

Effectiveness of Modeling Techniques in Career Planning for Class XII Students

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Abstract—This research discusses modeling techniques and career planning. Senior high school students have an important career planning, because at these level students are at the gate which will expose them to several options to enter the world of higher education or the world of work which is a vehicle for shaping the professional integrity they crave. Meanwhile, modeling technique becomes an interesting technique in this career planning learning process because students can learn directly from the career path of the career figures. Therefore, this study aims to determine the effectiveness of modeling techniques in career planning for students. This research employed a quasi experimental design and used nonequivalent control group design. Hypothesis test used two-way analysis of variance (ANOVA) was used to test multiple sample groups involving multiple classifications and Tukey HSD test to compare all the averages of pairs of treatment after the variance analysis test was carried out. The results of the study showed that the modeling techniques were effective in career planning for students with results hypothesis test $p = 0.000$ ($p=0.000 < p=0.05$), then H_0 is rejected and H_a is accepted.

Keywords—modeling techniques; career planning

I. INTRODUCTION

Every individual in his life journey from childhood to adulthood will go through the tasks of development. Advances in technology, information and communication in today's world require the task of increasingly complex development. According to Havighurst success in carrying out developmental tasks leads to happiness and success in carrying out other tasks later, while failure leads to unhappiness, community disapproval and difficulties in carrying out other tasks later [1].

One of the development tasks that needs to be fulfilled is in the career field. Career is the interaction between roles in work and roles in life that encompasses the development of one's life or the journey of an individual's life [2]. According to Holland career is an individual's self-expression, interests and values through work choices or experiences they go through [3]. Then the career will be related to work experience during one's life journey. Career will also affect the development of one's life. Today's society also looks at someone's success based on their career achievements. This will cause problems for someone if they have not been able to carry out development tasks in the career field to the fullest, especially if they fail in their careers to become unemployed.

Avoiding failure in career achievement is the need for good career preparation and formed in a proper planning. According to Seligman "a number of careers began to be built and developed since the school and career can also be said as a desirable ideal, both related to a particular field of education, employment or a certain profession" [4]. Career planning needs stabilized at the high school level, because at this level, students are at the gate that will expose him to several options for entering the world of higher education or the world of work. In addition, high school students are in a period that is closely related to the determination of life in the future, because the behavior and activities carried out in adolescence are the beginning in carving a better life in their future [5]. Goestenkors also explained that preparing a career appropriately will optimize opportunities to receive opportunities in career advancement later [6].

But in planning a career, many students are faced with problems. That become a career problem in general for someone is a lack of understanding to know oneself, namely knowing their potential and being aware of their weaknesses, lack of mental readiness to compete in the world of work, ignorance of the scope of work in the occupational field exist in the labor market, as well as an understanding of how to pursue a career strategy from the start of a career to how to reach the peak of your dreamed career [7]. These problems are seen by the lack of career information received by students and if left unchecked will have a negative impact on students with unpreparedness to face a career that will be pursued after graduating from high school. Students after graduating from high school have not received certainty about their careers but are still in the stage of finding a job that is right for them.

Therefore, students need to collect career information through career exploration. Career exploration is a complex psychological process, which is an effort to find and test information about self-characteristics relating to weaknesses and strengths and test information about the career environment relating to opportunities and threats in order to achieve career goals [8]. Therefore, the need for career exploration from reliable sources to be able to obtain quality career information.

In an effort to help students explore careers so that they can formulate good career plans, researchers try to use modeling techniques. Modeling technique is a technique used to change a person's behavior, cognitive and affective through

continued observation in the process of imitating or emulating the behavior of the model displayed. The process of imitating or imitating in learning is felt to be effective, because it is in accordance with the experimental learning theory of David Kolb. In experimental learning explained that the learning process and change will be more effective if students are directly involved in the learning process.

Students will be directly involved in the process of planning their careers by imitating or emulating career plans exemplified by the model. The process of imitating or imitating directly will speed up students in learning. This procedure is far more effective than instructions or orders [9]. People tend to do what the exemplary subject does, not as spoken or instructed by the exemplary subject. Students who have been able to plan their careers will be better prepared and directed in moving towards achieving the expected career. With good preparedness can also eliminate fear and anxiety in the face of the workforce.

A related research has been carried out by Sofwan Adiputra in 2015 at Yasmida Ambarawa Senior High School with the title "The Use of Modeling Techniques for Student Career Planning" with the result that group guidance with modeling techniques is effective in the career planning of student's class X. Previous research applied modeling techniques in concepts. group guidance, the researcher wants to also test the effectiveness of modeling techniques if it is given in the concept of classical guidance by inviting students to visit career figures and bring in career figures and apply it to students in class XII Science and Social Sciences.

That career planning is a process that must be passed by every individual before they make career decisions [10]. This is supported by the opinion of Parsons which formulates career planning as a process that is passed before making a career selection [11]. So career planning is an individual activity to develop a career by choosing and deciding on a career to be achieved by paying attention to opportunities and alternative choices. According to Zlate career planning can be traced through the following aspects, 1. self assessment, assessing opportunities, making decisions and setting goals (making decisions and setting goals), 4. planning (designing). 5. pursuit of achievement [12].

An effort to help students properly plan their careers, modeling techniques are applied in the learning process. According to Bandura modeling technique that is a learning activity that can be obtained through direct experience can also be obtained indirectly by observing the behavior of others along with the consequences [13]. Certain social skills can also be obtained by observing and modeling the behavior of existing models [14]. Through modeling techniques, students will be invited to observe and learn on the character models that are displayed so that it is expected to gain direct experience from the character of the model to further be applied or emulated.

This live modeling technique is effective in helping students in career planning because it is in accordance with experiential learning theory from David Kolb. According to Kolb experiential learning is a learning process that activates students to build knowledge and skills through direct

experience [15]. Direct experience is given in modeling techniques in the form of modeling the models displayed, where students can directly reflect what has been learned from the model.

Based on research conducted by Purwanta with the title "Enhancing Career Exploration through Experiential Learning SLB-B Students of Wiyata Dharma I Sleman", the results show that through direct experience it turns out children find it easier to feel what is happening in the career [16]. The process of forming perceptions of various career information is nothing but the process of abstraction of various information obtained through direct observation. The process of concept formation will be easier where the individual does or tries and reflects on what he has done and has.

II. METHODS

This type of research used by researchers is a quasi-experimental design research and uses a nonequivalent control group design model. The population used is class XII students whose sample is determined by the cluster random sampling technique and the selected class is class XII IPA 1 (experimental group 1), XII IPA 2 (control group 1), XII IPS 2 (experimental group 2) and XII IPS 3 (control group 2). Researchers used a questionnaire method with a Likert scale whose validity was tested using construct validity. Validity test is done based on the opinion of experts (expert judgment). The questionnaire is used for pre-test and post-test. Then the data were analyzed with the analysis of variance test (ANOVA) and ANOVA follow-up test namely Tukey HSD.

III. RESULTS AND DISCUSSION

From the pre-test and post-test data from the experimental and control groups that have been obtained then analyzed with the ANOVA test and the TUKEY HSD test with the following results:

A. Results of XII IPA 1 Class (experimental group 1) and XII IPA 2 Class (control group 1)

Based on the ANOVA test results known $F_{count} > F_{table}$ that is equal to $33,362 > 2,667$ with a significance of 0,000 then H_0 is rejected so it can be concluded that there are differences in the average pretest and posttest results in the experimental group and the control group.

TABLE I. ANOVA TEST XII IPA 1 CLASS AND XII IPA 2 CLASS

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	11272,561	3	3757,520	33,362	,000
Within Groups	16218,432	144	112,628		
Total	27490,993	147			

TABLE II. TUKEY HSD TEST XII IPA 1 CLASS AND XII IPA 2 CLASS

	(I) VAR00002	(J) VAR00002	Mean difference (I-J)	Sig.
Tukey HSD	Pre-test experimental group	Post-test group eks	24,243*	,000
		Pre-test control group	11,162*	,000
	Post-test experimental group	Post-test control group	8,757*	,003
	Pre-test control group	Post-test control group	4,324	,301

From the results of the TUKEY HSD test, it was found that there were significant differences in the results of the experimental group before and after the treatment was given in the form of modeling techniques, whereas in the control group there were no significant differences.

B. Results of XII IPS 2 Class (experimental group 2) and XII IPS 3 Class (control group 2)

Based on the ANOVA test results known $F_{count} > F_{table}$ that is equal to $14.468 > 2.687$ with a significance of 0.000 then H_0 is rejected so it can be concluded that there are differences in the average pretest and posttest results in the experimental group and the control group.

TABLE III. ANOVA TEST XII IPS 2 CLASS AND XII IPS 3 CLASS

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	4 377,2 41	3	1 459,0 80	1 4,46 8	,000
Within Groups	1 0891, 679	08	1 00,84 9		
Total	1 5268, 920	11			

TABLE IV TUKEY HSD TEST XII IPS 2 CLASS AND XII IPS 3 CLASS

	(I) VAR00002	(J) VAR00002	Mean Difference (I-J)	Sig.
Tukey HSD	Pre-test experimental group	Post-test experimental group	15,536*	,000
		Pre-test control group	,821	,990
	Post-test experimental group	Post-test control group	7,929*	,020
	Pre-test control group	Post-test control group	6,786	,061

From the results of the TUKEY HSD test, it was found that there were no significant differences between the experimental group pretest and the control group pretest. No difference was also seen in the pretest and posttest results of the control group. While in the pretest and posttest the experimental group there were significant differences.

Based on the results of data processing stated that Effective Modeling Techniques Against Career Planning of Class XII Students. This is consistent with the results of Adiputra study which concluded that the use of effective modeling techniques to improve career planning of students in the first class of Yasmida Ambarawa High School [17]. Also supported by Zaroh's research which states that career guidance with symbolic modeling techniques has proven to be effective and has a positive impact in improving aspects of student career planning involvement [18]. A career planning will be good and appropriate if students are actively involved in the preparation of the steps to be taken. In this study students were also seen to be actively involved when the treatment was given as well as in the process of career planning because of the importance of career success for their future.

Career success is obtained by the concept of good career planning [19]. Career planning is carried out by adolescents through a process of self-exploration and career information [20]. Students first need to explore themselves by knowing the capabilities they have and being able to maximize those abilities to have a self efficacy career. Based on research conducted by Sari, it is known that the intervention of a modeling technique program can be specifically effective in increasing students' career self-efficacy [21]. Career planning and exploration are actions or behaviors that are an integral part of the career development process [22]. Career information through the modeling techniques provided in this study came from successful career figures. Based on the results of research Cipta, et al., it appears that the implementation of symbolic modeling techniques using biographies of career figures is a technique that can improve student career decision making [23]. Modeling techniques by bringing in figures and inviting students to the workplace of effective figures in students' career planning. According to Jahanbakhsh, Jomehri & Mujembari, the use of modeling techniques allows individuals to learn through observation [24]. The combination of visual feedback, expert observation methods (modeling) and self-observation is an effective way to learn new skills and increase motivation significantly [25]. In addition, combining theory with practice accelerates the learning process, and facilitates knowledge transfer [26]. In modeling techniques all aspects of cognitive, affective and psychomotor play an active role during the learning process. Individuals not only understand the theory presented but are also guided to be able to practice it.

IV. CONCLUSION

Based on the results of research and discussion, it can be concluded that the modeling technique is effective in the career planning of student's class XII, knowing that in the pretest and posttest the experimental group there are significant differences. That is, starting with the same pretest

results, but after the experimental group received treatment in the form of modeling techniques there was a significant difference, while the control group who did not receive the modeling technique did not have a significant difference. It is also proven by the significant hypothesis test results with $p = 0.000$ ($p = 0.000 < p = 0.05$).

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