

Application of Career Assessment Model to Assist Students in Choosing Department in Senior High School

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Abstract

This research aims to produce the application models of career assessment application to help students in the selection of subject majors in Senior High School. Design of this research is the development from Borg and Gall Models (2003) (E), which includes the stages of needs analysis and expert validation. The research was conducted in the city of Makassar with the object of research is a teacher and high school students. The results of the needs analysis with the use of focus group discussion (FGD) shows that on average the coenselor education difficulty in helping students in the choosing of majors, the instrument used is still manual, take a long time, and the cost is not small. From the analysis of the needs assessment was developed further career applications in the form of a student's academic interests scale that can be used to help students in the choosing of majors in high school. Applications generated in the validation by experts in the form of instructional technology experts and psychologists. Expert validation results showed the application model developed career assessment is acceptable (useful, feasible and appropriate) to assist high school students in the choosing of subject majors.

Keyword: Career Application Assessment; Choosing Department.

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1. Introduction

Field findings show that many students are difficult in choosing their schools and subject majors interested in. In fact one in choosing a subject majors may result in significant in the lives students in the future. Results of research showed some of students who have difficulty in the selection of majors and career decision making in the future [1]. Furthermore Betz found that many teenagers are wrong in the selection of majors and career thus affecting self-efficacy. It is characterized by the failure of students in the academic process because they feel unsure of his choice, which is due to coercion parents or follow the choice of friends [2].

Gysbers stated that many children and teenagers difficulty in making career decisions, they just tend to come along with friends or their family. They need the support and guidance of parents and teachers to explore their talents and interests in order to choose the right career. Thus the presence of kair indispensable instrument for children and adolescents, so that they can make the right career decisions [3].

The fact in the field shows that learners who graduated Senior High School/Madrasah Aliyah High School/Vocational High School is not all based on students' interests and competencies [4]. For example, many students found nothing wrong in choosing majors, and find much difficulty in learning. It also stout found people who work do not fit the interests and expertise that ultimately opted out of a job.

In Senior high school, the students start their majors at class XI. Students who get good grades will be included in the Natural Science majors and students who have less grades will be placed in the Social Sciences and Languages. As well as with parents who still think that Natural Science major is better than Social Science and Languages. It is precisely raises potential conflicts between parents and children. Many children who are interested in the language, but it has great grades in science, in the end forced to choose Natural Science by the parents. And if this is allowed will impact the future of their children. According to Gardner, there is no one smarter in their respective fields, be it linguistic, logical-mathematical intelligence, artistic intelligence, the intelligence of inter-personal, intra-personal intelligence, spatial intelligence, kinesthetic intelligence, and naturalist intelligence [5].

In connection with the above explanation, then the current changes in the curriculum, where the curriculum in 2013 give the widest opportunity at students in developing potential, talents, interests with the principle of individual differences. If this can happen, then this will increase human resources in the future and be able to compete internationally. The results showed that the interest is closely related to achievement [6]. This means that the child has a high interest in a particular subject, it will increase the motivation of underachievement and will certainly affect success in the future [7].

In the curriculum 2013, election majors students have already begun in class X. This means that counselor education must have the data and mapping the data of students, so that students are placed in classes that interested him. Based on the above, it is clear that the task is very heavy while the counselor education who used a very short time. If the process of selecting student majoring contained errors as a result of the lack of rigor of counselor education, then this will greatly affect the students majoring in any election. It may be that there are students who are not placed according to their talents and interests.

To facilitate the counselor education in helping students to election department will require the development of ICT (Information and Communication Technology). The phenomenon shows that there are many counselor education performing counseling services in schools is still conventional. Though the current Indonesian nation has entered the era of globalization is one of the characteristics is a person required to be able to take advantage of technology and information as a means to provide convenience in carrying out his work or in improving its services. However, the field shows that many of counselor education are still stutter technology, counseling services all activities done conventionally, and consequently counselor education often have difficulty in collecting student data [8].

Counselor education in providing the services the guidance of students demanded not only have academic competence and professional in the field of guidance and counseling, specially being able to use and develop media guidance and counseling, particularly those based on ICT (Information and Communication Technology) as well as master the repertoire of theoretical and procedural including technologies in guidance and counseling [9,10]. It is also mandated in Indonesia Counsellor Competency Standards that the counselor education are expected to master the technology and information to smooth guidance and counseling services in schools. The counselor education should be able to take advantage of technology and information for conducting counseling services in schools [11,12].

In developing the application specialization in this research refers to the theory of Holland. Career assessment is in the adoption of the theory of John L. Holland. An outline of this theory is that humans tend to look for the environment (friends and ambience) that suit his personality [13]. Interest in certain majors are always influenced by his personality, interest in the subject chosen is a compromise of personality and environment (friends, opportunities, and the chance).

Holland divides 6 (six) personality types, namely; realistic, investigative, artistic, social, enterprising, and conventional [14,15]. According to Holland realistic people with type have a tendency to choose employment oriented application. Characteristics namely; prioritizing muscle strength, physical skills, have the ability, lack of verbal skills, concrete, practical work, and lack of social skills. People with investigative types have a tendency to choose the nature of academic work. Characteristics are have a tendency to ponder than overcome in solving a problem, task-oriented and less social. People with social types have a tendency to choose jobs that are helping others. The characteristics of this type of model is jaunty and talk, be responsive, responsible, humanity, nature religiusm requires attention, have the skills verbal, interpersonal relationships, activities neat and orderly, distanced form of problem solving intellectually oriented feeling.

Application specialization that will be developed is through using the Microsoft Excel software. the meaning of Microsoft Office Excel is a spreadsheet applications program are created and distributed by Microsoft Corporation for Microsoft Windows operating systems and Mac OS [16].

The use applications based computer must already be the duty of the counselors to assist him in the process of guidance and counseling services in schools. Jimmy & Noel explains that the reality on the ground, the assessment in the school counselor requires time and effort is not small. Therefore, once it is possible to use the computer as a tool for assessment. At least with using a computer to the assessment conducted by counselors at

the school to become more fluent [10].

2. Research Methods

This research is a development research by using a model of development strategy proposed by Borg and Gall, strategies have been selected for implementation steps clearly in addition to the development strategy consists of the development cycle more detailed and systematic development cycle through product development, test the product on the field, revise, test back on the field, revising up until the product is totally in keeping with the expected development goals [17].

Stages of development research undertaken include: (1) conduct a needs assessment to find out things that needed related to the development of the application model career assessment to help students in the selection of majors, (2) develop an application model career assessment based on the needs analysis and prepare research instruments (questionnaire expert test), (3) perform validation expert (expert judgment), an expert assessment test is conducted after the first phase is completed specialization application model. The goal is to know what things that still need to be improved on the model of specialization applications that have been compiled. The assessment is conducted by expert design and content, in the development of this subject field experts test the contents of the product is a psychologist. While the test subjects are experts in the field of product design is an expert in the science of learning technologies. Subjects try expert at the stage of testing experts selected based on the following criteria: (1) the selection of subjects trying experts is to have an education degree S3, (2) an expert in the field of learning and ICT, and Psychology (3) and have experience and / or research in the field of expertise. Experts test subjects (design and content) were asked to rate the level of acceptability of this model which includes: usability, feasibility and accuracy, and (4) revising the product.

2.1 Research Subject

FGD activity involving 10 teachers counseling consisting of 5 people counselor education from State Senior High Schools and 5 Private Senior High Schools in the city of Makassar. Samples drawn using the criteria that the school curriculum of 2013 and the curriculum SBC. As for the expert testing using two experts psychology of learning and using criteria that is educated Doctor and measurement expert in the field of psychology and information technology.

2.2 Research Instrument

Instruments used in this research that the guidelines FGD, questionnaire expert testing and application of career assessment scale form academic interest that developed the author refers to the theories of Holland that is theory of career development [14,18,19]. This theory refers to the theory of personality that refers to the six indicators of personality types realistic, investigative, artistic, social, enterprising and conventional. Each indicator consists of 10 items that consist of a selection of answers to agree and disagree. The following items are described for each indicator:

- Realistic Type

This type is like the activity as follows: (1) activity/outdoor work, (2) more like practice than in theory, (3)

improve bike/car, (4) work in the machine shop, (5) working alone on the worked with a lot of people, (6) to make something out of wood, (7) fix the electrical appliance, (8) taking a course in technical drawing, (9) taking care of plants, and (10) keeping the animals/pets

- Investigative Type

This type is like the activity as follows: (1) work in the laboratory, (2) follow the lessons of physics, (3) following the chemistry lesson, (4) follow the lessons of biology, (5) to follow the math, (6) study of scientific problems, (7) read science books or textbooks, (8) write a scientific articles/journals, (9) studied the lessons calculations (10) carrying out scientific experiments.

- Artistic Type

This type is like the activity as follows: (1) create a painting or photograph, (2) sketching and drawing, (3) practicing a musical instrument, (4) read or write a poem, (5) appeared to entertain others (singing, dancing , acting), (6) read/write a novels, (7) create songs, doing musical arrangements, (8) to learn the language, (9) studied art and culture, and (10) studied physical education.

- Social Type

This type is like the activity as follows: (1) teaching/educating, (2) reading/writing psychology/counseling, (3) become volunteers and charities for social activities, (4) studied sociologist, (5) a member of the organization community, (6) work in public relations, (7) to communicate/interact with others, (8) studied social sciences, (9) studied geography, and (10) studied the science of anthropology.

- Enterprising Type

This type is like the activity as follows: (1) running a business, (2) be the leader, (3) has a strong spirit to strive, (4) learn strategies for business success, (5) like a lesson about things about banking , (6) enjoyed learning economics, (7) studied accounting subjects, (8) to take the risk to make a profit, (9) convince people to buy an item, and (10) the pleasure of speaking in public.

- Conventional Type

This type is like the activity as follows: (1) bookkeeping, (2) the finances, (3) operate the machine count, (4) study entrepreneurship, (5) study the mathematics of trade, (6) Participate courses accounting, (7) have learn indoors than outdoors, (8) recorded sales revenue and payments, (9) neatly dressed, and (10) learn the office.

The data used in this research is quantitative and qualitative data. Qualitative data obtained from analytical instruments such activities needs focus group discussion (FGD). Data is the second assessment of the experts are quantitative and qualitative. Obtaining quantitative data captured using assessment questionnaire given to each expert to assess the quality of career assessment application model which includes three aspects, namely usability, feasibility and accuracy. While the qualitative data of commentary, criticism, suggestions for improvements were obtained from interviews and discussions with experts.

Three criteria are used (useful, feasible and appropriate) refers to the criteria listed by the Centre of Books Morgan & Morgan [20] namely:

Table 1: Criteria for Product Acceptability

4	81 – 100 %	very useful / very decent / very precise
3	66 – 80 %	useful / decent / precise
2	56 – 65 %	less useful / less decent / less precise
1	0 – 55 %	useless / unworthy / imprecise

If the product acceptability assessment covering the aspects of content, views, as well as aspects of design, ranging between 3 and 4, the recommendation is the product does not need to be revised, if only slightly revised in order to improve products. Revisions were made in large quantities, if the range between 1 and 2.

3. Research Result

The results of the need assesment with focus group discussion (FGD) show that: 1) Teachers counseling have difficulty in providing services specialization in school because the instrument so much that spends a lot of time and cost of implementation. 2) Many parents are pleased if their child included specialization Social Science, almost all parents want their children to enter in the Natural Science.

May happens because there is no instrument that measures the potential, as well as the talents and interests of students are valid for the selection of the students' majors. This means that there needs to be an instrument to measure the talents and interests of students.

3.1 Expert assessment of the application career assessment model

Aspects of the usefulness (utility) application career assessment consists of five items, including: (1) to help students in the selection of majors, (2) important for students to know their talents and interests in order to choose the right majors, (3) useful for students in the election majors, (4) useful for counselor education in conducting guidance and counseling services (specialization), and (5) useful to provide facilities for counseling teachers in performing the services specialization effective and efficient.

Feasibility aspects of career assessment application consists of five items, including: (1) have a clear and detailed objectives, (2) have clear instructions and practical to be implemented, (3) fast time and can be done anywhere, (4) the cost is relatively cheaper, and (5) does not require a lot of counselor education in its implementation.

As for the aspects of the accuracy of the application of career assessment consists of five items, including: (1) the accuracy of measuring instruments for the selection of majors students, (2) the accuracy objectives and guidelines (3) language is used appropriately and clearly, (4) the accuracy aspect that is measured election-

related majors students, (5) the results of the analysis of the proper measurements for student use in the selection of majors. Experts test results are described as follows:

- Usefulness Aspect

Table 2: Aspects of usefulness of application assessment career model

No	Statement	Assessment Score		Percentage	Category
		Expert 1	Expert 2		
1	Useful to know the talents and interests of students	4	4	100	Very useful
2	Useful to know the students' potential	3	4	87,5	Very useful
3	Useful in the selection of appropriate department	4	4	100	Very useful
4	Useful for counseling teachers in conducting guidance and counseling services (specialization)	3	3	75	Useful
5	Useful to provide facilities for counseling teachers in performing the services specialization effective and efficient	4	3	87,5	Very useful

According to the table 2 above, the expert pass judgment on aspects of the use of this guide with a high score, which is an average gave a score of 4 on most items given questions on aspects of the use of guides.

The level of the average score given by the two experts have reached a total score of 4 and 3, or generally achieve very useful percentage of 100%.

Thus the application model career assessment category is very useful and can be resumed.

- Feasibility Aspect

Based on Table 3 it can be seen that the second expert assessment of the feasibility aspect of career assessment application provides a high enough score, with an average score of 4 and 3 on most items of questions provided on the feasibility aspect. 5 of the questions on the feasibility aspects, the cumulative rate of the average score given by the experts reached 100% (very decent).

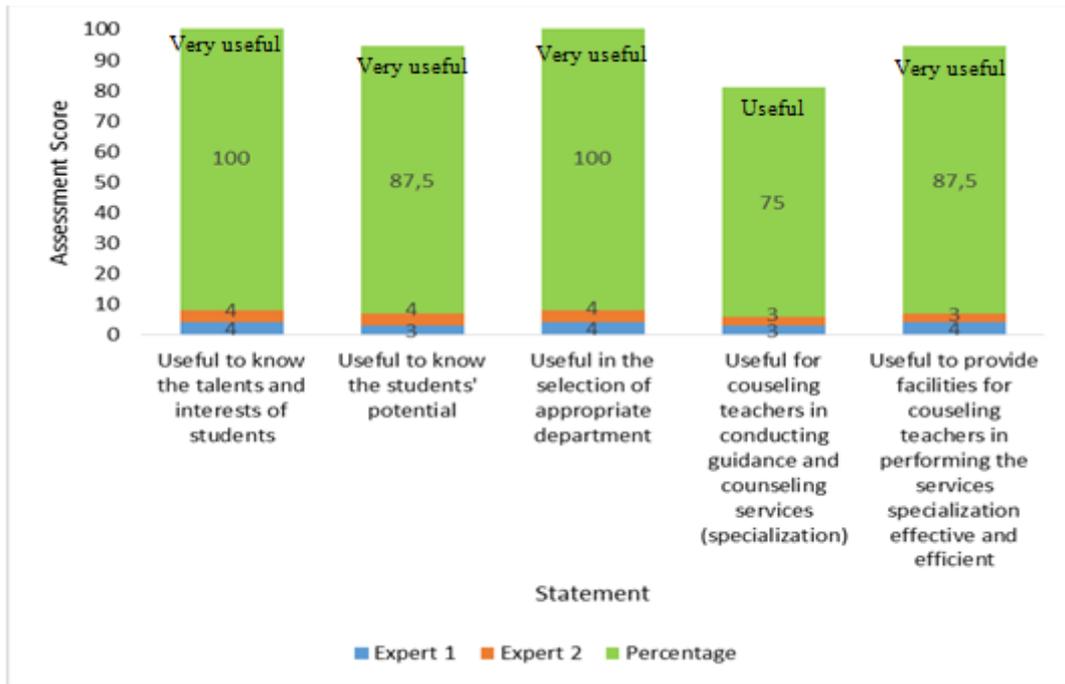


Figure 1

Table 3: Aspects of feasibility of application assessment career model

No	Statement	Assessment Score		Percentage	Category
		Expert 1	Expert 2		
1	Have clear objectives and detailed	4	3	87,5	Very decent
2	have clear instructions and practical to be implemented	4	4	100	Very decent
3	fast time and can be done anywhere	3	4	87,5	Very decent
4	the cost is relatively cheaper	3	4	87,5	Very decent
5	does not require a lot of teachers counseling in its implementation	3	3	75	decent

- Accuracy Aspect

Table 4 above shows both the expert pass judgment on aspects of career assessment accuracy of application with a high enough score, which is an average gave a score of 4 and 3 on the overall item given questions on aspects of accuracy. Based on the results of expert assessment with an average score of 4 (100%) it can be concluded that the application model developed carrer assessment included in the appropriate criteria.

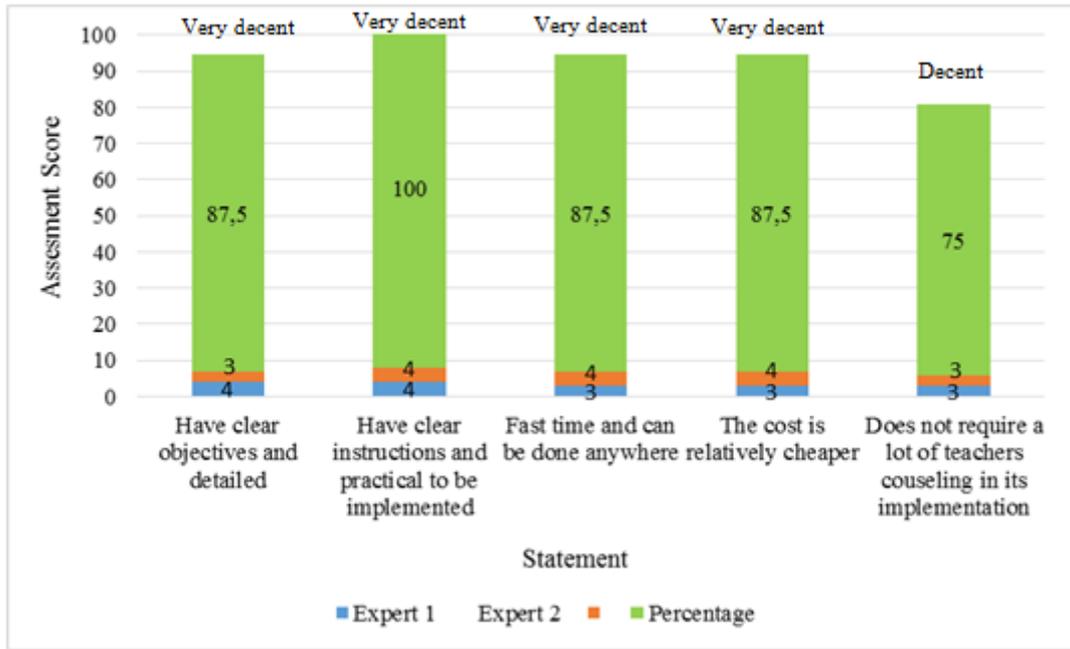


Figure 2

Table 4: Aspects of accuracy of application assessment career model

No	Statement	Assessment Score		Percentage	Category
		Expert 1	Expert 2		
1	the accuracy of measuring instruments for the selection of majors students	4	4	100	Very precise
2	the accuracy objectives and guidelines	4	3	87,5	Very precise
3	language is used appropriately and clearly	4	3	87,5	Very precise
4	the accuracy aspect that is measured election-related majors students	3	4	87,5	Very precise
5	the results of the analysis of the proper measurements for student use in the selection of majors	4	4	100	Very precise

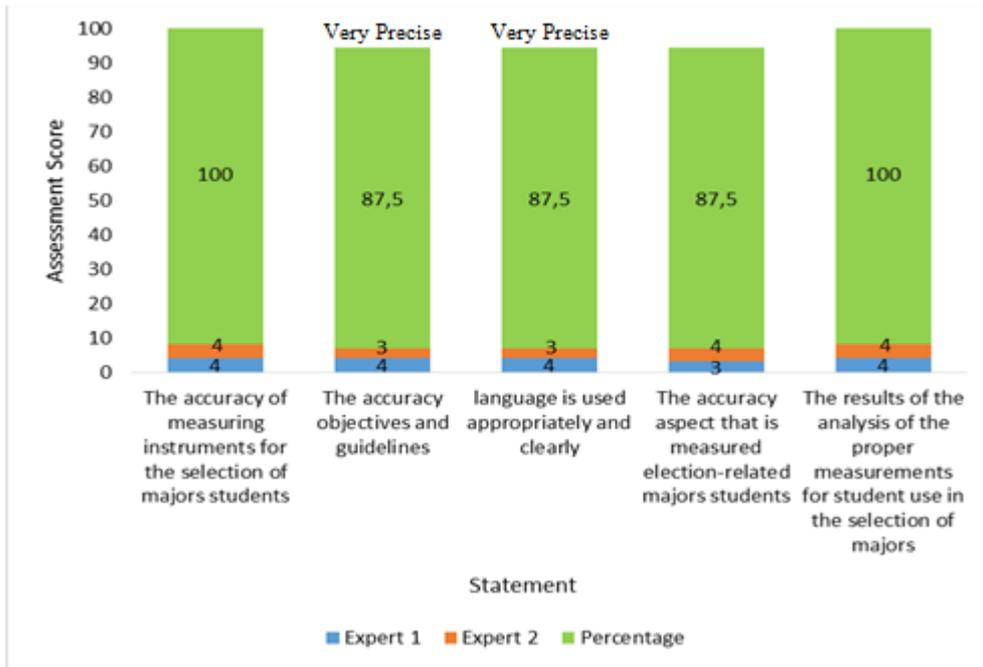


Figure 3

In general, the assessment of two experts on the application model carrier this assessment is valid and acceptable to be used to help students in the selection of majors in Senior High School, but these products need to be improved, especially in terms of design and analysis. Therefore, the input from the experts is very useful for product excellence.

Activities of expert test followed by discussion and comments, which are complete can be seen below:

Table 5: Comments of the Experts

Expert 1	Expert 2
Psychology Lecturer	Technology Learning Lecturer
<ul style="list-style-type: none"> The language used in the items described in the career of this assessment should be simplified and unambiguous to be easily understood by children. The analysis of the results of an assessment must be clear career elaboration and item-item should lead to departments in Senior High School, making it easier for children to understand the selection department. 	<ul style="list-style-type: none"> Filling instructions career assessment instruments need to be simplified so that children easily understand. The view of application developed to be more attractive for children.

Suggestions from two expert lecturers was subsequently revised by the researchers for further revision of the second phase to enhance the quality of training manuals prepared researcher

4. Discussion

Based on these results it is clear that the service specialization is needed to assist students in setting interest selection of the field of study in high school. This is in line with the opinion that interest is closely associated with students' career planning. For example, that students who have a high interest in certain majors in Senior High School (Mathematics and Natural Sciences) will tend to have interest and learning achievement is also high [21,22]. In the manuscript [23] states that service toward specialization studies learners an effort to assist students in choosing and undergoing or study activities and achieve results in line with the trend of heart or desire that is moderately or even very strongly associated with education programs / learning followed in primary and secondary education. Therefore if since the beginning of the students directed their talents and interests in the field of study, will be very helpful later in the smooth studies. Explicitly in the curriculum 13 states that the term of majors was replaced by specialization and counselor education role is to provide services to students specialization as part of the guidance and counseling program in schools [24]. However, research shows that during the service specialization in the school as the implementation of the curriculum face a number of obstacles. These constraints are counselor education not yet ready in doing service specialization, teacher counseling much difficulty implementing specialization services including analyzing instrument. Furthermore, service specialization requires long and costly for students. As a result, many parents and students who are still confused and wrong in choosing classes peminatannya. FGD results indicate that the service should remain dilaksanakan specialization in school, but it needs to be evaluated. The evaluation results indicate that in the future you should need no more simple instrument in helping students to direct their talents and interests in high school. Implementation of specialization services also need to consider the effectiveness and efficiency in terms of time and costs more affordable by schools. The experts test results show that the application career assessment model form a scale academic interest acceptable to assist in the selection of students majoring in senior high school. Application is considered useful, feasible and appropriate to assist students in the selection of majors. Applications developed in accordance with the opinion of Holland (that election subject should be selected based on personality, it implies that a student should choose majors according to their interests in order to achieve success in the future [14,19]. This personality type is including the type of realistic, investigative, artistic, social, enterprising and conventional. Students who fill instrument career assessment will then be directed to choose a subject that interested him, namely the departments in Senior High School include math and natural sciences, social sciences, language and culture. The limitations of this research is the application of career assessment developed through field validation yet, only limited testing expert (expert judgment), so that in future studies will be field tested to see the validity and reliability of the instrument developed. In addition the application in the form of excel is still offline and is not yet on line, students fill instrument (career assessment) available at the school and then can see the results of the analysis. In further studies will be made in the form of a career that application will do the filling wherever students are online.

5. Conclusion

Based on the above results it can be concluded that the service specialization is very important to be implemented counselor education in Senior High School, but many teachers counseling many are having trouble getting services because of lack of understanding peminatan implementation methods and instruments. Additionally the service specialization tends to take a long time and is costly in implementation. Therefore, an

application developed further career assessment to help students in the selection of majors in high school. Career assessment application model which has been developed further validated the expert. The results are showing that an application model career assessment scale form that was developed acceptable academic interest used to help students in the selection of majors in high school. From the results of this study suggested that developed applications can be tested in candidates product users that counselor education and senior high school students to test the effectiveness of the resulting product (application peminatan) to help students in the selection of majors. Further, the application will be developed through the android app so that students can access from anywhere online.

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References

- [1] Shumba, A & Naong, M. Factors Influencing Students' Career Choice and Aspirations in South Africa. *J Soc Sci.* 2012. 33(2):169-178
- [2] Betz, N. E. Career Self-Efficacy: Exemplary Recent Research and Emerging Directions. *Journal of Career Assessment.* 2007. 15; 403.
- [3] Rowland, K. D. Career Decision-Making Skills of High School Students in Bahamas. *Journal of Career Development* vol. 31. London: Sage Publication. 2007.
- [4] Gysbers, N.C., Henderson P. *Developing & Managing Your School Guidance & Counseling Program.* American Counseling Association. 2012.
- [5] Anca-Olga & Razvan-Lucian. *Multiple Intelligences and Learning Regarding Students-An Experimental Approach.* Brasov Romania: Spiru Haret University. 2011.
- [6] Kpolovie, P.J. Academic Achievement Prediction: Role of Interest in Learning and Attitude towards School. *International Journal of Humanities Social Sciences and Education (IJHSSE)*, Volume 1, Issue 11. 2014. PP 73-100
- [7] ACT. *The Path to Career Success: High School Achievement, Certainty of Career Choice, and College Readiness Make a Difference.* Educational Issues. Iowa City. 2008.
- [8] Emmanuel A.K, Erkki S & Marjatta. V.R. E-counseling implementation: Students' life stories and counseling technologies in perspective. *International journal of education and development using information and communication technology (IJEDICT).* 2014. Vol. 10, Issue 3, pp. 32-48
- [9] Oyenath, Monicaobi, Mtajudin & Bernice, A. *Guidance and Counseling in Nigerian Secondary*

- Schools: The Role of ICT. *I.J. Modern Education and Computer Science*. 2012. Vol 8. pp. 26-33
- [10] Jimmy, T.M Noel M. L. Teachers' perspectives on the integration of information and communication technologies (ICT) in school counseling. *International Journal of Education and Development using Information and communication Technology (IJEDICT)*. 2008. Vol. 4 Issue, PP 35-40
- [11] Marks, I. M., Cavanagh, K., & Gega, L. *Hands-on help: computer-aided psychotherapy*. East Sussex: Psychology Press. 2007.
- [12] Lorelei R. Vinluan. The Use of ICT in School Guidance: Attitudes and Practices of Guidance Counselors in Metro Manila, The Philippines. *International Journal for the Advancement of Counseling*. 2011. Volume 33, Issue 1, pp 22-36
- [13] Gikopoulou, N. *Career Guide for School*. European: Socrates. 2008.
- [14] Carson, A. Applications of Holland's Vocational Theory to Counselling practice Related to Vocational Education. *McGill Journal of Education*. 1994. Vol. 29 No. 3.
- [15] Nauta, M. Self-efficacy as a mediator of the relationships between personality factors and career interests. *Journal of Career Assessment*. 2014. Volume 12, 381-394
- [16] Conrad Carlberg. *Business Analysis: Microsoft Excel 2010*. Indiana: Que. 2010
- [17] Borg, W.D. dan Gall, M.D. *Educational Research*. Second Edition. New York : Holt, Rinehart and Winston. 2003.
- [18] Gothard, B., Mignot, P., Offer, M. *Career Guidance in Context*. London: Sage Publication. 2001.
- [19] Gothard, B. 'Career as myth', *Psychodynamic Counselling*. 2001. 5 (1): 87-97.
- [20] Morgan, D.L., & Morgan, R.K . *Single-case research methods for the behavioral and health sciences*. Los Angeles: Sage. 2009.
- [21] Rogers, M.E., Creed, P.A., Glendon, A.I. The role of personality in adolescent career planning and exploration: A social cognitive perspective. *Journal of Vocational Behavior*. 2008. Volume 73, 132-142
- [22] Laurence, R. Schoenberger. *Vocational Choice: A Relationship between interest and ability factors of the career Planning program (CPP) and vocational choice*. Dissertation: University of Wisconsin-Madison. 1989.
- [23] Gysbers, N.C., Henderson P. *Developing & Managing Your School Guidance & Counseling Program*. American Counseling Association. 2012.
- [24] American School Counselor Association. *The ASCA national model: a framework for school counseling programs edition*. USA: Alexandria. 2012.