

# Improvement of Work Readiness for Vocational Students in the Era of Industrial Revolution 4.0 Through Career Graduation Programs

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Abstract—The Central Statistics Agency (2019) noted that the open unemployment rate in Indonesia in February 2019 was as much as 5.01 percent of the Indonesian labor force participation rate, and it turned out that the most significant contribution was graduates of Vocational High Schools (VHS). Why can this level of open unemployment occur? Why do VHS graduates become the most significant contributors? Is the work readiness of VHS graduates still low? Does career guidance for students affect work readiness? This study aims to determine the extent to which career guidance programs can improve the work readiness of vocational students in the era of industrial revolution 4.0. This research was conducted through a critical study of the kinds of literature and the results of relevant research and continued through Focus Group Discussion (FGD). The study found that there was a significant positive effect between career guidance programs and work readiness of vocational students.

Keywords: improvement, work readiness, vocational students, career guidance

## I. INTRODUCTION

Now the industrial revolution is entering a new phase, namely the Industrial Revolution 4.0, where production processes around the world are combining three important components, namely human, machine/ robot, and big data [21]. The combination of the three components will drive the entire production process to be faster, more efficient, and massive. In line with the objectives of the Industrial Revolution 4.0 which was coined by Professor Klaus Schwab, a German economist and founder of the World Economic Forum, that the world will focus on increasing production by utilizing the latest technology and replacing the use of human resources with tools/technology. The role of technology has replaced the role of human labor. The adaptation that needs to be done is to increase the competitiveness and quality of the workforce in order to adjust to changes in the labor market in the era of industrial revolution 4.0.

As is well known that Indonesia is one of the countries with the largest population in the Asian region, even Indonesia is ranked 4th in the world. Based on the inter-

census population survey, Indonesia's population in 2019 is projected to reach 266.91 million. Indonesia is known to have abundant natural resources but is inversely proportional to the welfare of its people, where the unemployment rate is still high. The Central Statistics Agency (2019) notes that the open unemployment rate in February 2019 is in the figure of 5.01 percent of the Indonesian labor force participation rate. This figure improved compared to February 2018 which was 5.13 percent. In February 2019, the number of unemployed people decreased by 50 thousand from 6.87 million in February 2018 to 6.82 million. But this open unemployment rate number still leaves its problems, that graduates of Vocational High Schools (VHS) still dominate the high unemployment rate. BPS data [1] shows that 8.92 percent of the total labor force participation rate is unemployed from VHS graduates.

Vocational High School (VHS) is a special training pattern that directs students to be ready to plunge professionally and participate in business [13]. The existence of VHS is the front guard in facing the era of industrial revolution 4.0 that we face today. The contribution of Vocational Schools in preparing trained workers greatly helps the business world, but not all VHS graduates can meet the needs of the workforce in accordance with the competency of their expertise. The facts show that not all vocational graduates have good work readiness, so many have not got jobs.

Readiness (including work readiness) is a level or condition that must be achieved in the process of individual development before he can do something as he should at various levels of mental, physical, social, and emotional growth [8]. Work readiness at a productive age, especially vocational students is not only formed from science, but it is necessary to have counseling to form an attitude that is ready to enter the workforce. Guidance and counseling arise from work or occupational problems, which then develop into other parts called career guidance. Therefore, to get a job that is in accordance with what is in the individual and to form a good attitude in entering the workforce, the best career guidance is needed.



The implementation of career guidance produces good synergy to form spiritual maturity in the form of mental and emotional well-being in students as a basic readiness to work. This career guidance activity is expected to have a long-term impact. Law Number 20 of 2003 states that the aim of Vocational Schools is to improve the ability of students to develop themselves in line with the development of science, technology, and art, and to prepare students to enter employment and develop professional attitudes. In improving the competence of vocational students, the government issued a career guidance service policy that focuses on individual development, social development, employment, and education. Counseling services can be carried out in scheduled activities within and outside the class. Counseling activities in the classroom, scheduled for 2 hours per class per week in accordance with Minister of National Education Regulation No. 22 of 2006 concerning the Content Standards for the Primary and Secondary Education Unit (ILO, 2011: 1).

Based on the explanation above, questions can be raised, can increase work readiness be done through a career guidance program? To answer these questions, it is necessary to do research with the title "Increase Work Readiness of Vocational Students in the Era of Industrial Revolution 4.0 Through the Career Guidance Program". Career guidance consists of two words, namely guidance and career. Guidance is assistance given to individuals in making wise choices and adjustments.

The assistance is given based on the principle of democracy which is the duty and right of each individual to choose his own way of life without being interfered with by others. The ability to make such choices is not inherited (inherited), but must be developed (Jones, Staffire & Stewart, 1970). Guidance can also be interpreted as: Guidance is to have each, individual becomes familiar with a wide range of information about himself, his ability, his previous development in various areas of life, and his plans or ambitions for the future. Guidance than sex to help him become painted with various problems of social, vocational, and recreational adjustment with the faces. On the basis of those who have counseling, each pupil is a problem and makes plans for their solution (Hamrin, 1947).

The essence of the meaning of guidance delivered by Hamrin (1947) is almost the same as that conveyed by Jones, Staffire & Stewart (1970), namely helping someone solve problems so that they can make the right decision or in other words guidance is expected to obtain the right solution and planning for students' careers. The right solution and planning can be interpreted for the present and future of students and mentors must be able to provide an overview of the correct way of looking at the world of work. Based on these understandings it can be concluded that guidance is assistance given to students in making wise choices and adjustments in solving one's problems so that they can make the right decisions. With guidance, it is expected that someone (student) will get a solution and plan that is right for the future and career.

According to Murray [16], careers can be said as a range of interconnected work activities, where a person advances his life by involving various behaviors, abilities, attitudes, needs, aspirations, and ideals as one of his own life span (the span of one's' life). This definition views career as a range of work activities caused by the existence of inner personal strength in humans. Visible behavior in humans is due to the strength of motivation, abilities, attitudes, needs, aspirations, and ideals as the basic capital for individual careers. That is what Healy [9] calls a career of power. This career strength will appear in the mastery of a number of competencies (physical, social, intellectual, and spiritual) that support individual success in his career as shown in Figure 1 below.

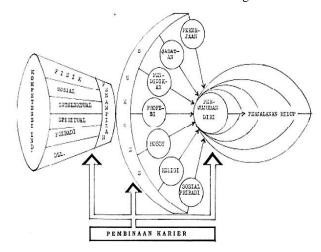


Fig. 1. Career as a Meaningful Self-Embodiment (Charles C. Healy, 1982)

If grouped by age, the stages of career development as meaningful manifestations of self will look like Table 1 below.

TABLE 1. STAGES OF CAREER DEVELOPMENT

No	Age	Stages of Career Development
1	0-14	Growth
2	15-24	Exploration
3	25-44	Stabilization
4	45-64	Maintenance
5	65>	Decline
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Source: Charles C. Healy (1982)

Based on Table 1 above, the position of vocational students is at the exploration stage in the development of his career. The tasks of career development during the exploration period are as follows: (1) recognize career decision making skills and obtain relevant information for making career decisions; (2) aware of interests and abilities and relate them to job opportunities; (3) identify fields and levels of work that match interests and abilities; (4) obtain training to develop skills and accelerate entering work or position to fulfill their interests and abilities.

Career guidance by Surya [24] is one type of guidance that seeks to help individuals to: (1) solve career problems; (2) obtain the best possible adjustment between their abilities and environment; and (3) gain success and self-realization in the course of his life. The definition of career guidance broadly is as follows: Career guidance is a means of fulfilling individual development needs that must be seen as an integral part of an educational program that is integrated in every learning experience in the field of study. Career guidance is related to the development of cognitive and affective abilities, as well as one's skills in realizing positive self-concepts, understanding the decision-making process and acquiring knowledge and skills that will help



him enter life, the life order of events in life that are constantly changing [23].

The aim of career guidance according to Walgito [27] is: (1) can understand and assess himself, especially those related to the potential that exists in him regarding the abilities, interests, talents, attitudes, and ideals; (2) realize and understand the values that exist in themselves and those in society; (3) knowing the various types of work that relate to the potential that exists within him, knowing the types of education and training needed for a particular field, and understanding the business relationship he has with his future; (4) find obstacles that may arise, caused by themselves and environmental factors, and find ways to overcome these obstacles; (5) students can plan their future, and find a career and life that is compatible or appropriate.

The ultimate goal of guidance and counseling in schools is generally the same as the functions and goals of national education as stated in Republic of Indonesia Law No. 20 of 2003 concerning the National Education System, Chapter II, Article 3, which reads: "National education functions to develop capabilities and shape dignified national character and civilization in order to educate the nation's life, aiming at developing potential students to become faithful and pious human beings to God Almighty, noble, healthy, knowledgeable, capable, creative, independent, and a democratic and responsible citizen ". In particular, the purpose of career guidance in vocational schools is to help or facilitate individual development for students.

#### II. METHODS

This research was conducted through the study of literature as an activity of gathering the information that is relevant to the topic or problem that is being used as the object of research [17]. Data collection techniques are carried out by conducting a critical study of a number of reference books and relevant research results. The relevant references are data on unemployment of VHS graduates, as well as theories about work readiness and career guidance. While the study of the results of relevant research, is a study of the results of research on: (1) work readiness; (2) work readiness of vocational students; and (3) career guidance. Data analysis techniques are done through descriptive-qualitative techniques with sentences that are easily understood as an effort to get answers to the problems under study (Sugiyono, 2006) so that an overview of the contribution of career guidance to the level of work readiness of vocational students is obtained

#### III. RESULT

There are a number of research results on increasing work readiness through career guidance programs. Monika [14] reported the results of her research through the International Journal of Indonesian Education and Teaching entitled "The effectiveness of career guidance programs for psychology students" which concluded that: (1) through eight career guidance sessions conducted effectively can reduce the difficulty level of students in career decision making; (2) provide additional information to students about careers; (3) students can choose several career alternatives that are in accordance with their potential, interests, and talents; and these three things really help students in

preparing themselves to enter the workforce according to their potential and talents.

The results of the above study support the findings of Chircu [3] in his journal entitled "Career counseling needs for students - a comparative study" which found that career guidance is very important with explanations: (1) in the first year, the need to learn career planning strategies are the main ones, such as providing information about the labor market and to see about student interests; (2) for the second year, more specific information about working conditions in the field is given; (3) for the third year career guidance is more directed at how to find a workplace that is in accordance with the potential possessed by students; and (4) career guidance can be done through individual or group consultations.

Similar findings about career guidance and work readiness, Nugraha & Widarto [18] in his journal entitled "The Influence of Career Guidance and Industrial Work Practices on Work Readiness of Mechanical Engineering Students of Vocational High School 2" found that Distribution Histograms of Career Guidance and Job Practices Industry Against the Readiness of Work of Students of Mechanical Engineering of SMK Negeri 2 Pengasih as shown in Figure 2 below. Based on Figure 2 it can be seen that the highest frequency of career guidance is in the interval class number 3 which has a range of scores between 55.44 - 58.14 with the number of 13 students, and the lowest frequency of career guidance is interval number 7 which has a score range between 66.30 - 69 with the number of three students.

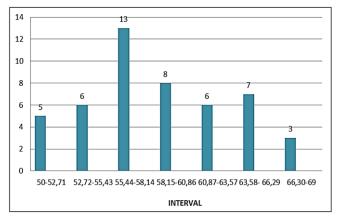


Fig. 2. Histogram of Distribution of Career Guidance Variables and Industrial Work Practices agains Work Readiness of Mechanical Engineering Students of SMK Negeri 2 Pengasih (Nugraha & Widarto, 2017).

Furthermore, if it is grouped, the distribution of career guidance tendency categories for the Engineering Students of SMK Negeri 2 Pengasih, as shown in Table 2 below.

TABLE 2. DISTRIBUTION CATEGORIES OF TRENDS IN CAREER GUIDANCE FOR MECHANICAL ENGINEERING STUDENTS OF SMK NEGERI 2 PENGASIH

Category	Frequency	Percentage
Not very good	0	0%
Not good	0	0%
Pretty good	24	50%
Well	24	50%

Source: Nugraha & Widarto (2017)

Based on Table 2, it can be seen that: (1) the implementation of career guidance from a sample of 48 students in Compassionate The 3<sup>rd</sup> grade of State Vocational



High School 2 in Mechanical Engineering Expertise Program, which has a fairly good category as many as 24 students (50%) and those with sufficient categories are 24 students (50%); (2) looking at the trend distribution of career guidance variable scores, so it can be concluded that the implementation of career guidance for students in Compassionate The 2<sup>nd</sup> grade of State Vocational High School 2 in Mechanical Engineering Expertise Program is included in the fairly good and good category; (3) there is a positive relationship between career guidance variables on work readiness. This finding suggests that the higher career guidance for students, the higher the readiness of student work and vice versa.

Likewise, the report Kurniawati and Arief [11] in his journal entitled "The effect of self-efficacy, work interest and career guidance on work readiness of vocational students accounting skills program" found that career guidance had a positive and significant effect on work readiness of the 2<sup>nd</sup> grade of Accounting Skills Program of State Vocational High School 1 Kendal. This research is based on humanistic theory, where the main purpose of the application of behavioristic theory is to help students develop themselves, which is to help each individual to know themselves as unique human beings and help them realize their potential.

There is a positive and significant relationship between career guidance and work readiness, also reported by Fajriah and Sudarma [6] in the Economic Education Analysis Journal entitled "The Effect of Industrial Work Practices, Motivation Entering the World of Work and Career Guidance on Student Work Readiness" which concludes that the score the average career guidance variable is 69.35% which is included in the criteria of good. Career guidance variables are measured through 5 indicators, namely indicators of self-understanding, understanding of values, understanding the environment, obstacles and overcoming obstacles, and planning for the future in good/supportive criteria. Career guidance variables for future planning indicators have the lowest percentage compared to other indicators. It was found that career guidance had a significant positive effect on student work readiness. This finding suggests that if career guidance increases, the work readiness of the 2<sup>nd</sup> grade students in the Bobotsari Purbalingga Office Administration Office program at the Muhammadiyah Vocational High School will also increase.

In line with the results of the above research, Pertiwi [20] reports the results of a study entitled "The effect of career guidance on the work readiness of students in the field of fashion expertise in VHS", which concluded that: (1) there is a significant positive influence between career guidance variables and work readiness of vocational students; and (2) students really take advantage of career guidance that has been obtained from school.

It turns out that career guidance can also be done collaboratively in terms of career planning for students. Related to that, Surya, Syamsu & Umar [25] conducted a study entitled "Collaborative career guidance in student career planning" which found that the implementation of collaborative career guidance could be done by counseling teachers/ counselors with parents in an effort to help strengthen career planning for students. Student career planning can be said to be steady, if students have the ability

in terms of: (1) self-understanding which includes aspects of understanding general intelligence, special intelligence / special talents, skills, hobbies, interests, traits, physical state, academic achievement, values life, and ideals; (2) understanding of the environment which includes understanding the family environment, school, work and community environment; (3) formulation of choices through setting goals, clarifying values, generating alternatives, and obtaining employment information, and (4) formulating action plans, through formulating activity agendas and further education plans.

Not much different from the results of the above research, Fitriyah, et al [7] in his research entitled "The Effectiveness of Counseling Group Solution Focused Career to Increase Career Maturity Students of Public High School 4 Pamekasan" found that focused career counseling group solutions were an effective way to improve the career maturity of students. Still, on career guidance that can be done in groups, Babatunde & Ojo [2] delivered his research report entitled "Effects of Career Guidance and Career Counseling Techniques on Students Vocational Maturity" which found that group career counseling and counseling techniques lead to increased student career maturity. One of the guidelines and counseling techniques is very helpful in increasing the career maturity of students.

Therefore, career counseling must be made in all schools. School authorities must support career guidance and incorporate into school programs and vocational education curricula. The thought of the need for student career guidance as described above, is in line with the findings of Crisan, et al. [4] through his research entitled "A need for student career guidance" which found that: (1) the need for career guidance is very important to know what just the things needed in career guidance according to student needs; (2) career counseling services can increase awareness among students about the need to act responsibly when facing career-related problems; (3) career counseling programs must play an important role in empowering students for career decision-making processes and increasing work capacity for them.

In addition, other findings regarding the implementation of student career counseling services were reported by Defriyanto & Purnamasari [5] in his journal entitled "Implementation of Career Counseling Guidance Services in Increase Student Interest in Continuing the 3<sup>rd</sup> grade Yadika Natar High School" which concluded that the average score Career maturity before attending counseling was 47.2 and after following counseling the average maturity score increased to 73.3. This conclusion provides an indication that there is an effective influence of career information services in increasing the career maturity of students in the Kotabumi Lampung Lampung northern Qudsiyah Madrasah. Likewise, in general, the achievement of student career maturity in Indonesia is included in the high category after following career guidance [19].

More than that, the readiness of vocational students to face the Era of Industrial Revolution 4.0 is also very necessary. This thought is supported by the findings of Rezasyah et al. [22] in his journal entitled "Readiness of Vocational School students in the face of Industrial Revolution 4.0: Case study in Mulia Cikarang Global Vocational School" which concluded that: (1) 97.5% of 40



respondents did not know what things need to be prepared to face the era of industrial revolution 4.0, even many of them do not know the term industrial revolution 4.0; (2) through career counseling / guidance activities, students gain new knowledge about industrial revolution 4.0 and know what things need to be prepared to face the era of industrial revolution 4.0. The findings of Rezasyah et al. [22] support the conclusion of Jain [10] in his research entitled "Impact of Career Guidance and Counseling on Student Career Development", that the importance of career guidance on one's professional satisfaction. If a student follows the career guidance process, he will get life satisfaction, because he has obtained a job in accordance with his potential.

In connection with the results of the research mentioned above, Krisnamutri [12] reports the results of his research with the title "Factors that affect the vocational readiness of vocational students" which conclude that there is a significant positive influence between learning achievement, gender, activeness of the organization, parental education and parents' income towards work readiness of vocational students.

# IV. CONCLUSION

Based on a critical study of the kinds of literature and relevant research results as described above, and continued with focus group discussion (FGD) activities, the following conclusions were obtained:

- Career guidance is one type of service from the guidance and counseling program.
- The ultimate goal of career guidance is: (a) so that students are able to understand and assess themselves, especially the basic potential related to the world of work; (b) students know the work environment that relates to their potential; (c) students can find and can overcome obstacles caused by factors themselves and their environment; and (d) students are able to plan for the future by forming career patterns.
- Work Readiness of Vocational students can be improved through career guidance programs, both through individual and group consultations.
- There is a significant positive influence between career guidance and work readiness of vocational students, which means that the work readiness of vocational students can be improved through intensive career guidance programs.

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