

## **The influences of Abraham Maslow's Hierarchy of Needs Theory, Field Practice Experience, and 21st Century Skills on Career Choice of Becoming a Vocational Teacher**

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**Abstract.** The needs of being vocational teachers is still very high. One of the factors that mostly causes students' reluctance to choose a career as a teacher is the unfulfilled needs based on Abraham Maslow's hierarchy to become a vocational teacher. Another factor is implementing field experience practice and preparing 21st century skills for prospective teachers of the Vocational High School. This study aimed at determining the effects of Abraham Maslow's hierarchy of needs, field experience practice, and 21st century skills on career choices to become vocational teachers on the state university students of Informatics Engineering Education in Malang City. A correlational approach with a sample of 123 students was used in this study. The results of the multiple regression analysis showed that Abraham Maslow's hierarchy of needs, field experience practice, and 21st century skills had an influence of 0.515 or 51.5% on career choice to become the vocational teacher. It is concluded that there is an influence between of three factors and the career choice to become vocational teachers.

**Keywords:** Maslow's hierarchy of needs, field experience practice, 21st century skills, career choice, vocational teacher

### **INTRODUCTION**

Education is one of the pillars in building the human resources of a nation. One of the important components that manage education is the presence of teachers. Similarly, in vocational schools, the needs of the teachers must be fulfilled. Based on the Government Regulation No.19 of 2017 concerning Amendments to Government Regulation Number 74 of 2008 concerning Teachers which defines teachers as professional educators who have the main task of guiding, educating, directing, teaching, training, evaluating, and assessing students in early childhood education through formal education, primary education, and secondary education. According to Darmadi (2015), Heriyansyah (2018), and Warsono (2017) that teachers and educational staff are important parts in the world of education, having a noble role and duty in carrying out activities with the aim of creating success and ease of learning for students.

Vocational education in the Government Regulation No.19 of 2017 concerning Amendments to Government Regulation Number 74 of 2008 concerning Teachers defines vocational education as the implementation of vocational education at the secondary education level which is one form of further formal education of SMP, MTs, or the equivalent level of Junior High Schools. The main function of vocational education according to Nurtanto (2015) is to provide students with competencies in order to obtain jobs according to their field of expertise, while the second function is to make students contribute to change and adapt in the achievement of national development goals.

Bukit (2014) states that the characteristics of vocational education are preparing for work or additional education in work, being in the formal and non-formal education, and being oriented towards certain fields of work. Nurhadi (2020), Wibawa (2017), Grafura and Wijayanti (2014) assert that vocational school is secondary education that prepares students especially to work in certain fields and to be ready to enter the working world.

The needs for vocational teachers absolutely must be fulfilled. However, the large number of the graduates of vocational education in university is contrast with the reality of the insufficient number of vocational teachers who have taught in vocational schools. Based on the data of the Directorate of Secondary Education Teachers in 2016 in the Ministry of Education and Culture stated that the number

of productive teachers in vocational schools in 2016 was 40.098 teachers with retirement data as many as 627 teachers, while the needs of the educators was 335.821 teachers, resulting in a shortage of productive teachers as many as 296.350 teachers. From this data, it is also stated that the needs for the teachers until 2020 will increase by 500.000 productive teachers (where the data is made without considering the existence of a pandemic outbreak that is endemic throughout the world, including Indonesia).

One of the factors that can encourage someone to choose a career as the vocational teacher (productive teacher) is one's own needs in implementing the suitable courses based on what they have learnt in the university. According to Iskandar that Abraham Maslow's hierarchy theory states that humans are motivated to do something as a reaction to an individual's perception of five basic needs. Sari and Dwiarti (2018), and Waluyo (2013) state these five basic needs include: (1) physiological needs, (2) safety needs, (3) love and belonging needs, (4) esteem needs, and (5) self-actualization needs.

The implementation of Abraham Maslow's needs theory on the teacher's career is important to discuss because of the needs of vocational teachers in vocational education. On the other hand, graduates need to be aware of their needs to become teachers. Therefore, it is necessary to conduct research related to Abraham Maslow's hierarchy theory variables in its implementation to encourage graduates to become vocational teachers.

Ardyani and Latifah (2014) state that several factors that influence the interest of university students of Faculty of Economics in becoming accounting teachers are teacher welfare, family environment, and personality. The factor of the teacher welfare is 18.69% related to teacher salaries (including the fulfillment of basic physiological needs), the factor of the family environment is 4.32%, in the form of having attention and support from families to become teachers so that the students have the enthusiasm and responsibility to realize their interest (including the fulfillment of the needs), and the factor of the personality is 2.62% covering the ability in completing, explaining, and teaching the vocational subjects, the patience, and the discipline in teaching which are all considered as challenging activities for vocational teachers (the fulfillment of self-actualization needs).

One of the higher education programs to prepare the students to become vocational teachers is conducting Field Experience Practice program. Based on the instructions for implementing the program in vocational education of Universitas Negeri Malang, the program aimed at: (1) making the students competent in carrying out the direct practice in schools including the preparation of learning tools, the teaching practices in the classroom, and the assessment activities, (2) making the students competent in conducting case studies of learning difficulties which are in line with the field of the study, (3) making the students competent to understand school education management, and (4) making students competent in carrying out other related educational tasks. Generally, field experience practice forms the students to be ready to become professional educators.

Foster (in Devischa and Mukzam, 2018) asserts that there are three things that determine whether a person has experience or not in a job. Those three indicators are: (1) the length of time/duration of work; (2) the level of knowledge and skills possessed; and (3) the mastery of work and equipment.

Yuniasari and Djazari (2017) state in their research that there was no effect between students who had good or bad experiences in doing the field experience practice on their interest in becoming teachers, because both of them had a high interest in becoming teachers. In addition, a research conducted by Kurniasari (2016) states that field experience Practice had a positive and significant influence on teaching readiness.

The 21st century skill is used to face the demands of the industrial revolution 4.0. Makhrus (2018), Nuraini (2017), and Wijaya (2017) state that the 21st century learning content should be able to adapt to current changes. Hence, the 21st century skill should cover (1) learning and innovation skills, (2) digital literacy skills, and (3) career and life skills.

The skills provided by universities to produce a competent teacher in his/her fields are very

essential to be realized based on the previous explanations (Putro et al, 2017). The teachers are expected to have good skills in managing the learning process and mastering the subject in terms of critical thinking, communication, and collaboration skills as well as providing a new innovation in education. In addition, teachers need to improve their abilities in the field of digital literacy, in terms of compiling learning through online media, enriching their knowledge by accessing information through the internet, and many more. Moreover, teachers need to have insight and skills related to the world of teaching careers and the ability to adapt in the workplace to realize life skills.

Suyanto (2019) in his journal concludes that teachers in the era of the industrial revolution 4.0 need to master several things, namely: (1) the 21st century education, (2) pedagogic and content knowledge, and (3) various 21st century literacy. Prayogi and Estetika (2019) state that the 21st century skills require educators to always actively develop their skills so that they are able to bring active learning in the class by completing the learning process that is making learning designs that empower the literacy of the students to solve complex problems and making more meaningful learning.

Career as a series of experiences at work that make a person have hope to move forward. According to Rahayu (in, Iswahyuni, 2018) there are six aspects that are considered by students in choosing a career, namely: (a) financial rewards, (b) professional training, (c) professional recognition, (d) social values, (e) work environment, and (f) labor market considerations.

From the previous explanations, this study was conducted to determine the effects of the Abraham Maslow's hierarchy of needs theory, the field practice experience, and the 21st century skills on the students' career choice to become vocational teachers conducted in state universities in Malang. It is hoped that the results of this study will be able to provide an overview of the variables studied and their effects, to be used as a basis or literature materials for further research and an input to the university both for the lecturers and the stakeholders of the university, especially in developing the students' potential to increase their career choice to become vocational teachers.

## METHODS

The research paradigm used in this study is a dual paradigm with two independent variables where there are two independent variables (free) and one dependent (bound). This research is an ex-post facto research with a quantitative approach. The ex-post facto research aims to find the causes that allow changes in behavior, symptoms or phenomena caused by total changes in the independent variables.

The purpose of using the design in this study is to determine whether there is a contribution between the Abraham Maslow's hierarchy of needs theory, the field practice experience, and the 21st century skills of the students at public universities in Malang and their career choice to become vocational teachers. The design of this study can be seen in Figure 1.

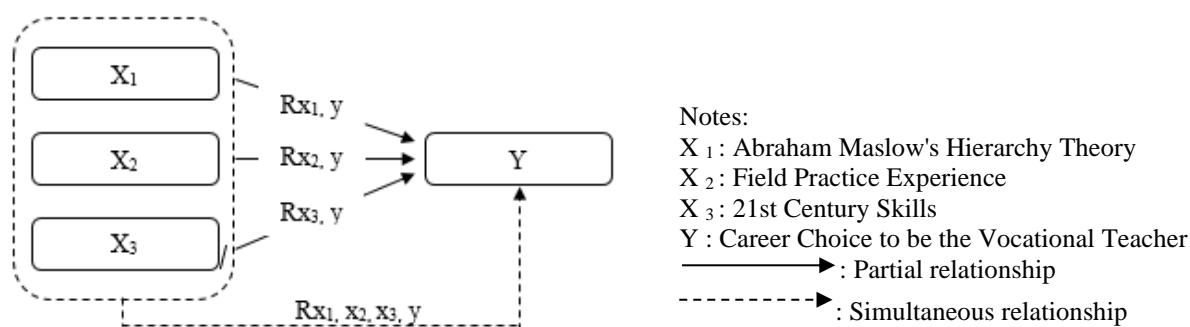


Figure. 1 Research Design

The population in this study were taken from Informatics Engineering Education or Informatics Technology Education of State Universities in Malang as many as 188 students. While the decision of the number of the samples followed Issac and Michael in Sugiyono (2013) in which for a population of 188 with an error rate of 5% or 0.5, the number of the samples obtained was 123 students. The details of the number of the samples were 70 Universitas Negeri Malang students and 53 Brawijaya University students.

The questionnaire was spread in four classes in which the respondents were asked to choose one answer out of four options provided. The scores of this questionnaire can be seen in Table 1.

Table 1 Scores of the Questionnaire Used to Collect Data

Positive Statement		Negative Statement		Information
Answer	Score	Answer	Score	
A	4	A	1	Strongly agree; Always
B	3	B	2	Agree; Often
C	2	C	3	Weakly Agree; Sometimes
D	1	D	4	Disagree; Never

Validity testing was used to determine serial correlation using the similarity of the person product moment calculated using SPSS Statistics. The instrument considered as valid if the value of  $r >$  the value of  $r$  table at degrees of freedom (db)  $n-2$  with a significance level of 5%, and invalid if the value of  $r <$  the value of  $r$  table at degrees of freedom (db)  $n-2$  with a significance level of 5%. Cronbach Alpha technique using SPSS Statistics was used to test the reliability of the instrument. The test criteria according to Basuki and Haryanto (2014) is each question item is reliable if  $\alpha > 0.06$ . Hypothesis testing was carried out using multiple linear regression analysis. Priyatno (2013) states that multiple linear regression analysis is used to predict or estimate the value of the dependent variable if the value of the independent variable is increased or decreased. The F test can also be used to test the hypothesis for the regression coefficient simultaneously or in other words to test whether the variables of the Abraham Maslow's hierarchy of needs theory, the Field Practice Experience, and the 21st century skills simultaneously influence the variable of career choice to become the vocational teacher.

## RESULTS AND DISCUSSIONS

### Descriptive Analysis

Descriptive analysis was carried out to provide information and visualization of the results of the research from each variable which included the average score, the standard deviation, the maximum score, the minimum score, and others. The results showed that the average scores of the Abraham Maslow's hierarchy of needs theory was 32.56, the field practice experience was 30.66, the 21st century skill was 22.15, and the career choice to become the vocational teacher was 28.68. In addition, the standard deviation of each variable was 3.647 for the Abraham Maslow's hierarchy of needs theory, 3.494 for the field practice experience, 2.433 for the 21st century skill, and 3.624 for the career choice to become the vocational teacher. While the maximum and the minimum scores from the results of the respondents for each variable were 42 and 23 for the Abraham Maslow's hierarchy of needs theory, 40 and 22 for the field practice experience, 28 and 16 for the 21st century skill, and 36 and 20 for the career choice to become the vocational teacher.

### Abraham Maslow's Hierarchy of Needs Theory

The research data for Abraham Maslow's hierarchy of needs theory variables was grouped based on the highest and the lowest ideal scores which were then divided by four; very low, low, high, and very high score categories. The variable of the Abraham Maslow's hierarchy of needs theory had the

lowest score of 11 and the highest score of 44. The results showed that the score in the very low category with an interval of 11 to 19 had a frequency of 0. This indicated that there were no students whose score in the very low category. Next, the low score category with an interval of 20 to 28 had a frequency of 16 which showed that as many as 16 students had a low value category. In addition, the high score category with an interval of 29 to 37 had a frequency of 96 in which it indicated that the majority of the students as many as 96 students, had a high score category. Last, the very high score category with an interval of 38 to 44 had a frequency of 11. In other words, there were 11 students who were in a very high score category.

### **Field Practice Experience**

The research data for the variable of the field practice experience, it was grouped based on the highest and the lowest ideal scores which were then divided by four in which the field practice experience variable had the lowest value of 10 and the highest value of 40. It was known from the results of the study that the score in the very low category with an interval of 10 to 18 had a frequency of 0. This indicated that there were no students in a very low score category. Then, the low score category with an interval of 19 to 27 had a frequency of 17. This can be concluded that there were 17 students who were in a low score category. In addition, the high score category with an interval of 28 to 36 had a frequency of 96 or it could be said that the majority of the students, i.e. as many as 96 students, had a high score category. Last, the very high score category with an interval of 37 to 40 had a frequency of 10. This showed that 10 students had a very high value category.

### **21st Century Skills**

The research data for the 21st century skills variables was grouped based on the highest and lowest ideal scores which were then divided by four. The variable of the job field information had the lowest score of 7 and the highest score of 24. It is known from the results of the study that the score in the very low category with an interval of 7 to 12 had a frequency of 0, this indicated that there were no students who had a very low score category. The low score category with an interval of 13 to 18 had a frequency of 8. This indicated that there were 8 students who had a low score category. Moreover, the high score category with an interval of 19 to 24 had a frequency of 94, this showed that the majority of the students, as many as 94 students had a high score category. The very high score category with an interval of 25 to 28 had a frequency of 21. This showed that there were 21 students had a very high score category.

### **Career Choice of Becoming a Vocational Teacher**

The research data for the career choice variable to become the vocational teacher was grouped based on the highest and lowest ideal scores which were then divided by four. The variable of the job field information had the lowest score of 9 and the highest score of 36.

Based on the results of the study, it was known that the score in the very low category with an interval of 9 to 16 had a frequency of 0, this indicated that there were no students who had a very low score category. The low score category with an interval of 17 to 24 had a frequency of 12. It showed that as many as 12 students had scores in the low category. Then, the high score category with an interval of 25 to 32 had a frequency of 93 or we can say that the majority of students, as many as 93 students had a high score category. Last, the very high score category with an interval of 33 to 36 had a frequency of 18. Therefore, this showed that 18 students had a very high score category.

### **Hypothesis Testing**

Hypothesis testing was done by using multiple regression with three predictors. The results of the multiple regression analysis showed that the variables of the Abraham Maslow's hierarchy of needs theory, the field practice experience, and the 21st century skills were 0.515 or 51.5% toward the career

choice to become the vocational teacher, while the other 48.5% was influenced by other factors not being examined in this study. The F value is 42.059 with a significance of 0.000, because the significance of  $0.000 \leq 0.05$ , then there is a simultaneous and significant relationship between the three independent variables and the dependent variable, namely the choice of career as the vocational teacher.

The third hypothesis testing could be strengthened by comparing between  $F_{\text{count}}$  and  $F_{\text{critical}}$ , if  $F_{\text{count}} > F_{\text{critical}}$ , then  $H_0$  was rejected so that the dependent and the independent variables had an effect simultaneously. The results of the F test showed that  $F_{\text{count}} (22.449) > F_{\text{critical}} (2.680)$ . Therefore, the null hypothesis was rejected, and it could be said that the variables of the Abraham Maslow's hierarchy of needs theory, the field practice experience, and the 21st century skills simultaneously affected the career choice to become the vocational teacher.

In the fourth hypothesis, it could be summarized that there was a positive and significant relationship among the variables of the Abraham Maslow's hierarchy of needs theory, the field practice experience, and the 21st century skills simultaneously toward the career choice to become the vocational teacher for the Informatics Engineering Education students at state universities in Malang City. In Table 7, the value of r was 0.717 with a strong relationship level and  $F_{\text{count}} (22.449) > F_{\text{critical}} (2.680)$  and  $p_{\text{count}} (0.000) \leq p_{\text{standard}} (0.05)$  so that  $H_0$  was rejected, and  $H_a$  was accepted. It indicated that there was a positive and significant relationship among the Abraham Maslow's hierarchy of needs theory, the field practice experience, and the 21st century skills simultaneously toward the career choice as the vocational teacher for the Informatics Engineering Education students at state universities in Malang City.

Based on the results of the multiple regression test in Table 7, it was obtained the following equation:  $Y' = -0,846 + 0,330X_1 + 0,101X_2 + 0,708X_3$ . From the regression equation above, it could be interpreted that:

1. The Y score simultaneously increased -0.846 when the scores of Abraham Maslow's hierarchy of needs theory, the field practice experience, and the 21st century skills were increased simultaneously.
2. The constant  $b_0 = -0.846$ , this showed that when the scores of the Abraham Maslow's hierarchy of needs theory, the field practice experience, and the 21st century skills were zero (0), the score of the career choice to become the vocational teacher was negative at -0.846.
3. The coefficient  $b_1 = 0.330$ , this indicated that if the variables of the field practice experience and the 21st century skills were fixed and the Abraham Maslow's hierarchy theory was increased by 1, then the career choice to become the vocational teacher increased by 0.330.
4. The coefficient  $b_2 = 0.101$ , it could be said that if the variables of the Abraham Maslow's hierarchy of needs theory and the 21st century skills had a fixed score and the field practice experience was increased by 1, then the career choice to become the vocational teacher increased by 0.101.
5. The coefficient  $b_3 = 0.708$ , this could be concluded that if the variables of the Abraham Maslow's hierarchy of needs theory and the field practice experience were fixed and the 21st century skill was increased by 1, then the career choice to become the vocational teacher increased by 0.708.

If the 21st Century skill of the 14th student was increased into 23, and the Abraham Maslow's hierarchy of needs theory and the field practice experience were the same as that of the 18th student, then the career choice of becoming the vocational teacher could be calculated as follows:  $Y' = -0,846 + (0,330 \times 35) + (0,101 \times 32) + (0,708 \times 23) = 28.704$ . So, the career choice of becoming the vocational teacher was predicted that it would increase the score into 30.22 from the previous score which was 22.

If the field practice experience of the 15th student was increased into 28, and the Abraham Maslow's hierarchy of needs theory and the 21st century skill were the same as that of the 60th student, then the career choice of becoming the vocational teacher could be calculated as follows:  $Y' = -0,846 + (0,330 \times 35) + (0,101 \times 28) + (0,708 \times 27) = 32.648$ . Therefore, the career choice of becoming the

vocational teacher was predicted that it would increase into 32.648 from the previous score which was 27.

If the Abraham Maslow's hierarchy of needs theory for the 7th student was increased into 28, and the field practice experience and the 21st century skill were the same as the 2nd student, then the career choice of becoming the vocational teacher could then be calculated as follows:  $Y' = -0,846 + (0.330 \times 28) + (0.101 \times 37) + (0.708 \times 22) = 27.707$ . Finally, the career choice of becoming the vocational teacher was predicted that it would increase into 32.648 from the previous score which was 27.

### **Predictor Contribution**

The contributions of the independent variables (predictors) were used to determine the contributions of each independent variable. There were two types of predictor contributions, namely relative contribution (SR%) and effective contribution (SE%). The results of the calculation of the relative contribution (SR%) and the effective contribution (SE%) showed that the relative contribution of the Abraham Maslow's hierarchy of needs theory with the choice of a career as the vocational teacher was 35.13%, while the relative contribution of the field practice experience with the choice of a career as the vocational teacher was negative 7.61%, and the relative contribution of the 21st century skills with the career choice to become the vocational teacher was 57.06%. Then, the SR total was 100% or equal to 1.

The effective contribution of the Abraham Maslow's hierarchy of needs theory was 18.09%, the effective contribution of the field practice experience was 3.92%, the effective contribution of the 21st century skill was 29.40%. However, there was a lack of each of those three effective contributions (48.58 %) caused by other factors or variables not being examined in this study. The variable of the 21st century skills had a more dominant influence on the career choice of being the vocational teacher than the variables of the Abraham Maslow's hierarchy of needs theory and the field practice experience. The SE total was 51.42 or same as the coefficient of determination (Rsquare) in the regression analysis which was 51.5%.

From the results of the study, it can be concluded that the relationship among the Abraham Maslow's hierarchy theory, the field practice experience, and the 21st century skills toward the career choice to become a vocational teacher is positive and significant with a strong relationship level. The relationship is positive means that if the Abraham Maslow's hierarchy of needs theory, the field practice experience, and the 21st century skills are high, the career choice of becoming a vocational teacher for the Informatics Engineering Education students at state universities in Malang City will have high score as well. The relationship is significant which means that the collaborations between the three dependent variables and the independent variable have right answers in the research result or a confidence level of 95% and the wrong ones as much as 5%. The level of a strong relation in this relationship means that the correlation among the variables is correct and the relationship among the four variables is strong.

The results showed that among the Abraham Maslow's hierarchy of needs theory, the field practice experience, and the 21st century skills which had the most influence factor on the career choice to become the vocational teacher was a professional training and a professional recognition when becoming the vocational teacher.

The highest indicator of the career choice of becoming the vocational teacher was professional training related to the students' expectations when they become vocational teachers to upgrade the teacher skills by having a teacher training. In accordance with Law no. 14 of 2005 concerning Teachers and Lecturers Article 20 states that in carrying out professional duties, teachers are obliged to develop and improve academic qualifications and competencies continuously and sustainably in accordance with the development of science and technology and the arts. The existence of this law is the basis for the vocational teachers to receive training to upgrade their skills on an ongoing basis, so that prospective students are increasingly enthusiastic about their career choice of becoming the vocational teacher.

The professional recognition in terms of awarding teachers according to their expertise was the second highest indicator of the career choice to become the vocational teacher. Most of the Informatics Engineering Education students at state universities in Malang were quite enthusiastic in choosing their career as vocational teachers because they got professional recognitions in the form of rewards when they become vocational teachers in the future.

A Research from Mardiana, et al (2019) states that improving individual and organizational performance can be done by giving rewards as they can motivate someone to increase involvement, contribution, and attractiveness to a job. According to Schuster in Sudja and Kusmaningtyas (2013) the existence of a reward system is the key or the main basis of the HR (Human Resources) management subsystem.

The lowest indicator of the career choice was in a work environment where the students felt the workload of being the vocational teacher was burdensome. According to Anoraga in Sudja and Kusmaningtyas (2013) the work environment includes work regulations, work atmosphere, and other conditions that can cause isolation at work. The work environment is an encouragement for individuals to be enthusiastic and work efficiency so as to increase work productivity. Hence, it is very needed to create a healthy work environment physically, psychologically, and socially. Likewise, a healthy working environment in the vocational schools was also the reason why the Informatics Engineering Education students at state universities in Malang City chose a vocational teacher as their career so that it needs to be improved, mainly related to the provision of teacher workloads that need to be readjusted with the capacity of the teachers as educators.

The comparison of the independent variables that affected the career choice to become the vocational teacher was different. The 21st century skill variable had the highest contribution score, compared to the other two independent variables, which was 57.06 % (for relative contribution) and 29.40% (for effective contribution). The 21st century skills needed to be maintained and developed to always have an influence on the career choices to become the vocational teachers for the Informatics Engineering Education students at state universities in Malang City. The variable influencing the career choice to become the vocational teacher was the Abraham Maslow's hierarchy of needs theory with a contribution value of 35.13 % (for relative contribution) and 18.09% (for effective contribution). Thus, the fulfillment of the teacher needs in accordance with the Abraham Maslow's hierarchy needed to be improved in order to increase the students' interest to choose a vocational teacher for their career. The variable of the field practice experience was known to have the smallest contribution score among the other two variables, the relative contribution value was 7.61 % and the effective contribution was 3.92%. It is necessary to conduct further analysis and research related to this matter, because the majority of the researchers found a good relationship between the field practice experience and the teacher career.

## CONCLUSION

There is a positive and significant relationship among the understandings of the Abraham Maslow's hierarchy of needs theory, the field practice experience, and the 21st century skills toward the choice of a career as a vocational teacher in Indonesia for the Informatics Engineering Education students of state universities in Malang City. For that reason, the understandings of the Abraham Maslow's hierarchy of needs theory, the field practice experience, and the 21st century skills are related to the career choice to become the vocational teacher and can influence the career choice to become the vocational teacher. It is known that the contribution of the 21st century skills is much more than the contribution of the Abraham Maslow's hierarchy of needs theory and the field practice experience with the relative contribution score of 57.06% and the effective contribution of 29.40%.

This research is a means to develop knowledge and experience so that it can be applied in real life, especially when entering the world of vocational education. Even though some obstacles might

occur during the pandemic era, we can say it is part of a test for all humans, including for the researchers; it is a challenge in the research process. As a consequence, being patient, honest, painstaking, hard-working and not easily being discouraged should always be possessed while completing the research.

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