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ABSTRACT

This research aims to determine the indirect correlation between academic achievement, intrinsic motivation, extrinsic motivation, and self-efficacy on the teaching readiness of education study program students. This type of research is quantitative and inferential in testing the hypothesis. This research was conducted in October 2022, and the subjects in this study were 167 students from the Universitas Negeri Gorontalo classes of 2018 and 2019. The sampling technique used is saturated sampling, which is used to select samples that include every member of the population. The instrument used in this research is a questionnaire that has been validated by experts and has been tested for validity and reliability. The results of the research show that (1) There is an indirect positive influence between academic achievement on teaching readiness through self-efficacy by 20.9%, intrinsic motivation on teaching readiness through self-efficacy by 74.1%, and extrinsic motivation on teaching readiness through self-efficacy by 43.3%; (2) There is a direct positive influence between self-efficacy on teaching readiness by 42.9%. Thus, self-efficacy is directly related to teaching readiness and can mediate the relationship between academic achievement, intrinsic and extrinsic motivation, and teaching readiness. The findings of this research can be used to develop and evaluate engineering education study programs that will prepare graduates to become teachers.

INTRODUCTION

Teaching readiness is a person's readiness to carry out teaching tasks. Dalyono (2005) and Vecenane and Vazne (2022) categorize readiness into physical and mental readiness. Physical readiness is having enough vitality and excellent health, while mental readiness is having enough interest and motivation to complete an activity (Garcia-Bolaños et al., 2022). Physical readiness for teachers is maintaining health so that teaching can be maximized. Meanwhile, mental readiness for teachers is interested in improving their abilities in the field of education and motivating themselves and their students (Pramesti et al., 2022).

Every student in the education study program must have teaching readiness because graduates are prepared to become prospective teachers. Student teaching readiness is influenced by several factors, which in this study are used as independent and mediating variables. The first is academic achievement, which results from learning in a certain period assessed by letters or numbers. Helmawati (2018) states that in higher education, learning achievement is a learning outcome measured by the Grade Point Average (GPA) as a reflection of the extent to which a student is successful or less successful in his studies. Grade point average or academic achievement is the result achieved while attending lectures. Students of educational study programs with high GPA scores are

considered to be more proficient in lecture material, so they are considered more capable or better prepared to carry out their duties as teachers.

Another factor that affects student teaching readiness is motivation. Based on its source, motivation is divided into intrinsic motivation, if the source comes from within oneself, and extrinsic motivation, if the source is the environment outside the person concerned (Uno, 2007). One of the motivations that can be seen from students is the motivation to teach, which can come from within and outside the student. According to Sardiman (2018), intrinsic motivation usually arises because of one's hopes, aspirations, and desires for something so that they have the enthusiasm to achieve it. Meanwhile, according to Fahmi (2016), extrinsic motivation arises from outside a person and then encourages that person to build and foster motivation within that person to change all attitudes toward a better direction.

Self-efficacy refers to an individual's belief in their ability to perform tasks and achieve goals successfully. According to Alwisol (2019), self-efficacy is a self-perception of how well one can function in a given situation. An individual's belief in competence under certain conditions can influence subsequent behavior. A person with positive self-efficacy will have good self-confidence so that when carrying out his job as a teacher, he will be more confident and ready to teach (Adnyani & Suwandana, 2022; Usher & Morris, 2023).

Similar research has been conducted previously, such as that conducted by Kurniawan et al. (2020), where the findings show that there is a significant relationship between student work readiness and learning achievement. In addition, research conducted by Fauzan et al. (2023) showed that student work readiness is positively influenced by work motivation. In addition, research by Evioni et al. (2022) showed a relationship between work readiness and self-efficacy.

From these previous studies, these studies only focus on relationships or influences. In addition, the work readiness variable used is still work readiness in general, not teaching readiness or specific work readiness for a teacher to work. In understanding the process or mechanism involved in the relationship between the independent and dependent variables, this research discusses the indirect impact or interaction by using mediating factors. Since most education students lack confidence in their ability to perform teaching activities, self-efficacy is the mediating variable used in this research. Adding this self-efficacy variable as a mediating variable is expected to increase their willingness to teach.

Based on the results of preliminary observations conducted at Universitas Negeri Gorontalo on 40 final-year students from the building and vocational engineering education, informatics engineering education, fine arts education, and mechanical engineering education study programs, it shows that most of the final-year students of the engineering faculty (education study programs) are more interested in working in non-education fields. This shows that the teaching profession still needs to be more desirable. In addition, from the tracer study data, only 35% of graduates work as teachers and the rest work in industrial companies or entrepreneurship.

Based on this, it is necessary to see if there is a direct correlation between academic achievement, intrinsic and extrinsic motivation, and teaching readiness, as well as an indirect correlation through self-efficacy. The benefit of knowing the correlation of these variables with teaching readiness is as a basis for student development programs to improve the quality of education study program graduates at the Faculty of Engineering, Universitas Negeri Gorontalo.

METHOD

The type of research used in this research is a quantitative and inferential approach that tests hypotheses and relates one variable to another. This research was conducted in October 2022 at Universitas Negeri Gorontalo on final-year students in the education study program, faculty of engineering. There were 167 respondents in the population of research subjects, and a saturated sampling strategy was used to select a sample that included every member of the population. Data collection techniques used instruments that were validated by expert validators and tested for validity and reliability, then distributed in the form of questionnaires to 167 respondents. After the data was collected, the data was analysed using descriptive analysis to describe the characteristics of the respondents.

Descriptive analysis is a statistic used to analyze data by describing or describing the data that has been collected as it is (Ghozali, 2016). After that, the data was then tested for normality, linearity, multicollinearity, and heteroscedasticity before a simple regression test was carried out. These tests are also called prerequisite tests. Prerequisite tests are used to determine which statistical tests need to be used, such as parametric statistical tests or nonparametric statistical tests. After that, the path analysis test is used to see the relationship between variables. Path analysis uses regression analysis to estimate the relationship between variables (causal model), which has previously been determined based on theory (Ghozali, 2016), and the Sobel Test to determine the effect of mediating variables. Ghozali (2016) revealed that a variable can be referred to as a mediating variable (Z) if the X equation significantly affects the Y variable, the X variable significantly affects the Z variable, and the X variable equation significantly affects Y by being controlled by the Z variable.

RESULTS AND DISCUSSION

Results

Descriptive Analysis

The description of the research data shows a recapitulation of respondents' responses to the research variable statements, which consist of question items with a scale of strongly agree, agree, doubt, disagree, and strongly disagree. The following is a description of the respondents' assessment of each item of the research variable obtained by calculating the interval using Formula 1.

$$\text{Interval} = \frac{\text{maximum score} - \text{minimum score}}{\text{Number of classes}} = \frac{5-1}{5} = 0,8 \qquad (1)$$

Table 1. Rating Intervals

Interval	Category
1.00 - 1.80	Very low
1.81 - 2.60	Low
2.61 - 3.40	Currently
3.41 - 4.20	High
4.21 - 5.00	Very high

The following explanations are the results of the analysis of data descriptions obtained from respondents' responses to statements in questionnaires related to academic achievement variables, intrinsic motivation, extrinsic motivation, self-efficacy, and teaching readiness.

Academic Achievement

Based on the results of the questionnaire answers from 167 respondents, data on the Grade Point Average (GPA) of the respondents were obtained. The characteristics of respondents based on GPA can be seen in Table 2. Based on Table 2, the results show that the majority of respondents have a GPA of 3.26-3.50, namely 74 people or 44.3%. With this GPA, according to academic regulations, Universitas Negeri Gorontalo is in a very satisfying predicate.

Table 2. Characteristics of Respondents based on GPA

IPK	Frequency	Percentage (%)
≤ 3.00	37	22.2
3.01 - 3.25	34	20.4
3.26 - 3.50	74	44.3
3.51 - 3.75	21	12.6
3.76 - 4.00	1	0.6
Total	167	100

Intrinsic Motivation

The frequency distribution of the intrinsic motivation variable can be seen in Table 3. Based on Table 3, it shows that the average score for the intrinsic motivation variable is 4.07 which is in the range (3.41 - 4.20) which indicates that it is in the high category. This shows the high intrinsic motivation of Engineering Education Study Programme students at the Faculty of Engineering, Universitas Negeri Gorontalo. The statement that has the highest intrinsic motivation score is "becoming a teacher motivates me to keep updating my knowledge", with a value of 4.37.

Table 3. Frequency Distribution of Intrinsic Motivation Variables

No.	Statement	Average	Description
1	Becoming a teacher spurs me to continue updating my knowledge	4.37 *	Very High
2	Not only teaching the teacher also performs tasks that aim to develop soft skills as a teacher	4.22	Very High
3	Being a teacher is a noble job	4.17	High
4	Teachers have a social status that is valued in society	4.12	High
5	Conformity of responsibilities with the competence of the teacher	4.05	High
6	Teachers are responsible for giving birth to the nation's next generation	4.22	Very High
7	Have the desire to excel through improving teacher performance	4.02	High
8	Have the desire to be an exemplary teacher	3.99	High
9	Call of the soul to answer challenges as a teacher	3.83	High
10	Being a teacher is a coveted profession	3.69	High
	Average	4.07	4.07

Extrinsic Motivation

The frequency distribution of the extrinsic motivation variable can be seen in Table 4. Table 4 shows that the average score for the extrinsic motivation variable is 3.88, which is in the range (3.41 - 4.20), and indicates that it is in the high category. This shows the high extrinsic motivation possessed by students of the Engineering Education Study Programme, Faculty of Engineering, Universitas Negeri Gorontalo. The statement with the highest extrinsic motivation score is "teachers get pensions in old age," with a score of 4.18.

Table 4. Frequency Distribution of Extrinsic Motivation Variables

No.	Statement	Average	Description
1	Teachers get a large salary and benefits	3.76	High
2	Teachers receive a pension in old age	4.18 *	High
3	The teacher's job is not high risk	3.59	High
4	The teacher's work is flexible and tends to be relaxed	3.31	Currently
5	Teachers have clear work guidelines (curriculum)	4.16	High
6	The government guarantees legal protection for the teaching profession	3.98	High
7	Teachers have the opportunity to hold functional positions	3.93	High
8	Has an obligation to improve teacher competence	4.15	High
	Average	3.88	High

Self-efficacy

The frequency distribution of the self-efficacy variable can be seen in Table 5. Based on the results listed in Table 5 reveals that the average score for the self-efficacy variable is 4.05, which falls within the range (3.41 - 4.20), which indicates that it is in the high category. This indicates the high self-efficacy of students of the Engineering Education Study Programme, Faculty of Engineering, Universitas Negeri Gorontalo. The statement with the highest self-efficacy score was "I can become a professional teacher if I keep trying," with a score of 4.29.

Table 5. Frequency Distribution of Self-efficacy Variables

No.	Statement	Average	Description
1	I am sure I can be a good teacher because I have mastered teacher competence	3.93	High
2	I can take on the challenge of becoming a teacher	3.95	High
3	I can become a professional teacher if I keep trying	4.29 *	Very High
4	I can create a conducive classroom atmosphere	4.04	High
5	I can allocate time well for each material	3.86	High
6	I can handle if there are differences in perceptions in class	4.04	High
7	I can master the field of knowledge that I study	4.08	High
8	I am confident that I can teach science according to my major	4.02	High
9	I can take responsibility for the tasks assigned to me	4.26	Very High
	Average	4.05	4.05

Readiness to Teach

The frequency distribution of teaching readiness variables can be seen in Table 6. Table 6 shows that the mean score for the self-efficacy variable is 4.18 which is in the range (3.41-4.20) which indicates it is in the high category. This shows that the teaching readiness of Engineering Education Study Programme students, Faculty of Engineering, Gorontalo State University is very high. The statement with the highest teaching readiness score is "I will try to master the subject matter before teaching", with a score of 4.40.

**Table 6.** Frequency Distribution of Self-efficacy Variables

No.	Statement	Average	Description
1	I can maintain a neat appearance while at school	4.38	Very High
2	I can control my emotions well	4.13	Tinggi
3	I can be fair	4.26	Very High
4	I can keep my dignity as a teacher	4.17	Very High
5	I can convey material that is easy for students to understand	3.97	High
6	I can choose learning materials according to the context of students' daily lives	3.96	High
7	Informing learning outcomes students so that students know the progress of their learning	4.10	High
8	Knowing and supporting the talents of students	4.30	Very High
9	I can carry out my rights and obligations as a teacher as well as possible	4.25	Very High
10	I will try to master the subject matter before I teach	4.40 *	Very High
11	I can provide material based on the subject curriculum at school and the scientific substance that covers the material	4.07	High
12	I will establish harmonious relationships with students, school residents, and parents of students	4.28	Very High
13	I will always try to adapt myself to the environment in which I teach	4.24	Very High
14	I will inform parents or guardians regarding the development of student learning outcomes	4.07	High
	Average	4.18	4.18

Path Analysis

Path analysis is a statistical technique used to evaluate the direct and indirect relationships between variables in a causal model. It allows researchers to examine the pattern of relationships among a set of variables and determine which theoretical model best fits the data. Path analysis involves creating path diagrams that represent the proposed causal relationships between variables and then using regression analysis to estimate path coefficients. These coefficients indicate the strength and direction of the relationship between the variables.

Path analysis can decompose correlation coefficients into direct and indirect effects, providing insight into the specific pathways through which variables influence each other. It can be

said that path analysis can be performed to understand complex relationships and determine the relative importance of different variables in a model (Awogbemi et al., 2022; Dugard et al., 2022; Ponurenko et al., 2022; Reyes-Wapano, 2022; Vieira et al., 2022). The magnitude of the direct and indirect relationship between the independent variable and the dependent variable in this research can be seen in Figure 1.
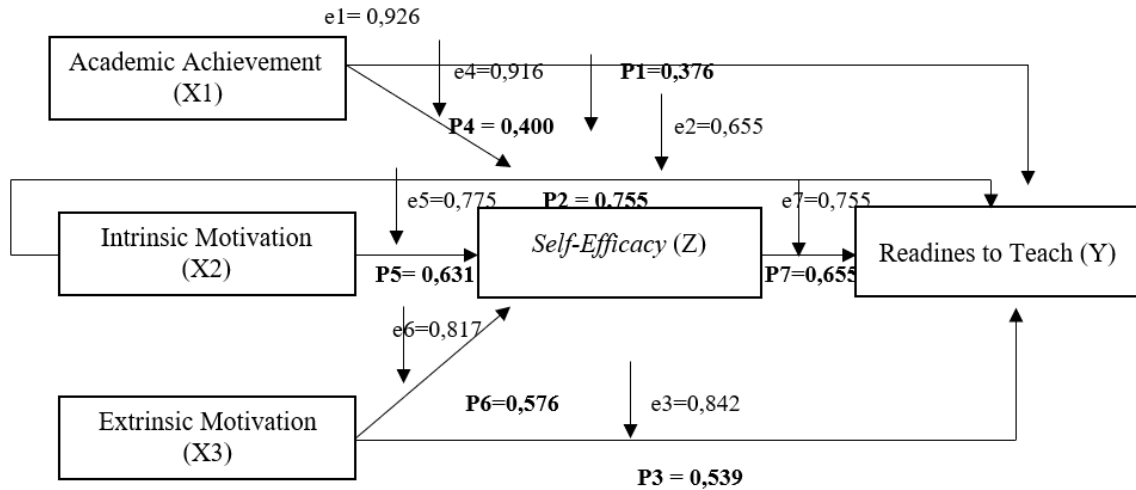

Figure 1. Path Analysis in this Research

Hypothesis Test Results

Hypothesis testing is carried out using statistical test instruments to provide explanations or information about the research results and provide answers to the hypotheses proposed. Specific results of statistical analyses conducted with SPSS version 25.

H1: An indirect positive relationship exists between academic achievement and readiness to teach through self-efficacy.

Sobel test results there is an indirect influence relationship between academic achievement and teaching readiness through self-efficacy with Sobel test results as in Figure 2.
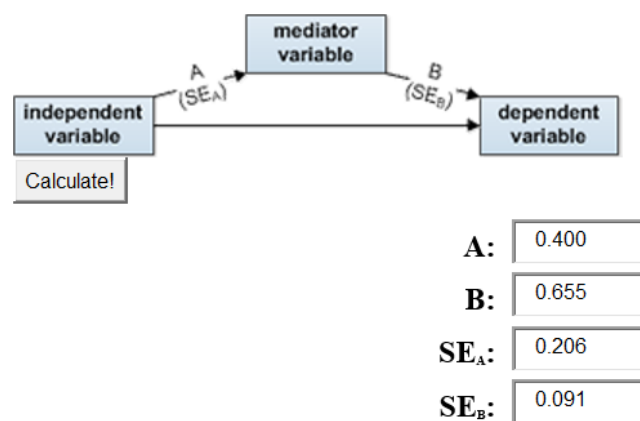
Sobel test statistic: 1.91272828
One-tailed probability: 0.03041506
**Two-tailed probability:** 0.04083011

Figure 2. Sobel Test Results Between Academic Achievement and Teaching Readiness through Self-Efficacy

Based on Figure 2, the probability value (two-tailed probability) is 0.040 (< 0.05), it can be concluded that there is an indirect relationship between academic achievement and teaching readiness through self-efficacy. Thus, it can be said that hypothesis 1 which states that there is an indirect positive relationship between academic achievement and teaching readiness through self-efficacy is proven. The magnitude of the effect of academic achievement on teaching readiness through self-efficacy is 20.9%.

H2: An indirect positive relationship exists between intrinsic motivation and readiness to teach through self-efficacy.

The results of the Sobel Test showed an indirect effect relationship between intrinsic motivation and teaching readiness through self-efficacy with the Sobel Test as shown in Figure 3.
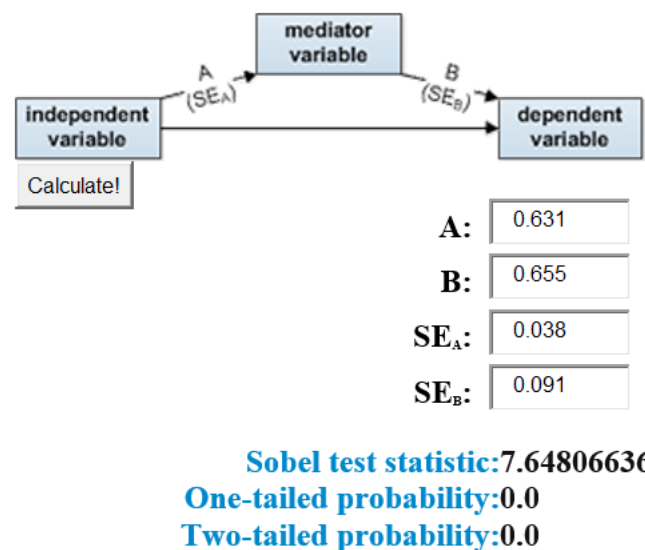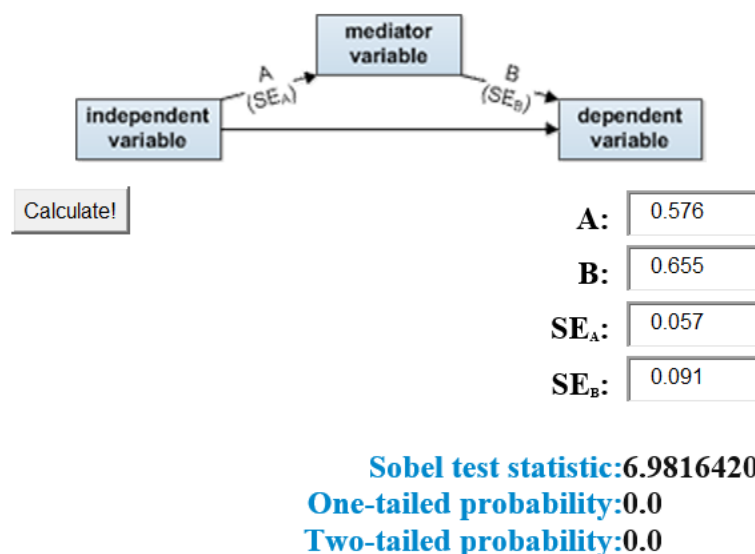

Figure 3. Sobel Test Results Between Intrinsic Motivation and Teaching Readiness through Self-Efficacy

The probability value is 0.00 (< 0.05), it can be concluded that there is an indirect relationship between intrinsic motivation and teaching readiness through self-efficacy. Thus, hypothesis 2 which states that there is an indirect positive relationship between intrinsic motivation and teaching readiness through self-efficacy is proven. The magnitude of the influence of intrinsic motivation on teaching readiness through self-efficacy is 74.1%.

H3: An indirect positive relationship exists between extrinsic motivation and readiness to teach through self-efficacy.

The results of the Sobel test there is an indirect effect relationship between extrinsic motivation and teaching readiness through self-efficacy with the Sobel test can be seen in Figure 4. Based on the Sobel Test in Figure 4, the probability value is 0.00 (< 0.05), it can be concluded that there is an indirect relationship between extrinsic motivation and teaching readiness through self-efficacy. Thus, hypothesis 3 which states that there is an indirect positive relationship between extrinsic motivation and teaching readiness through self-efficacy is proven. The magnitude of the influence of extrinsic motivation on teaching readiness through self-efficacy is 43.3%.

Figure 4. Sobel Test Results Between Extrinsic Motivation and Teaching Readiness through Self-Efficacy

H4: There is a direct positive relationship between self-efficacy and readiness to teach.

The t-test was used to determine the direct relationship between self-efficacy and teaching readiness. The t-test was conducted by comparing the p-value with α (5%). The significance level for the self-efficacy variable (Z) is 0.000 ($p < 0.05$), and the t-count is 11.141 (positive) > t-table (1.659), so there is a direct relationship between self-efficacy and teaching readiness. Thus, hypothesis 4 which states that there is a positive direct relationship between self-efficacy and teaching readiness is proven. The magnitude of the influence of self-efficacy on teaching readiness is 42.9%. In more detail, the results of simple linear regression analysis can be seen in Table 7.

Table 7. Results of Regression Analysis of the Relationship between Self-efficacy and Readiness to Teach

Variable	Beta	t	Sig.
Self-efficacy (Z) → readiness to teach (Y)	0.655	11.141	0.000
R = 0.655 R^2 = 0.429 Adjusted R^2 = 0.426			
F = 124.119 (sign=0.000)			

Discussion

Indirect Relationship between Academic Achievement and Teaching Readiness through Self-Efficacy

Based on the t-test results, the indirect relationship between academic achievement and teaching readiness through self-efficacy showed an indirect positive relationship between academic achievement and teaching readiness through self-efficacy. This means that previous academic achievement in this research is known to have a direct positive relationship with teaching readiness. This will increase further if supported by high self-efficacy.

Self-efficacy is a person's self-confidence in their abilities. Someone with high teaching self-efficacy will encourage himself to be ready to teach even with low academic achievement. There has been no previous research that measures academic achievement on teaching readiness through self-efficacy. However, Alkhalifah (2022) revealed a significant direct effect of GPA on self-efficacy and

learning motivation. This is supported by research by Evioni et al. (2022), which shows a significant and positive correlation between self-efficacy and work readiness, reinforced by research by Tentama et al. (2019), which shows a very significant influence between self-efficacy and work readiness. Work readiness here is analogous to teaching readiness, meaning that both academic achievement and self-efficacy positively affect teaching readiness, thus supporting the results of this research, which show an indirect positive relationship between academic achievement and teaching readiness through self-efficacy.

The term achievement in the popular scientific dictionary is defined as the results that have been achieved. According to Djamarah (2011), learning achievement is the result obtained in the form of impressions that result in changes in the individual as a result of activities in learning. Another opinion is from Helmawati (2018), who states that learning achievement is the result (intelligence) obtained by students from the learning process.

So, academic achievement is the achievement of learning targets from a series of learning outcomes obtained through a measurable assessment process. In a university, the assessment process can generally be carried out with a test as a measuring tool, from the test assessment data is obtained about a series of values. These values are called student learning achievements which can be expressed by the Grade Point Average (GPA).

Meanwhile, Bandura's motivation theory in Robbins and Judge (2009) defines self-efficacy as a person's assessment of his or her ability to achieve a desired or specified level of performance, which will affect subsequent actions. A person with low intrinsic motivation can increase through self-efficacy because self-efficacy is a self-belief, meaning a person's ability to do something. In relation to this research, someone whose intrinsic motivation in teaching is still low can be improved through self-efficacy. This is done by applying goal-setting theory and self-efficacy theory together.

In this research, goal setting, together with self-efficacy, can be done. This means that someone with standard academic achievement can have teaching readiness with a note supported by high self-efficacy. Self-confidence in carrying out the task will encourage someone whose academic achievement is still at the standard to continue to learn things related to the quality of work performed. For a teacher, self-efficacy will encourage him to keep updating his knowledge in learning, teaching, and so on. Likewise, self-efficacy can be improved for someone who has high academic achievement but is not ready to teach because they feel they have not mastered teacher competencies.

Belief in one's ability to do a job will greatly affect work outcomes (Barron & Gravert, 2018; Ristiani & Lusianingrum, 2022). Teachers who have high academic achievement and are supported by high self-efficacy will view their work not as a burden but as a very mild challenge. Basically, he mastered the duties of a teacher, and he believed that he could apply the teacher's duties. Based on this, this research is based on the theories of experts and previous research that is relevant to this research.

The Indirect Relationship between Intrinsic Motivation and Teaching Readiness through Self-Efficacy

Based on the t-test results, the indirect relationship between intrinsic motivation and teaching readiness through self-efficacy shows an indirect positive relationship between intrinsic motivation and teaching readiness through self-efficacy. That is, previously, in this research, it was known that there is a direct positive relationship with teaching readiness. This will increase further if supported by high self-efficacy.

This is in line with the research of Riyanto et al. (2020), which shows that there is a positive and significant effect of motivation on work readiness, and also the research of Itryah and Anggraini (2022), which shows that there is a very significant relationship between self-efficacy and work readiness. This is reinforced by research by Partono et al. (2020) and research by Tentama and Abdillah (2019), which confirms that there is a significant relationship influence between self-efficacy and work readiness. Work readiness, in this case, is analogous to teaching readiness in accordance with the dependent variable in this research. There is a compatibility between this research and previous studies because the results of this research indicate an indirect positive relationship between intrinsic motivation and teaching readiness through self-efficacy.

Bandura in Robbins and Judge (2009) defines self-efficacy as a person's assessment of his or her ability to achieve a desired or specified level of performance, which will influence subsequent actions. This means that someone with low intrinsic motivation can improve through self-efficacy because self-efficacy itself is a self-belief in one's ability to do something. In relation to this research, someone whose intrinsic motivation in teaching is still low can be improved through self-efficacy. This can be done by applying goal-setting theory and self-efficacy theory together.

Goal setting can be done in conjunction with self-efficacy. Research conducted by (Bantam et al. (2022) has shown that goal setting is related to self-efficacy and can influence motivation to learn. In this research, a person with low intrinsic motivation can be improved by setting goals to increase confidence in their ability to achieve teaching readiness. Very few people today have an inner desire to become a teacher. Unlike in the past, people would compete to become teachers because the teaching profession itself at that time was a rising profession because it was considered a noble profession and had a respected social status in society. Unlike now, the teaching profession is considered mediocre and a profession of last resort. Moreover, most engineering education students have a purely technological scientific basis obtained from Vocational High Schools (VHS), so the orientation to work in industry is still carried over to college even though it is known that the study program chosen at this time is a study program that will produce prospective vocational teachers.

From the theories of these experts, it can be concluded that intrinsic motivation can be improved through self-efficacy so that teaching readiness also increases. In other words, someone with low intrinsic motivation to teach but high self-efficacy will be better prepared to teach. Based on this, this research is in accordance with the theories of experts and previous research, which proves that the higher the intrinsic motivation through a person's self-efficacy, the higher the teaching readiness.

Indirect Relationship between Extrinsic Motivation and Teaching Readiness through Self-Efficacy

Based on the t-test results, the indirect relationship between extrinsic motivation and teaching readiness through self-efficacy shows an indirect positive relationship between extrinsic motivation and teaching readiness through self-efficacy. This means that extrinsic motivation, which previously in this research was known to have a direct positive relationship with teaching readiness, will increase if supported by high self-efficacy.

In line with the research of Karo et al. (2021), which shows that there is a close and unidirectional relationship between the level of motivation (extrinsic) and work readiness, and also the research of Makki et al. (2023), which proves that there is a strong relationship between self-efficacy and work readiness. Reinforced by research by Baiti et al. (2017) shows that there is a positive relationship between career self-efficacy and work readiness in students. Work readiness, in this case, is analogous to teaching readiness in accordance with the dependent variable in this research. It can be interpreted that there is compatibility between this research and previous studies because the results of the research show an indirect positive relationship between extrinsic motivation and teaching readiness through self-efficacy.

The connection with this research is that goal setting can be done together with self-efficacy. That is, someone who still has low extrinsic motivation can be improved by setting goals so that the person increases confidence in their ability to achieve teaching readiness. As is known, the results of this research show that extrinsic motivation is lower than intrinsic motivation, which is theoretically favorable. However, compared to intrinsic motivation, extrinsic motivation is easier to increase through self-efficacy. The results of previous research conducted by Kim (2022) stated that self-efficacy can increase extrinsic motivation.

From the theories of these experts, extrinsic motivation can be increased through self-efficacy so that teaching readiness also increases. In other words, someone with low extrinsic motivation to teach but high self-efficacy will be better prepared to teach. Based on this, this research is in accordance with the theories of experts and previous research, which proves that the higher the extrinsic motivation through one's self-efficacy, the higher the teaching readiness.

Direct Relationship between Self-Efficacy and Teaching Readiness

Based on the results of the t-test, the direct relationship between self-efficacy and teaching readiness shows a positive direct relationship between self-efficacy and teaching readiness. This means that if students' self-efficacy increases, their teaching readiness will also increase. Self-efficacy in this research acts as a mediating variable. The requirement to know the mediating variable can be used, namely there must be a positive relationship between the mediating variable and the dependent variable used. That means science and self-efficacy can be used because there is a positive relationship between self-efficacy and teaching readiness.

Bandura in Alwisol (2019) defines self-efficacy as a person's perception of how well he can function in certain situations. Self-efficacy is related to the belief that a person can perform the expected action. Someone who has confidence in their abilities will be better prepared to become a teacher. This means that someone who has confidence in their strengths will be able to carry out their duties well. The higher one's self-efficacy, the higher one's belief in one's ability to complete the task well, and vice versa. In this case, prospective teachers are considered better prepared to carry out teaching tasks if they have high self-efficacy. In carrying out teaching and learning activities, self-efficacy is needed to support success in doing various things. A person with a high level of self-efficacy has the readiness and ability to perform a series of actions to produce certain achievements. Robbins and Judge (2009) say that someone with high self-efficacy believes that he can find a way out when there is a problem. In contrast, someone with low self-efficacy tends to reduce his efforts or just give up because he considers himself unable to do something around him.

The results of this research support Fataron and Sijabat (2019) and Warmansyah et al. (2022) research, whose research results show that the relationship between self-efficacy and teaching readiness is quite positive and significant, as well as Latif et al. (2017) and Makki et al. (2015) research which revealed that there is a significant relationship between self-efficacy and work readiness. Reinforced by research by Agusriati et al. (2021) and research by Wiharja et al. (2020), both of which reveal that self-efficacy is positively and significantly related to readiness to become a teacher.

A person with high self-efficacy can be seen from how the person faces problems effectively, can achieve predetermined targets, and is confident of success and success with his ability to face difficult things (Robbins & Judge, 2009). If a person's self-efficacy is low, then they will experience confusion in overcoming it and tend to give up. However, when a person can overcome complex problems, especially in terms of work and can overcome these problems effectively, then that person has good self-efficacy. Therefore, in the world of work, self-efficacy is needed in order to overcome problems in the world of work (Wijikapindho & Hadi, 2021).

Based on the direct experience of researchers in the process of this research, there are several limitations that must be considered so that they can be taken into consideration for future researchers. Data collection for this research should be carried out by gathering all respondents in one room, and then the researcher explains one by one the statements referred to by the researcher so that the respondent can understand the meaning of the statement for each item in the questionnaire, but the conditions in the field can only be collected as many as 137 respondents from the remaining 167 respondents, the rest are done independently via Google Form.

CONCLUSION

Based on the results of data analysis and discussion, and referring to the hypotheses that have been formulated with a significance level of $\alpha = 0.05$, it can be concluded as follows: (1) There is a positive and significant indirect relationship between academic achievement and teaching readiness through self-efficacy; (2) There is a positive and significant indirect relationship between intrinsic motivation and teaching readiness through self-efficacy; (3) There is a positive and significant indirect relationship between extrinsic motivation and teaching readiness through self-efficacy; and (4) There is a positive and significant direct relationship between self-efficacy and teaching readiness. Thus, self-efficacy is directly related to teaching readiness and can mediate the relationship between academic achievement and intrinsic and extrinsic motivation with teaching

readiness. A person with high self-efficacy can be seen from how the person faces problems effectively, can achieve predetermined targets, and is confident of success and success with his ability to face difficult things. If a person's self-efficacy is low, then they will experience confusion in overcoming it and tend to give up. However, when a person can overcome complex problems, especially in terms of work and can overcome these problems effectively, then that person has good self-efficacy.

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