The Effectivity of Mind Mapping as Preparation Media for Selection of Advanced Studies to Higher Education

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Abstract

Mind mapping is a way to record obtained information by mapping the mind which done creatively to make it more effective and easier to absorb by the brain. The purpose of this study is to determine the effectiveness of mind mapping media as a preparation for choosing a study to higher education. Current research is a quantitative pre-experimental research with a one group pre-test post-test design. The mind mapping used is a syllabus, a type of mind mapping that can provide an overview of what students know and learn. Media "Mind Map" consists of several dimensions, the concept is adjusted to the mind set of each. Students make plans for career choices according to the direction of their talents, interests and personalities. The research population was class of XI students at UPT SMA Negeri 8 Banyuasin. Sampling was done purposively. The sample of this study was 31 students. Data collected was analysed using paired sample T-Test. The results showed that the mind mapping media was significantly effective used as a preparation techniques for the selection of college studies by students of SMA Negeri 8 Banyuasin. This shows that mind mapping is can be used by BK teachers/school counselors as a media in providing services to prepare for the selection of further studies to college.

Keywords: Mind Mapping, Selection of Advanced Studies, Higher Education

Abstrak

Mind mapping merupakan cara mencatat informasi yang didapatkan dengan cara memetakan pikiran namun dilakukan secara kreatif agar lebih efektif dan diserap otak. Tujuan dari penelitian ini adalah untuk mengetahui keefektifan media mind mapping sebagai persiapan pemilihan studi ke perguruan tinggi. Pendekatan penelitian menggunakan metode kuantitif pre-eksperimen dengan desain one group pre-test post-test. Mind mappingyang digunakan adalah silabus, salah satu jenis mind mapping yang dapat memberikan gambaran tentang apa yang diketahui siswa dan dipelajari. Media "Mind Map" terdiri dari beberapa dimensi, konsep disesuaikan dengan mind set masing- masing. Siswa membuat perencanaan pilihan karir sesuai dengan arah bakat, minat dan kepribadian. Populasi penelitian siswa kelas XI di UPT SMA Negeri 8 Banyuasin. Penarikan sampel dilakukan secara purposive berjumlah 31 siswa. Analisis data menggunakan uji T-Test. Hasil penelitian diperoleh t hitung 5,6275 > t tabel 2,042. Hasil penelitian menujukkan bahwa media mind mapping efektif digunakan sebagai persiapan pemilihan studi ke perguruan tinggi oleh siswa di UPT SMA Negeri 8 Banyuasin. Hal ini menunjukkan bahwa mind mapping dapat digunakan oleh Guru BK/Konselor sebagai media pengembangan untuk persipan pemilihan studi lanjut ke perguruan tinggi.

Keywords: *Mind Mapping*, Pemilihan Studi, Perguruan Tinggi

INTRODUCTION

Senior high school is a period when they are required to make decision regarding their own life, specifically career. However, senior high school students tend to have difficulty in making career plans. One of them is about planning their career on Advanced

Studies to Higher Education**.** One of the methods to make a career plan is to provide space for students to categorize their career plans according to their own creativity. This concept is considered as a way to help students optimize their potential. Thus, the implementation of the service is not monotonous, the supervising teacher can use a media in service activities.

Students' independence must be built since they are in elementary school so that students know the types of careers and can measure the possibility of being interested in certain fields according to their talents and interests. The career description is generally influenced by the student's independent character. Research by Rochmawati (2019) shows that students' independence in career planning is in the high category as well as students' perceptions of career guidance services in the very high category. So if students' perceptions of career guidance services are good or positive, the independence of students in career planning will also be high. This finding implies that guidance and counseling teachers need to provide services that are in accordance with the needs of students to help increase independence in career planning. Additionally, research by Heiriyah (2019) argued that the tendency of students' different career interests related to social fields, realistic career fields, artistic fields, conventional career fields. Furthermore, Farhan (2022) research argued that the results of the analysis related to Holland's theory can be used to assist students in choosing a career. Personality types are influenced by hereditary and environmental factors. In his analysis he suggests that high

school students as Generation Z are encouragely prepared for the school-to-work transition and increase their chances of finding work.

Mind mapping method makes easier for someone to understand and describe a difficult thing or material and also focused on the important points summarizing into simpler concepts. The concept of mind mapping was introduced by Buzan in 1970 as a storage system, retrieving data in the human brain. Mind maps are a way to put information into the brain, effective and creative note taking, effective, and will literally forming a mind map (Buzan, 2011). Mind maps are diagrams used in the form of visual notes that offer the essence of a topic and complex information, which allows students to understand, generate new ideas, and is used to build networks or connections. Through the use of color, pictures, and words, mind mapping encourages students to start with the main idea and expand outward to deeper sub-topics.. Mind maps are also great route maps for memory, allowing us to structure facts and thoughts in such a way that the natural workings of the brain are involved from the start making recording information is easier and more reliable rather than using traditional note taking technique. This concept is categorized into creative technique, because mind mapping making requires using creator imagination. Creative students will find it easier to make mind maps. Likewise, the more often students make mind mapping, the more creative they will be.

Additionally, Churnia (2021) future challenges for students is self-preparation in choosing a career. Career

choice is a determination in decision making as a process where a person makes his choice based on the abilities and qualifications of the student himself, with the characteristics of majors, interests, talents, and knowing future career plans. Furthermore, Fikriyani (2020) argues that career selection is one of the most important decision-making processes that cannot be avoided as part of individual development that affect future life.

Today, prospective students choose a study program not solely because of the knowledge bu also based on how promising job opportunities are in the future (Supriati, 2018). Thus, guidance and counseling teachers in the 4.0 industrial revolution era should be creative in taking advantage of opportunities in order to socialize and manifest the role of guidance and counseling services, especially career guidance in schools. So that these challenges can be carried out by BK teachers and their performance can be carried out optimally (Fadly, 2019).

According to research by Youthmanual (2018) shows that 92% of SMK students are confused about their future career and 45% of students feel that they have choosen the wrong major. This is because the expectation of getting promising job but do not thoroughly preparing themselves to undergo the period of studiying that not match their interest .

Study by Dadang (2021) found that before being given the mind mapping method, students' career planning was in the low category. Whereas, after being given the mind mapping method, the students' career planning was in the high category. This

finding proves that the mind mapping method in group guidance has an effect on career planning for junior high school students. Moreover, Crites in Taty and Bayu (2019) explained that 30% of students are still undecided in choosing a career in high school. Thus, it is necessary to have careful career planning according to their talents and interests. Generally, this problem is triggered because BK teachers are not optimal in service activities, especially in career guidance and counseling services in schools. According to Julia & Afandi (2020), inappropriate services makes career information not channeled properly. Lack of information about careers makes students does not have an idea of the choice of entering college and suitable job for him. Also, The same problem is experienced by students who have not specifically planned their careers because career services only provide information using traditional method without using creative media. Zamroni (2016) in his research on interests argued that services to develop the potential of participants' specialization aims to educate optimally thus can determine the right choice according to the skills he has.

Furthermore, Yulianti & Saraswati (2015) stated that mind mapping as a way to record information by mapping thoughts, done creatively and effectively absorbed by the brain. Research by Datar (2019) proved that the level of career understanding of students before being treated with career information services is in the low category, but after being given treatment the level of career understanding of students has increased to the very high category. In essence, career information

services can be applied as an effort to improve students' career understanding. Moroever, Wibowo (2018) shows the Mind mapping learning model effectively used for students to increase the acquisition of learning outcomes.

Various studies should be directed at the relationship between the mind mapping method and career as stated by Istirahayu (2018). That every career guidance service provided will have a positive effect on students' ability to choose, so that career choice decisions for further studies can be in accordance with their talents, interests and abilities..

METHODS

This study uses a quantitative approach with a pre-experimental research design with The One Group Pre-test – Post-test design. At the beginning of the study, a pre-test was conducted. Respondents were given a questionnaire to measure the initial conditions, the next stage students made a career design that they wanted according to their talents, interests and personality as well as reasons why they chose that career. Then followed up by treatment. The final stage, students were given a questionnaire (post-test) to see the changes in career understanding.

The research sample of 31 students at SMA Negeri 8 Banyuasin which determined by purposive sampling based on the characteristics in accordance with the research needs. This study uses a questionnaire in the form of a Likert scale with 5 possible answers, namely strongly agree, agree (S), uncertain, disagree, strongly disagree (Yusuf, 2016). The collected data was analyzed using t-test. The t-test was selected based on the number of samples

thst were assumed to form a normal curve. The instrument indicators include several metacognitive competencies, namely students' curiosity about science and technology, the ability to reason about career conception and efforts shows based on interests, talents suitability with personality.

RESULTS

The results of the treatment were followed up by giving a questionnaire about mind mapping. Each answer consists of 5 answer options about the readiness of students to choose to study in college. Answers are categorized into very low, low, medium, high and very high with the following details:

Table 1 Categorization

No	Categorization	Norms
1	Very high	$(M + 1{,}5\,Sd) < X$
2	High	$(M + 0{,}5\,Sd) < X \leq (M + 1{,}5\,Sd)$
3	Medium	$(M - 0{,}5\,Sd) < X \leq (M + 0{,}5\,Sd)$
4	Low	$(M - 1{,}5\,Sd) < X \leq (M - 0{,}5\,Sd)$
5	Very Low	$X \leq (M - 1{,}5\,Sd)$

The categorization of the score for the Y variable presented in the following Table 2.

Table 2. Categorization Score Preparation for College Entrance (Y)

Norms	Score	Categorization
$(69 + 6) < X$	≥ 75	Very High
$(69 + 2) < X \leq (69 + 6)$	71 S.D 75	High
$(69-2) < X \leq (69 + 2)$	67 S.D 71	Medium
$(69-6) < X \leq (69-2)$	63 S.D 67	Low
$X \leq (69-6)$	≤ 63	Very Low

Furthermore, the second treatment with the same procedure was given. The results of the treatment were followed up by filling out questionnaire to find out whether there was an increase in understanding in responding to the selection of majors in higher education using the Mind mapping model. The post-test results increased significantly, as evidenced by 27 people (87%) of respondents in the very high category, 3 people (10%) in the high category and 1 person (3%) in the medium category. The results of the pre-test and post-test preparation for the selection of college studies increased in each respondent, before and after being given treatment using mind mapping media.

Table 3. *Pre-test* and *Post-test Results*

Interval	Categoriz ation	Pre-Test		Post-Test	
		F	%	F	%
≥ 75	Very High	0	0	27	87
71 s.d 75	High	0	0	3	10
67 s.d 71	Medium	0	0	1	3
63 s.d 67	Low	0	0	0	0
≤ 63	Very low	31	100	0	0
Total		**31**	**100**	**31**	**100**

The data were analyzed by using t-test with results t = 5,6275. The difference between the pre-test and post-test scores of 34,387. The comparison can be seen in the Figure 1. Calculation of the value of t count is 5.6275 while t table = 2.042 or in other words, tcount > ttable = 5.6275 > 2.042. The alternative hypothesis statement (Ha) is accepted and the null hypothesis is rejected (Ho).

It can be concluded that the change in each interval, frequency and

percentage has increased significantly, which indicates that mind mapping is an effective media for implementing guidance services for students who will continue their education to higher education. Each respondent better understood and was able to choose a college study according to their ability and learning experience.
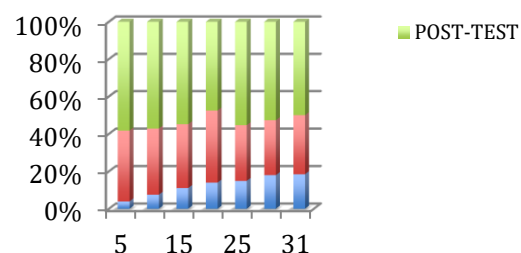

Figure 1. Pre-Test and Post-Test comparison

Overall, the pre-test score of all students in the very low category with score in interval value of 63, which is 31 people. In the post-test score, 27 people were in the 75 interval in the very high categorization, then 3 people in the 71-75 interval were in the high category. 1 person in the medium category with a value interval of 67-71. The results of the pre-test and post-test are depicted in the following pie chart.
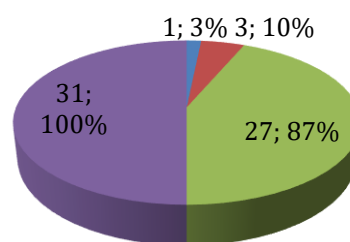

Figure 2, Pie diagram od *pre-test* **dan** *post-test*

DISCUSSION

Mind mapping media is effectively used in guidance services as an effort to increase understanding and optimize student career planning which confirmed the results of research studies by Anik (2016) that stated guidance and counseling teachers can provide career guidance in various forms such as providing information about careers through videos, preparing guidance packages, or guidance in the form of creative teaching.

The media used in the delivery of career services strongly supports student understanding, whether it is done using mind mapping or other media. This is proven by Atmaja (2014) that found students' career planning were improved through career guidance with the use of media modules. The results of this study are used as a reference material for guidance and counseling teachers in creating program and developing career counseling service media.

As emphasized by Buzan (2011) that the human brain consists of 1 million cells which is equivalent to 167 times the number of humans on earth, these cells consist of several central parts (nucleus) and a number of branches that point in all directions, like a tree that grows branches around it. Therefore media Mind mapping is very suitable if used in an effort to open the discourse of students to understand various types of majors and the consequences with the desired career from an early age.

The results of the pre-test indicate that the preparation for selecting further studies to college is still very low, so the researchers provide career guidance services using mind mapping media with the help of the teachers. The results of the research conducted stated that mind mapping media was effective as a media for preparation for selecting studies to colleges.

The use of mind mapping media as one of the media for the preparation of college studies for students can be recommended because it is considered effective in providing enthusiasm for learning in students. The criteria for the effectiveness of mind mapping media can be seen from the enthusiasm for learning and students' creativity. This method is also able to stimulate the left brain and right brain proportionally, students not only memorize but even teachers can provide stimulation to students to develop new skills. Furthermore, another advantages of using mind map media in the learning process is easier to understand the material because it is presented in an interesting way by the teacher. In principle, mind map media can help make it easier for students to understand and develop learning materials and students are able to remember the material provided by the teacher as well as in affirmation activities or directions in determining the choice of majors to enter college.

Current study results also supported by Firdaus (2014) which shows that learning with the mind mapping method is effective in improving learning outcomes. Moreover, Abdul (2017) argued that an effective learning methods have the following criteria: 1) able to provide enthusiasm, stimulate the left brain and right brain to develop proportionally, 2) generate new ideas and develop new skills. As for the mind map teacher, it helps teachers more easily understand the material and

develop learning. Furthermore, Aprinawati (2018) stated that mind mapping as a learning method designed to assist students in determining and compiling the essence of reading, therefore by applying the mind map model as an alternative to improve students' language skills, especially in understanding reading discourse in elementary schools. According to Jansen (2008) mind mapping based on brain abilities (brain based learning) that is aligned with the way the brain is naturally designed to learn. Meanwhile, Dewantara (2019) metode *Mind mapping* using coggle TM proves that there is a significant difference in the ability which is similar to current study findings.

Study by Pratama (2020) stated that assisted mind mapping can affect students' creative thinking skills. Other research that supports the research findings is research by Dadang (2021) which states the effect of applying mind mapping in group guidance on career planning. Furthermore, Hapidin (2019) proves that the use of the mind mapping method can help early childhood educators improve concept mastery. Also. Irman (2019) in his research found that mind mapping techniques in counseling were effective in improving students' ability to remember lessons. This finding is used as an alternative for students to overcome learning problems. According to Adodo (2013) proves that the mind mapping strategy can help improve performance in the field of science and technology because it can stimulate students to continue to think critically and creatively.

Regarding career maturity, Lestari (2017) stated that it was necessary to provide intensive assistance from professional personnel such as counselors in the provision of guidance and counseling services, the study of these needs needed to be linked to current demands, especially life skills-based education curricula which have become a fundamental problem for adolescents. For this reason, life skills-based career guidance is needed in an effort to increase career maturity.

This is an understanding that must be completed properly so that children do not feel that their talents and interests are not in accordance with the chosen major. With the freedom of expressing opinion given by parents to children, it is very influential to develop their talents and interests so that they have the right career. So that parents can work together with their children to determine their children's careers in the future (Rajasa, 2020).

CONCLUSIONS

Mind Mapping is one of the effective media used by guidance and counseling teachers in implementing guidance and counseling services to increase students' career selection readiness to go to college because it can stimulate students' left and right brains proportionally. So that career determination becomes more objective in accordance with the potential of students.

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REFERENCES

Adodo, S. O. (2013). Effect of mind-mapping as a self-regulated learning strategy on students' achievement in basic science and technology. *Mediterranean Journal of Social Sciences*, *4*(6), 163-163. 10.5901/mjss.2013.v4n6p163

Anik, P. (2016). Peningkatan Kemampuan Menentukan Jurusan Di Perguruan Tinggi Melalui Layanan Penguasaan Konten Media Mind map Pada Siswa Kelas Xi Tp3 SMK Wisudha Karya Kudus . *UMK*.

Aprinawati, I. (2018). Penggunaan model peta pikiran (mind mapping) untuk meningkatkan pemahaman membaca wacana siswa Sekolah Dasar. *Jurnal Basicedu*, *2*(1), 140-147.

Arifin, M. (2017). Strategi Manajemen perubahan dalam meningkatkan disiplin di perguruan tinggi. *EduTech: Jurnal Ilmu Pendidikan dan Ilmu Sosial*, *3*(1). http://dx.doi.org/10.30596%2Fed utech.v3i1.990

Arikunto, S. (2010). *Manajemen Penelitian.* Jakarta: Rineka Cipta.

Atmaja, T. T. (2014). Upaya meningkatkan perencanaan karir siswa melalui bimbingan karir dengan penggunaan media modul. *Psikopedagogia*, *3*(2), 58-68.

Buku Pintar Mind Map : Membuka Kreativitas, Memperkuat Ingatan, Mengubah Hidup. (2011). Jakarta: Gramedia.

Buzan, T. (2011). *Mind Mapping Untuk Meningkatkan Kreativitas.* Jakarta: Gramedia Pustaka Utama.

Churnia, E. (2021). Analaysis of Student Career Maturity Using Holand theory. *Journal of School Counseling* , 102-111.

Dadang, M. (2021). The Effect of Implementing Mind Mapping in Group Guidance on Students' Career Planning. *Jurnal Psikologi Pendidikan dan Konseling: Jurnal Kajian Psikologi Pendidikan dan Bimbingan Konseling*, *7*(2), 58-65. https://doi.org/10.26858/jppk.v7i 2.23372

Datar, T. (2019). The effect of career information service on improving students' career understanding. *Jurnal Psikologi Pendidikan & Konseling Vol*, *5*(2). https://doi.org/10.26858/jppk.v5i 2.7107

Dewantara, D. (2019). Penerapan Pembelajaran Dengan Metode Mindmapping Menggunakan Coggle™. *Thabiea: Journal of Natural Science Teaching*, *2*(1), 13-18. http://dx.doi.org/10.21043/thabie a.v2i1.4923

Fadli, R. P., Mudjiran, M., Ifdil, I., & Amalianita, B. (2019). Peluang dan tantangan bimbingan karir di sekolah menengah kejuruan pada era revolusi industri 4.0. *Jurnal EDUCATIO: Jurnal Pendidikan Indonesia*, *5*(2), 102-108. https://doi.org/10.29210/12019239 5

Farhan, F., & Biran, M. (2022). Perspektif teori holland dalam pemilihan karir siswa SMA di era teknologi informasi. *Jurnal EDUCATIO: Jurnal Pendidikan Indonesia*, *8*(1), 9-13.

https://doi.org/10.29210/12022211
48

Fikriyani, D. N., Nurbaeti, N., & Hidayat, D. R. (2020). Pemilihan Karir Berdasarkan Kepribadian Pada Siswa Kelas X MAN 2 Tangerang "Teori Kepribadian Karir John L. Holland". *Jurnal Ilmiah Bimbingan Konseling Undiksha*, *11*(1). https://doi.org/10.23887/jjbk.v11i1.27348

Firdaus, I. F. (2014). *Efektivitas Metode Mind mapping Dalam Meningkatkan Hasil Belajar Siswa.* Semarang: Lib.unnes.

Hapidin, H., Pujianti, Y., & Juniasih, I. (2019). The effectiveness of using mind mapping method to improve child development assessment. *Jurnal Pendidikan Usia Dini*, *13*(1), 172-186. https://doi.org/10.21009/10.21009/JPUD.131.13

Heiriyah, A., & Haryadi, R. (2019). Exploration of Career Differences in Career Interests of Students with Special Needs. *KONSELI: Jurnal Bimbingan dan Konseling (E-Journal), 6*(2), 141-148. https://doi.org/10.24042/kons.v6i2.5105

Irman, I. (2019). The effectiveness of mind mapping techniques in counseling of enhancement ability memory students in learning. *Ta'dib*, *22*(2), 131-140. http://dx.doi.org/10.31958/jt.v22i2.1424

Istirahayu, I., Mayasari, D., Fitriyadi, S., & Damayanti, Z. (2018). Bimbingan Karir Terhadap Pemilihan Studi Lanjut Siswa Kelas XII. *Jurnal Bimbingan Dan Konseling Terapan*, *2*(2), 139-144. http://dx.doi.org/10.30598/jbkt.v2i2.372

Jensen, E., & Learning, B. B. (2008). Pembelajaran Berbasis Kemampuan Otak: Cara Baru dalam Pengajaran dan Pelatihan. *Yogyakarta: Pustaka Pelajar*.

Kadiyono, A. L., Gunawan, G., Budiarto, A., & Andriani, E. (2020). Pelatihan Personal Branding Bagi Persiapan Pengembangan Karir Mahasiswa Tingkat Akhir. *International Journal of Community Service Learning*, *4*(4), 263-273. http://orcid.org/0000-0001-6134-6847

Karim, A. (2018). Efektivitas Penggunaan Metode Mind Map Pada Pelatihan Pengembangan Penguasaan Materi Pembelajaran. *IJTIMAIYA: Journal of Social Science Teaching*, *1*(1).

Lestari, I. (2017). Meningkatkan kematangan karir remaja melalui bimbingan karir berbasis life skills. *Jurnal Konseling GUSJIGANG*, *3*(1). https://doi.org/10.24176/jkg.v3i1.859

Pratama, I. P. (2020). *Pengaruh Model Pembelajaran Inkuiri Terbimbing Assisted Mind Mapping Terhadap Kemampuan Berpikir Kreatif Siswa.* Jurnal Internasional Pendididikan SD.

Rajasa, P. G. A. (2020). Hubungan Persepsi Harapan Orang Tua terhadap Pengambilan Jurusan SMA/SMK Siswa Kelas VIII SMPN 1 Balongbendo. *Jurnal*

Bikotetik (Bimbingan dan Konseling: Teori dan Praktik), 4(2), 46-49. https://doi.org/10.26740/bikotetik.v4n2.p46-49

Rohmawati, N. (2019). Kemandirian Siswa dalam Merencanakan Karir Ditinjau dari Persepsi Siswa Tentang Pelaksanaan Layanan Bimbingan Karir. *Indonesian Journal of Guidance and Counseling: Theory and Application*, 8(2), 67-73. https://doi.org/10.15294/ijgc.v8i2.22762

Suryani, E. (2016). Peranan, peluang dan kendala pengembangan agroindustri di Indonesia. In *Forum Penelitian Agro Ekonomi* (Vol. 24, No. 2, pp. 92-106).

Wibowo, N. (2018). An application of mind mapping teaching model to enhance natural science learning achievement in the fifth graders in the first semester at SD N 4 Kaliuntu. *International Journal of Elementary Education*, 1(4), 244-248. https://doi.org/10.23887/ijee.v1i4.12965

Youthmanual. (2018). Perusahaan Rintisan Inkubasi Kemenristekdikti. *Youthmanual* .

Yulianti, E., & Saraswati, S. (2015). Pengaruh Layanan Penguasaan Konten dengan Teknik Mind Mapping Terhadap Kemampuan

.

.

Perencanaan Karir. *Indonesian Journal of Guidance and Counseling: Theory and Application*, 4(2). https://doi.org/10.15294/ijgc.v4i2.7520

Yusuf, A. M. (2016). *Metode penelitian kuantitatif, kualitatif & penelitian gabungan*. Prenada Media.