



THE IMPLEMENTATION OF COMPUTER-ASSISTED CAREER COUNSELING EMPLOYING HOLLAND'S CAREER THEORY TO IMPROVE HIGH SCHOOL STUDENTS' MATURITY

*Wahsun

Lembaga Penjaminan Mutu Pendidikan Jawa Timur, Kementerian Pendidikan dan Kebudayaan Republik Indonesia

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*Corresponding author:

ABSTRACT

To increase student career maturity, counseling approach can be conducted. In the approach, there are several approaches that can be used that is the behavioral approach, cognitive, existential humanistic. The most widely used by guidance and counseling teachers is the behavioral approach. Career theory is also developed with a behavioral approach one developed by John L. Holland. This career theory has also been widely used as a model of career counseling. Typical characteristics of this career models are the use of a tool and inventory as well as intervention in the counseling process that is known as the Self-Directed Search (SDS). SDS contains 228 statements in the five topics, namely: Occupational day-dream, activities, competencies, attitudes toward particular positions, and estimates themselves about proficiency in six kelasifikasi (Realistic, Investigative, Artistic, Social, Entrepreneurial, and Conventional). SDS is the core of career counseling activities so it takes precision in the process, especially the calculation of the score. Errors in filling and scoring will have an impact on errors in interpreting student career explorations. In order to use SDS in counseling sessions can be more effective and efficient then SDS can be made in the form of computerization so that facilitate counselee in charging Inventory Exploration Careers Students and avoid filling errors and calculation score.

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INTRODUCTION

In order for a person to be satisfied with a career or work, the individual requires paying attention to several factors that affect a person in the selection of careers such as intrinsic factors, extrinsic factors, and interpersonal factors (Carpenter and Foster in Agarwala, 2008; 364). Tang, Pang, and Newmeyer (2008) explain that some of the factors that influence students in making career decisions are learning experience, gender (Heiliger, 2012), career self-efficacy and good expectations of the chosen majors (outcome expectation) (Feldt and Woelfel, 2009: 429), interest in selected majors (vocational interests), and career aspiration. Other intrinsic factors are career competencies, career identity, and motivation (Meijers, Kuijpers, and Gundy, 2013: 47).

Extrinsic factors such as the availability of employment and nominal salary to be provided. While interpersonal factors such as influences from families such as parents (Hughes, 2011: 200; Choi *et al.*, 2012) and siblings, friends, social milieu (Kim and Oh, 2013), school counselors, and teachers (Agarwala, 2008: 364; Rouho, 2010: 114-115). In determining a career, these three factors should be the primary consideration in order to obtain a match between one's self-factors with career choices. The appropriate association between the self-factor of the worker and his or her career choices determines his or her success in work (Perdue, Reardon, and Peterson, 2007; Arnold, 2004; Dries, 2010: 365). In other words, a person will feel satisfied in working if the task, job, or position is in accordance with the self interest. The more there is a match between a person's self with the

demands of the task, job, or job he or she will be entering, the closer the person's tendency to success will be in his task. Conversely, failure will occur and always lurk when there is a wide gulf between job demands with the beliefs, talents, interests, abilities, attitudes, and traits and values that exist in a person. In addition, one's success in Freud's career duties (in Whiston and Cinamon, 2015: 44) is one sign of mental health. In fact, among the inner aspects of the person, conformity is somehow absence. For instance, in terms of interest and talent, there is often a discrepancy (Crites, 1981). There are people who have a talent for a particular activity or job, but he or she is not interested in the activity or work. Conversely, there are also people who are interested, and even very interested in a particular activity or job, but he or she is not able (less talented) to do it adequately. Hence, in search of a career or a certain job title required a steady decision career choices obtained from the results of one's career maturity. With the maturity of a career then one can choose a job, position or career that is believed that the position or career that can meet their needs (Sukardi, 2000; Liu *et al.*, 2014: 296).

Career maturity is an individual's ability to make the right career choices, including awareness of what is needed to make career decisions and the degree to which individual choices are realistic and consistent (Levinson, Ohler, Caswell, & Kiewra, 2001). According to Donald E. Super (in Sharf, 2006), states that a person can be said to have a career maturity if it has the ability to make career planning and career exploration. The ability to make career decisions (decision making), have knowledge of the world of work information, have knowledge of preferred occupational groups, and have the ability to compare between skills possessed and The realization of the career decision (realization) to be selected. To increase student career maturity, it can be done through guidance and counseling approach. In the guidance and counseling approach, there are several approaches that can be used such as behavioral, cognitive, and humanistic existential approach. The most widely used by school counselor is the behavioral approach. One of the career theories established on a behavioral approach is the Electoral Theory developed by John L. Holland. and this career theory has also been widely used as a model of career counseling. The typical characteristic of career counseling of this model is the use of an inventory as a tool and also an intervention in the counseling process that is known as Self-Directed Search. SDS is the core of career counseling activities so it takes precision in the process, especially the calculation of the score. Errors in filling and scoring will have an impact on errors in interpreting student career explorations. In order to use SDS in counseling sessions can be more effective and efficient then SDS can be made in the form of computerization so that facilitate counselee in charging Inventory Exploration Career Students and avoid filling errors and calculation score.

The Concept of Career Maturity

According to Super (1995), career maturity consists of five components, namely career planning, career exploration, career decision making, world of work information, and knowledge of the selected working group (Knowledge of the preferred occupational group). However, Super includes one more component in his career maturity model of realization of career decisions (Sharf, 2006: 155-159).

Super states that adolescent career maturity can be measured by the following indicators

Career planning: Aspects of career planning according to Super (Sharf, 2006: 156), is an information seeking activity and how much individual involvement in the process. The condition is supported by knowledge of the various elements in each job. This indicator is aware of career insight and preparation, understanding alternative considerations of career choices and having future career planning.

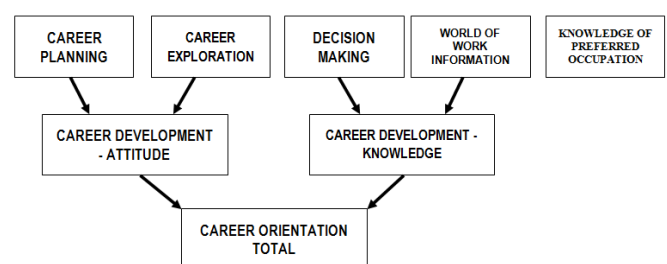
Career exploration: According to Super (Sharf, 2006: 157), it is the ability of individuals to search for career information from various career sources, such as parents, relatives, friends, teachers, school counselors, and etc. The career exploration aspect relates to how much career information students acquire from sharing these resources. The indicator of this aspect is to gather career information from multiple sources and utilize the career information that has been obtained.

Knowledge of making career decisions (decision making): This aspect according to Super (Sharf, 2006: 157) is the ability of students in using knowledge and thought in making career planning. This concept is based on the demands of students to make career decisions, with the assumption that if students know how others make career decisions then hopefully they are also able to make the right career decisions for him or her.

Knowledge (information) regarding the work environment: This aspect consists of two components according to Super (Sharf, 2006: 158), which is related to developmental tasks, that the individual must know the interests and abilities, know how others learn things related to the job and know the reasons people change jobs. The second component is knowing the job tasks in a position and behavior in work.

Knowledge of preferred occupational groups: This aspect, according to Super (Sharf, 2006: 158) students is given the opportunity to choose one of several employment options and then be questioned on matters related to the job.

Realization of career decisions (realization): The realization of career decisions is the comparison between the ability of individuals with realistic job-career options. This aspect according to Super (Sharf, 2006: 159), which includes have a good understanding of the strengths and weaknesses of self-related work desired, able to see the factors that support and inhibit the desired career, able to take advantage of making career decisions Realistic. Individuals who have a good career maturity means possessing a career orientation. Career orientation is defined as the total score of 1) attitudes toward a career, 2) career decision making skills, and 3) information of the work world (Super in Sharf, 2006: 159).



Gambar. Model Kematangan Karier Donald E. Super (Super dkk.1981:2) Konseling Karier Menggunakan Model Holland

Career attitude consists of career planning and career exploration. The skill of making career decisions consists of the ability to use the ability and thinking in making career decisions. This model of Super Career maturity, when depicted, is as follows:

The Basic Assumption of Holland's Career Choice Theory

The Holland theory (1985) is established on four basic assumptions. First, most people can be categorized as one of six types: realistic, investigative, artistic, social, enterprising, and conventional. Second, there are six environmental models: realistic, investigative, artistic, social, enterprising, and conventional. Thirdly, people search for environments that will enable them to use their skills and capability, express their attitudes and values, and take on the roles and problems it approves. Fourth, the behavior is determined by the interaction between personality and the environment. These four basic assumptions explain the nature of personality types and environmental models, how environmental types and models are defined and interacted to create social, educational, and vocational phenomena. According to Holland (1985), person's personality type is theoretical and ideal or a model that can be used to assess the real characteristics of a person. From experience and its interaction with the environment (culture, social, physical) people have preferences, attitudes, and abilities of certain activities rather than other activities. For instance, people who resemble a social type are likely to seek social work, such as teachers, clerics, social work. His or her ability is also related to social aspect, like helping people. This ability is multilevel: most similar, similar second, third resemble and so on (most like social, then like enterprise, and so on). Since the personality of the person is complex, it can be understood that from the six classification it generates hundreds of different personality patterns. In explaining his theory, Holland (1985: 29) has developed a hexagonal model (Fig. Using the hexagonal model it develops, it explains what is meant by calculus, i.e. setting relationships within the types (or environments) and between the types so that the distance between the types or environments is inversely proportional to Theoretical relationships between the types (or environments). The rectangular shape provides a description of the degree of consistency (which exists in a person or in an environment) and also explains the internal relationship of the theory.

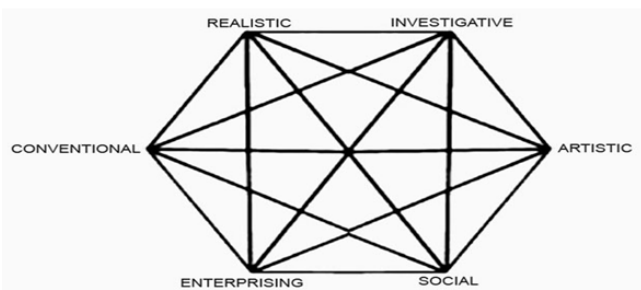


Figure 1. Hexagonal Model of Holland's Theory (Holland, 1985:29)

- Holland The formulation and assessment of Holland's vocational personality

Personality Type Formulation

Holland (1985) proposes six categories of vocational personality types: Realistic, Investigative Artistic, Social, Entrepreneurial, and Conventional;

Realistic Personality

This type of individual favor activities that require the direct and systematic manipulation of objects, tools, machines, and animals, and avoid healing and educational activities. Such behaviors, in turn, lead to the acquisition of technical, electrical, agricultural, mechanical and manual competencies, and leads to a deficiency in educational and social competence.

Investigative Personality

This individual type prefers activities that require the examination of physical, systematic, symbolic and observational phenomena, to understand and control the phenomena concerned. Such people like to avoid competing, social and persuasive activities. Such behavioral trends, in turn, lead to an acquisition of mathematical and scientific competition and leads to a deficiency in persuasive competence.

Artistic Personality

People belonging to the Artistic type of personality prefer ambience activities with the manipulation of physical objects to create art forms or products.

Conversely, this type of person is reluctant to direct, systematic, and orderly activities rigidly. Such individual behavioral trends, in turn, lead them to an acquisition of artistic competence - language, art, music, drama, writing - and lacking in business (business) or critical systems.

Social Personality

People belonging to the type of social personality are most likely fond of activities that require the manipulation of others to inform, develop, care for, or explain. Instead, they are reluctant to systematic, neat and direct activities involving tools, objects (materials), or machines. Such behavioral trends, in turn, lead them to the acquisition of humanitarian competence such as educational competence and personal relationships, as well as the lack of technical and manual competence.

Entrepreneurial Personality

People belonging to the Entrepreneurial Personality are most likely fond of activities that require the manipulation of others to achieve organizational goals or gain economic benefits. Those who are similar to this type are reluctant to systematic, symbolic and observational activities. Such behavioral trends, in turn, lead to an acquisition of persuasive competencies, personal relationships, and leadership, and lacking in scientific competence.

Conventional Personality

Persons belonging to the Conventional type of position are most likely fond of activities that require systematic, organized and direct manipulation of data, storing records, filing materials, producing materials, organizing business machines and data processing machines to achieve goals Economic and organizational objectives, and are reluctant to activities that are ambiguous, free, exploratory or non-systematized. Such behavioral trends, in turn, lead them to a competition gain on the business system, and less in the artistic competition.

Personality Type Assessment

There are two methods offered by Holland to determine the degree of person's resemblance to the personality type. First is the qualitative method. We can judge the personality type (personality pattern) of a person through the assessment of one's vocational preferences on an activity that characterizes a type, or a person's statement to perform a job in a particular position (Reardon *et al.*, 2007; Kovacs, 1999). A person who wishes to become a Physicist, or works as a Physicist, or plans to take a major Major in Physics or has been registered as a person who takes a course in Physics Sciences. One of the four kinds of information results is found in the classification of the Investigative personality. The Physician is one of the offices offered in the Investigative type. Second, quantitative methods. A variety of quantitative methods has been developed to assess the resemblance of a person with personality types. One is Self-Directed Search (SDS) (Holland, 1985). SDS has been well known and widely used in career guidance and counseling. SDS is a useful tool for determining the person's resemblance to Personality type using a wide range of contents (Miller and Miller, 2005; Holland, 1985). SDS contains 228 statements in five subjects: Occupational day-dream, activities, competencies, attitudes toward special positions, and self-esteem on skills in six classifications (Realistic, Investigative, Artistic, Social, Entrepreneurial and Conventional). The sub-scale on the SDS is used to limit some of the unrestricted in the formulation of types. For example, activities, competencies, self-concept and realistic work are related to the scale of activity, competence, self-concept and realistic work, and so on. The scores showed by an individual on the SDS describe the personality trait. The scores are raw scores, then converted into a three-letter summary code that reflects a most favored style. The three-letter summary sequences are arranged hierarchically. The first letter always reflects the strongest preference for a type. In other words, a higher score on a type indicates that a person's level of resemblance to that type is higher than that of the other. The highest score reflects a person's key personality type. A person's personality, usually, is determined by a combination of several personality types. The combinations of personality types can form personality traits and also subtypes (Holland, 1985: 26). The personality pattern is a person's resemblance profile with personality types. The subtype is the name for the ultimate personality pattern. Personality is a reflection of a person's scoring profile on an interest scale. Personality patterns are obtained by scoring the highest scores from the highest to the lowest. Personality patterns and subtypes can consist of one to six variables or types.

Summary Code (KR) Interpretation Model of Assessment Results

Personality patterns are illustrated by the scores shown in SDS. The scores are raw scores, then converted into a three-letter Summary (KR) Code reflecting a preferred style. The three-letter summary sequences are arranged hierarchically. The first letter always reflects the strongest preference for a type. In other words, a higher score on a type indicates that a person's level of resemblance to that type is higher than that of the other. The highest score reflects a person's key personality type. A person's personality, usually, is determined by a combination of several personality types. The combinations of personality types can form personality traits and can also form subtypes (Holland, 1985: 26). The personality pattern is a

person's resemblance profile with personality types. While the sub-type is the name for the main personality patterns. Personality is a reflection of a person's scoring profile on SDS. Personality patterns are obtained by scoring the highest scores from the highest to the lowest. Personality patterns and subtypes can consist of one to six variables or types.

In giving an interpretation of the three-letter summary code, there are a few things to keep in mind (Holland, 1985). The first letter in the summary code is most desirable because it is the result of the most important personality traits. The remaining two letters are less important. However, this interpretation should be considered according to the scores that make up the summary code. For example, the RIE code with scores of 12, 6 and 2 is different from the RIE score 12, 11 and 10. The first example reflects a well differentiated pattern, has a high score of 12 and a low score of 2. Whereas the second example is thin or undifferentiated well because the three highest scores are distinguished by less than four points with the lowest scores. The summary code can be expanded (exchanged) when needed. If the positions in the category identified by the counselee summary code are not of interest, or if the couple's position of the summary code is not found in The Occupational Finder (Holland, 1985: Appendix A), then the code can be easily extended to other letters. For example, ESC can be expanded to include: SEC, ESC, ECS, CSE, and CES. The sequence is a feasible matter where the code is not well differentiated. Where the code is distinctively differentiated, the exploration of the various sequences is not necessary because such a thing will negate the strongest features.

Computer-assisted Career Counseling Model using Holland's Theory to Improve Career Maturity of Counselee

A basic framework of computer-assisted career counseling model with Holland's theory approach to improving student career maturity

The type or sub-type of personality, occupational, or environmental suggested by Holland (1985) may be used by counselors to address one's career concerns. Such a classification has provided a simple method for organizing occupational information that can be understood easily by counselee and counselors. The classification has undergone many tests with positive results. For the purposes of career guidance and counseling, Holland has developed a special tool called Self-Directed Search (SDS). SDS has a wide range of content in assessing the resemblance of a person with each type. This tool is useful and widely used by career counselors to determine the person's resemblance to one of the six personality types (Miller and Miller, 2005; Kovac, 1999; Urich, 1990; Holland, 1985). SDS is both a tool and an intervention in career counseling services.

Counselee worksheet is in the form of Student Career Exploration Inventory which is the Indonesian version of Self-Directed Search. This inventory is, in fact, the core of the career counseling model to improve student career maturity. Student Career Exploration Inventory is both a tool and a service intervention. The inventory contains guidance on counseling work; Step and stage activities in planning the right career choice and steady decision.

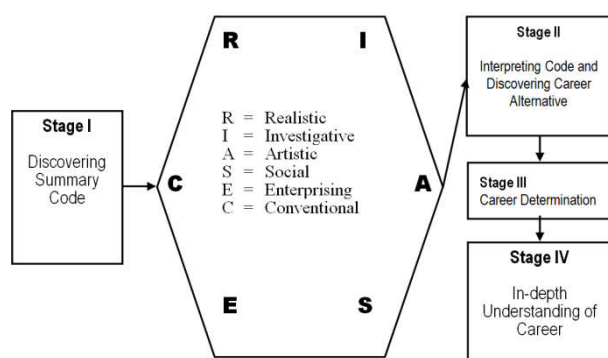


Figure 2. Flow Stages Diagram of Career Counseling using Holland's Theory

The Student Career Exploration Inventory is built on four components: activities, occupations, and self esteem, which are classified into six categories: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional (RIASEC). Career Exploration Inventories Students present a number of statements that guide counsees to self-understanding and environmental recognition through preference assessment of activities, job preferences, academic achievement, and self-esteem.

In the Student's Career Exploration Inventory has systematized a series of counseling activities with the following stages: the First phase, find Summary Code (KR) of counselee through activity preference assessment activity, job preference, academic achievement, and self-estimation. The second stage is the interpretation of the Code Summary and the discovery of alternative career choices. The third stage is the determination of a solid career choice. The fourth stage is a deeper introduction and self-preparation to a decided career choice. These four stages are a simplification of the stages of determining career choice by using Holland's Self-Directed Search inventory (Zunker, 2006: 37, Spokane *et al.*, Brown, 2002: 390). If describing the stages of career counseling with Holland career approach as in the following figure. Students Career Exploration Inventory is the core of career counseling activities hence there is a need for accuracy in the process, particularly the calculation of the score. Errors in filling and scoring will have an impact on errors in interpreting student career explorations. To assist the counselee in working on the Counselee Worksheet, the researcher considers it necessary to make in the form of a computer application to facilitate the counselee in filling the Student Career Exploration Inventory and to avoid filling error and score calculation.

Some of the advantages of Holland model devices in career counseling

This computer-assisted career counseling model will be developed based on Holland's career theory (1985) and the model of career guidance and career counseling tools he proposes. One characteristic of this Holland counseling model is that counsees undergoing career counseling are allowed to explore their careers through self-directed directions using a special tool to be prepared, the Student Career Exploration Inventory. According to some of the evidence and information reviewed, career counseling services using the Holland model device have been recognized to have several advantages. Among them is that it allows for students (counselee) to conduct self-administration, self-scoring, and interpreting themselves to his or her potentials.

In other words, a career counseling model using self-directed inventory allows for direct, active, and comfortable self-inclusion and flexibility in identifying ones potential. With this kind of character, perhaps, certain tasks of the mentor teacher such as time and energy efficiency in performing the scoring and administration of the results can be lighter. In addition, this inventory also provides adequate, inexpensive, and relatively easy career information. As we know that career information is needed by counsees who are making career choices. Such conditions are believed to be more accountable to group interpretations than similar inventories.

In other words, a study of the development of career counseling models based on Holland's career choice theory is offered because it is believed to have many advantages. In addition to some of the advantages that have been mentioned above, there are other advantages that are also attached to the model of guidance and career counseling Holland, namely that the model can: (1) provide comfort to students in assessing his or her potential, (2) stimulate students to think and act, (3) whether directly or indirectly, can improve understanding of the types of occupations and occupations, and (4) allow students to explore further about themselves through their own direction.

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