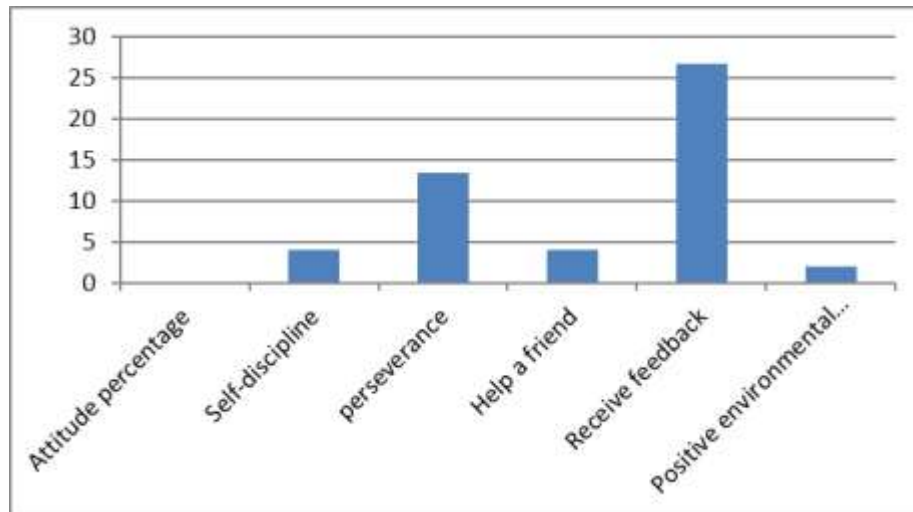
This research is based on the implementation of Industrial Practice (PI) which is one of the compulsory lecture activities by Undana Electrical Engineering students to prepare students to work in the business and industrial world. During the implementation of PI it was found that there were two factors from students that had an impact on whether they were successful or not in the business world and industry, namely skills and attitudes. Of the 70 students who took part in industrial practical activities, there were 45 students who had successfully completed their practice but there were 25 students who had not succeeded. Based on the research results obtained data both skills and attitudes which are described as follows:

- a. Participants who receive good acceptance from the business and industrial world have the ability to:
- Skills, contributing 48.89% which includes: a). The enthusiasm possessed in following PI (11.11%), b). Initiatives during the PI (4.00%), c). Able to work together in a team during PI (33.33%).



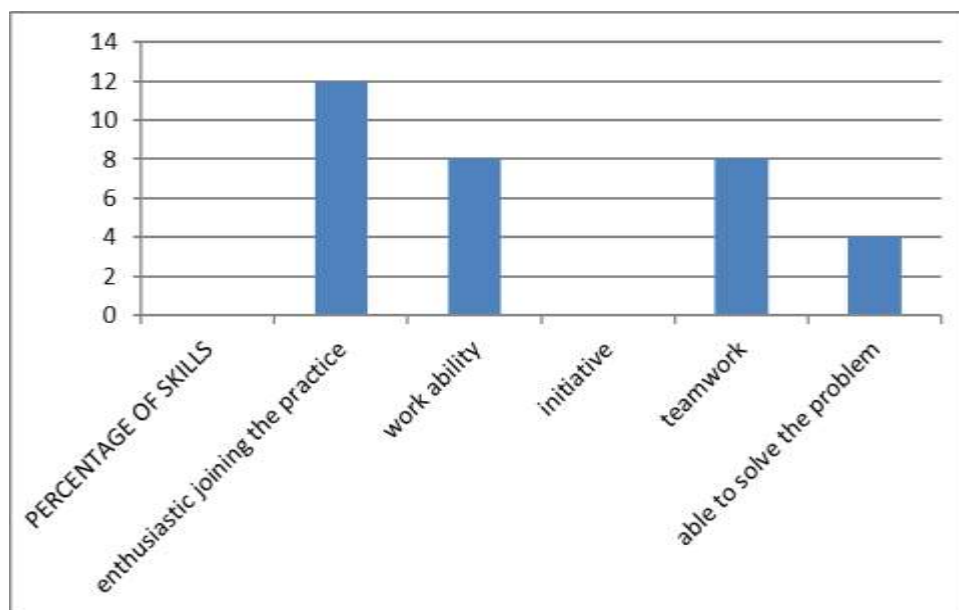
**Figure 1. Skills Percentage Who Receive Good Acceptance From The Business And Industrial**

- Attitude, contributing 51.11% which includes: a). Self-discipline from during the location (4.00%), b). Persistence possessed by students (13.33%), c). Ability to help friends on location (4.00%), d). Ability to receive input from street vendor supervisors for improvement towards a better direction (26.67%), e). The ability to build relationships. positive learning environment at the location (2.00%).



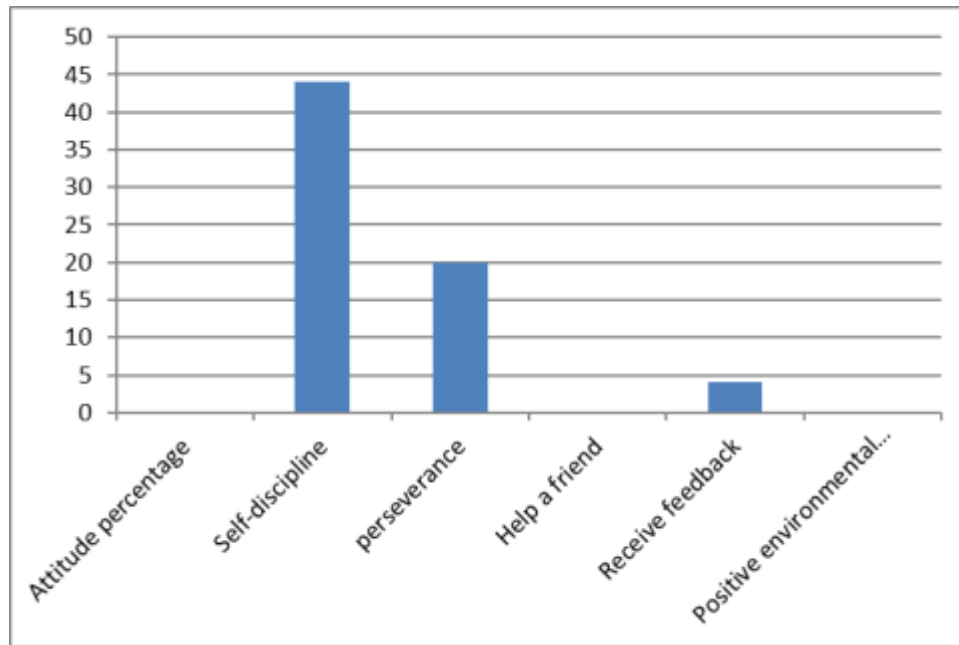
**Figure 2. Attitude Percentage Who Receive Good Acceptance From The Business And Industrial**

- b. Participants who have not received good acceptance from the business and industrial world need to be strengthened from the point of view of skills and attitudes, namely:
- Skills, contributing 32.00% which includes: a). The enthusiasm for participating in PI (12%), b). Ability to work hard (8.00%), c). Initiatives during the PI (0.00%), d). Able to work together in a team during PI (8.00%), e). Ability to overcome problems or obstacles in the PI location (4.00%)



**Figure 3. Skills Percentage Who Have Not Receive Good Acceptance From The Business And Industrial**

- Attitude, contributing 68.00% which includes: a). Self-discipline from during the location (44.00%), b). Persistence possessed by students (20.00%), c). Ability to help friends on location d). Ability to receive input from PKL supervisors for improvement towards a better direction (4%), e). The ability to build relationships. positive learning environment on site.



**Figure 4. Attitude Percentage Who Have Not Receive Good Acceptance From The Business And Industrial**

### ***Discussion and Conclusion***

The results obtained in this study from 70 students, 64.29% managed to get good acceptance in the business world and industry and got a satisfactory score because they had the skills that contributed 48.89% including: a). The enthusiasm possessed in following PI (11.11%), b). Initiatives during the PI (4.00%), c). Able to work together in a team during PI (33.33%) and the ability to contribute 51.11% attitude which includes: a). Self-discipline from during the location (4.00%), b). Persistence possessed by students (13.33%), c). Ability to help friends on location (4.00%), d). The ability to receive input from street vendor supervisors for improvement towards a better direction (26.67%), e). The ability to build relationships. Positive learning environment at the location (2.00%) While the factors that cause students to be not well accepted at the practice location are influenced by skills indicators are low enthusiasm for participating in practice (12.00%) and the attitude indicator is low self-discipline (44, 00%). Based on the results of the study, it can be seen that attitude contributes more than skills where the main indicator that contributes to attitude is willingness to accept input from the supervisor at the practice location followed by persistence. The indicator of receiving input from the supervisor is a dominant factor in attitude because with the willingness to accept input, it is supported by the perseverance they have and good self-discipline to help students react well in practical locations.

Based on the results of the study, it appears that attitude contributes more than skills. And the main indicator that contributes to attitude is willingness to accept input from the supervisor at the practice location followed by persistence. The indicator of receiving input from the supervisor is a dominant factor in attitude because with the willingness to accept input, it is supported by the perseverance they have and good self-discipline to help students react well in practical locations. This is also in line with skills

indicators whose dominant factor is teamwork followed by the enthusiasm for following practice. This indicates that cooperation or collaboration is a supporting factor for success in the world of work.

Within the cooperative learning group there is an interpersonal exchange process that encourages the use of higher-level thinking strategies, a higher level of reasoning and metacognitive strategies. Students who work together cooperatively are expected to be able to explain what they have learned to their classmates, elaborate on what has been learned, listen to other people's perspectives and ideas, monitor each other's participation and contribution, provide mutual feedback and engaging in intellectual conflict (Johnson & Johnson, 2005).

Learning as a personal and social process that will bring results if each individual works together to build mutual understanding and knowledge. When learners want to maximize student learning, increase their retention, and encourage the use of a higher level of reasoning strategies, they should be encouraged to use cooperative methods rather than competitive or individualistic methods. A meta-analysis of all studies indicated that collaborative learning resulted in significantly higher achievement and retention of learning outcomes than competitive and individualistic learning could achieve.

This is in line with the opinion of Nas (2013) in his research concluding that the cooperative learning model of the Learning Together type generally facilitates the division of tasks and makes it easier for students to learn to carry out their individual responsibilities as group members, each group member gets different tasks so that students can build their own understanding and can improve learning outcomes. This is also in line with research conducted by Rahayu (2015) which concluded that the learning together method in its application has a very positive impact in an effort to improve student learning achievement. This is marked by an increase in student learning completeness in each cycle so that there is an increase in student learning achievement. Rahayu (2015) in her research also found a link between the application of the learning together method which has a very positive effect on increasing motivation. Furthermore, the factors causing students have not been maximally accepted in the world of business and industry are influenced by indicators in attitude, namely low self-discipline followed by skills. Furthermore, the dominant factors in skills that have not been maximized by students are the enthusiasm for participating in the practice, the ability to work hard and the ability to work in teams which is still low.

### ***Conclusion***

From the results obtained, it can be concluded that the determining factor so that students can successfully follow practice and be well accepted in the business world and industry is to increase their enthusiasm for following practice and when doing practice there is a need for teamwork including being willing to accept input from supervisors, essential needed in industrial practice.

### ***Recommendation***

In addition to the factors raised in this study which include skills and attitudes as well as indicators that build these factors, research can be directed at a work environment based on the 4.0 industrial revolution and 4C communication skills needed in business and industry that must be owned by students because Technology integration in relation to the business world and industry is an integral part of the world of work.

### ***Acknowledgement***

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