The Effect of Quantum Learning Model on Learning Outcomes of Massage Course and Character of FOK Undiksha Students

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Abstract. This study aims to analyze (1) differences in learning outcomes of massage courses and characters between groups of students who study with the quantum learning model and groups of students who study with Direct Instruction (DI) learning models, (2) differences in learning outcomes of massage courses between groups. Students who study with the quantum learning model and groups of students who learn with the Direct Instruction (DI) learning model, and (3) the difference in character between the group of students who study with the quantum learning model and the group of students who learn with the Direct Instruction (DI) learning model.

This type of research is a quasi-experimental research (quasi-experimental) with Posttest Only Non-Equivalent Control Group Design. The population of this study were all third semester FOK Undiksha a total population of 91 students. The samples with a total of 64 students selected by simple random sampling technique. The data collected in this study were in the form of learning outcomes for massage and character courses. Data on massage course learning outcomes were collected by means of a massage course study result test and student character was collected by observing students during the learning process.

The results showed that, (1) there were differences in the learning outcomes of massage and character courses between the group of students who studied with the quantum learning model and the group of students who studied with the Direct Instruction learning model (F = 80,935; p < 0.05), (2) there are differences in the learning outcomes of massage courses between groups of students who study with the quantum learning model and groups of students who study with the Direct Instruction learning model (F = 39,256; p < 0.05), and (3) there are differences in character between students who study by using a quantum learning model with students who study with a direct instruction learning model (F = 132,667; p < 0.05).

Keywords: Quantum Learning Model · Massage Course Learning Outcomes · Student Character

1 Introduction

One of the goals of national education that must be achieved by the Indonesian people as stated in the preamble of the 1945 Constitution is to educate the nation's life. Efforts

to educate the nation's life in the sense of improving the quality of Indonesian people. Efforts to educate the nation's life, one of which can be carried out through learning activities. Law number 20 of 2003 concerning the national education system. [17] states that education is a conscious and planned element to create a learning atmosphere and the learning process of students actively develops their potential to have religious spiritual strength, personality, intelligence, noble character for society, nation and state. The development of science and technology accompanied by changes in various social aspects requires the creation of a society that has a high intellectual capacity. This is inseparable from the learning objectives of higher education [3].

The world of education in Indonesia has received a sharp spotlight. Various public spotlight which aspects are aimed at the world of education are related to the tendency of attitudes and behavior shown by many parties. Starting from the spread of cases of crime, corruption, environmental damage to the problem of exemplary [9]. The decline in morals and lack of tolerance are also sharp criticisms for the world of education. In a long period of time, the world of education has had a place in the hearts of the people as a lamp in the dark. This is due to the awareness that education is the most natural human need. No human being can live without education. In its very simple form, every human being gets education from the family environment, then spread to the community or social community. Education is an effort to develop human potentials, both physical potential, creative potential, taste, and intention, so that this potential becomes real and can function in the course of life [11]. The basis of education is a universal human ideal. Education improves the quality of personal and community life. Education lasts a lifetime [19]. Based on these thoughts, even in difficult conditions, parents who continue to strive and strive for their children can achieve a minimum level of education. However, nowadays more and more people who have received education from basic education to higher education, are unable to withstand the pace of personal needs and interests.

1.1 Current Education

Education today is expected to prepare a generation that can quickly answer challenges, be able to solve problems, be critical, creative, and innovative, in accordance with their respective fields. Therefore, onIn today's era of globalization, individuals do not have toonly learns how to access information. Individuals must also be able to organize, analyze, criticize, and build this information into usable knowledge. In the development of science and technology, students are required to be able to dig up information carefully, evaluate, be open, be able to solve problems, and make decisions. This demand can be met if someone has good learning outcomes.

The quality of the process can be seen from the implementation of learning which focuses more on the target achievement of the material in the curriculum while the quality of the product (Riwu, 2018). This can be seen from the mid-semester exam scores, and the final semester exams for FOK Undiksha students, especially in massage courses which are still low.Subject*Massage*is one of the courses at the Faculty of Sport and Health, Ganesha University of Education which requires students to have knowledge, attitudes and skills related to sports massage.Related to learning outcomes in courses*massage,*is still low. This is evidenced by the learning outcomes of the courses*massage,*10% got a C score, 50% got a B-, 20% got a B, and 20% got an A-.Based on the observations

of lecturers who teach massage courses at FOK Undiksha, in general they still use the Direct Instruction learning model*n*.

This can be seen from the steps taken in the learning process, namely explaining concepts related to the subject being discussed along with examples of their application, followed by giving problems. Although occasionally they have carried out learning activities by studying in groups, but they only divided students into groups and then gave assignments to complete something without any guidelines regarding the division of tasks. This learning model is certainly not in accordance with process standards which state that the learning process is carried out interactively, inspiring, fun, challenging, motivating students, to participate actively, and provide sufficient space for initiatives. Creativity and independence according to talent, interests and physical and psychological development of students. This means that learning designed by lecturers must be oriented to student activities.

1.1.1   Live Instruction Learning

Starting from the direct instructional learning process in the classroom, lecturers should always pay attention to students' prior knowledge. Because, students already have natural ideas before they get to college. Most of his knowledge or ideas are still unscientific everyday knowledge. The initial knowledge that students bring into the classroom has a direct and indirect influence on the learning process. [10]. Reveal the direct influence of initial knowledge on the learning process that can facilitate the learning process and direct better learning outcomes. Indirectly, prior knowledge can optimize the clarity of subject matter and increase the efficiency of the use of study and learning time. Besides that, prior knowledge affects students' feelings in assessing the information presented in learning resources. So, in the learning process, prior knowledge has a very important role in constructing student knowledge.

The fact that can be seen now with Direct Instruction (DI) learning has not been able to absorb the material thoroughly, it has not educated the character of students. Therefore we need a quantum learning model with a teaching process that will feel more alive, foster student interest in learning by providing an overview of the benefits, reminding students of the prerequisite materials that have been previously owned, developing materials given guiding questions, demonstrating their learning outcomes, and rewarding their efforts. Performed [7]. By using one of the quantum learning models, students' creativity becomes better and the acquisition of learning outcomes increases [2]. One of the characters is responsibility, namely behavior that is not easy to depend on others in completing tasks.

1.1.1.2. Quantum Model

Quantum Learning Model (Quantum Teaching) is a learning model that applies energy learning (teachers and students) into light (changes in behavior or positive learning outcomes) in order to create a very pleasant atmosphere, not boring, in a humanistic and dynamic learning interaction. 13]. The quantum learning model was developed by Georgi Lozanov with his famous theory, Suggostology. Suggestions are considered to affect the learning situation and can have a positive influence on learning [8]. Quantum as one of the models, strategies and approaches to learning, especially regarding the skills of teachers

in designing, developing and managing learning systems so that teachers are able to create an atmosphere of learning that is effective, exciting and has life skills. Quantum learning as an alternative to learning renewal, provides practical instructions from specifics to create an effective learning environment and how to simplify the learning process so as to facilitate children's learning [1].

Learning is strived to take place in a fun and interesting way so that learning can run well according to the objectives to be achieved. Quantum Teaching (Quantum Teaching) is a learning model that can divide learning elements into two categories such as context and content [12]. The context category relates to several things such as mood, a well-regulated learning environment, basic learning, presentations and facilities, while the content category includes teachers related to the translation of the curriculum, as well as the selection of learning strategies that will be applied to students including presentations, dynamic skills and facilities. The Quantum Teaching model has a design framework known as the abbreviation TANDUR which means: Grow (plants to grow), Experience (experience/ live), Name (name), Demonstration (show), Repeat (repeat) and Celebrate [4]. In Quantum Learning, it is carried out with the principle of all speaking and all aiming, the submission of every effort made, based on experience after which it is named, what is learned should also be celebrated so that it can lead to activity and interest in learning among students in order to achieve the learning objectives that have been set in a simple and simple way. Pleasant. In accordance with the background and theory above, the use of the Quantum learning model in this study can be expected to improve the character and learning achievement of students in massage courses In Quantum Learning, it is carried out with the principle of all speaking and all aiming, the submission of every effort made, based on experience after which it is named, what is learned should also be celebrated so that it can lead to activity and interest in learning among students in order to achieve the learning objectives that have been set in a simple and simple way. Pleasant. In accordance with the background and theory above, the use of the Quantum learning model in this study can be expected to improve the character and learning achievement of students in massage courses In Quantum Learning, it is carried out with the principle of all speaking and all aiming, the submission of every effort made, based on experience after which it is named, what is learned should also be celebrated so that it can lead to activity and interest in learning among students in order to achieve the learning objectives that have been set in a simple and simple way. Pleasant. In accordance with the background and theory above, the use of the Quantum learning model in this study can be expected to improve the character and learning achievement of students in massage courses what is learned should also be celebrated so that it can lead to activity and interest in learning among students in order to achieve the learning objectives that have been set in a simple and fun way. In accordance with the background and theory above, the use of the Quantum learning model in this study can be expected to improve the character and learning achievement of students in massage courses what is learned should also be celebrated so that it can lead to activity and interest in learning among students in order to achieve the learning objectives that have been set in a simple and fun way. In accordance with the background and theory above, the use of the Quantum learning model in this study can be expected to improve the character and learning achievement of students in massage courses.

2   Methods

To achieve this goal, a quasi-experimental study was conducted on third semester students of FOK Undiksha for the 2021/2022 academic year. The experiment used the non-equivalent posttest only control group design [18]. The population of this study were all third semester students of FOK Undiksha which were distributed into 5 classes. With random sampling technique, selected classes B and D are subject to the quantum learning model, classes C and E are subject to the Direct Instruction learning model. The data needed in this study are (1) scores of learning outcomes for massage courses and (2) student character. The first data was collected by means of a multiple-choice massage course learning outcome test consisting of 30 items and the second data was collected by observing during the learning process.

Before testing the hypothesis, the research data must meet the analysis requirements which include the normality test of the data distribution, the homogeneity of variance test, the overall variance-covariance homogeneity test and the collinearity test. The normality test of data distribution used the Kolmogorov-Smirnov and Shapiro-Wilk statistics while the homogeneity of variance test used Levene's statistics, the variance-covariance homogeneity test used Box's test, and the collinearity test used the product moment correlation. Furthermore, the data were analyzed descriptively and using MANOVA. All hypothesis testing was carried out at a significance level of 0.05 and with the help of the SPSS 17.0 for windows program.

3   Result Discussion

The number of population involved in this study was 5 classes. With random sampling technique, selected classes B and D are subject to a quantum learning model, classes C and E are subject to a direct instruction learning model. After the implementation of the two learning models in each group, a recapitulation of the results of descriptive analysis of the value of the massage course learning outcomes and student character based on the learning model is presented in Table 1 and Table 2.

Table 1. Recapitulation of Calculation Results of Student Massage Learning Outcomes

Statistics	A1	A2
mean	73.13	63.13
median	76.00	64.00
Std. Deviation	6.36	6.40
variance	40,50	41.02
ScoreMinimum	56	52
ScoreMaximum	84	76
Range	28	24
Amount	2340	2020

Table 2. Recapitulation of Student Character Value Calculation Results.

Data Statistics	A1	A2
mean	89.38	75.16
median	90.00	75.00
Std. Deviation	4.71	5.16
variance	22.18	26.59
ScoreMinimum	80	65
ScoreMaximum	95	90
Range	15	25
Amount	2860	2405

Information:

A1 = learning outcomesmassage coursesstudents who take MPQ.

A2 = learning outcomesmassage coursesstudents taking MPDI.

Based on Table 1, statistically descriptive, the value of learning outcomes for massage courses for students who study with the quantum learning model is higher than the direct instruction learning model on massage material.

Information:

A1 = student character values who take MPQ.

A2 = character value of students taking MPDI.

Based on Table 2 statistically descriptive character values of students who learn with the quantum learning model are higher than the direct instruction learning model on massage material.

Before the MANOVA test, it is necessary to carry out a requirements test, which includesnormality test of data distribution, the second is the homogeneity test of variance between groups, the third is the collinearity test, and the fourth is the homogeneity test of the variance-covariance matrix. The results of these requirements tests are presented in Tables 3, 4, 5 and 6, respectively.

Based on Table 3, it is known that for massage learning outcomes data, all the significance levels are above 0.05 so that massage learning outcomes data are normally distributed data. Likewise for student character data, both onKolmogorov-Smirnov and Shapiro-Wilk have a significance above 0.05 so that the student character data is data that comes from a normal distribution.

Table 3. Summary of the Normality Test of Massage Learning Outcomes and Student Character

		Kolmogrov-smirnov			Shapiro-wilk		
	MP	statistics	df	sig	statistics	df	sig
HB Massage	Quantum MP	0.146	32	0.083	0.943	32	0.092
	MPDI	0.132	32	0.171	0.941	32	0.082
Character	Quantum MP	0.149	32	0.069	0.960	32	0.269
MPDI		0.102	32	0.200	0.969	32	0.471

Table 4. Summary of Homogeneity Test Results Variants of Massage Learning Outcomes and Student Characters

		Levene Statistics	df1	df2	Sig.
HB MASSAGE	Based on Mean	0.164	1	62	0.687
	Based on Median	0.051	1	62	0.822
	Based on Median and with adjusted df	0.051	1	61.141	0.822
	Based on trimmed mean	0.144	1	62	0.706
CHARACTER	Based on Mean	0.144	1	62	0.706
	Based on Median	0.000	1	62	0.990
	Based on Median and with adjusted df	0.033	1	62	0.856
	Based on trimmed mean	0.033	1	61,084	0.856
		0.002	1	62	0.963

References

1. Artawan, K., & Ardiawan, IK (2018). Quantum teaching learning based on tri Kaya parisudha. Edudikara: Journal of Education and Learning, 3(2), 201–212. https://doi.org/10.32585/edudikara.v3i2.100.
2. Artini, 2021 Application of Quantum Learning Model to Improve Pkn's Learning Achievement. Indonesian Journal of Educational Development Volume 2 Number 2, August 2021 DOI: https://doi.org/10.5281/zenodo.5256666
3. Eka Suadnyana, 2020. 21st Century Learning and Development of Hindu Philosophy Study Programs at Stahn Mpu Kuturan Singaraja, Journal of Quality Assurance. Vol 1, No 2 http://stahnmpukuturan.ac.id/jurnal/index.php/jurnalmutu/issue/view/77.
4. [4] Deslauries, L. (2011). Learning and retention quantum. Physisc Education research, 6(1), 554-568. https://doi.org/https://doi.org/10.1103/PhysRevSTPER.7.010101

5. DePorter, B., Reardon, M., & Nourie, SS 2001. Quantum Teaching: Practicing Quantum Learning in Classrooms. Bandung: Kaifa.
6. DePorter, B. 2008. Accelerated learning. http: // www. newhorizons.org/strategies/accelerated/deporter. htm, accessed 15 August 2013.
7. Hendriani 2011. Application of Quantum Learning Methods to Improve Student Learning Outcomes. https://ejournal.upi.edu/index.php/JAPSPs/issue/view/724.
8. Hartono, H. & Saputro, M. (2018). Formation of self-confidence of mathematics education students through the application of supercamp. Majamath: Journal of Mathematics and Mathematics Education, 1(1), 43–56. https://doi.org/10.36815/majamath.v1i1.60
9. Still, MW et al. 2014. The Effect of Quantum Teaching on Biology Learning Outcomes and Characters of Junior High School Students. e-Journal of Graduate Program, Ganesha University of Education, Science Study Program (Volume 4 of 2014). https://ejournal-pasca.undiksha.ac.id/index.php/jurnal_ipa/article/view/1067/815
10. [10] Nur, M., 2000. Learning Strategies. Surabaya: State University of Surabaya, University Press.
11. Pasaribu, Asbin. 2017. Implementation of School-Based Management in Achieving National Education Goals in Madrasahs. Eduteck Journal of Educational Science, http://jurnal.umsu.ac.id/index.php/edutech/article/view/984.https://doi.org/10.30596/2Fedutech.v3i1.984.
12. [12] Rachmawati, R. (2012). The implementation quantum teaching method of graduate through up-grade hard skills and soft skills. Procedia-Social and Behavior Sciences, 57(2), 477-487.
13. Rizka, NR & Pratama, FA (2018). The application of the quantum teaching learning model through the tandur strategy to improve students' cognitive competence. Journal of Education (Economics, Education and Accounting, 6(1), 183–192.https://doi.org/10.25157/je.v6i1.1681
14. Riwu, 2018. Application of the SETS Approach (Science, Environment, Technology, and Society) to Improve Student Biology Learning Outcomes.https://ojs.mahadewa.ac.id/index.php/emasains/issue/view/14.
15. Rose, C. & Nichall, MJ 1997. Accelerated Learning For The 21s Century. Bandung: Shades.
16. Santyasa, I W. 2001. Packaging of Quantum Teaching-Oriented Learning (Theoretical and Philosophical Overview of Context). Paper. Presented in a One Day Seminar of the Department of Physics Education, FPMIPA IKIP Singaraja State on Saturday, May 19, 2001.
17. Sanjaya, W. 2007. Standard-oriented learning strategies of the educational process. Jakarta: Kencana Prenada Media Group. [14] Riwu, 2018. Application of the SETS Approach (Science, Environment, Technology, and Society) to Improve Student Biology Learning Outcomes. https://ojs.mahadewa.ac.id/index.php/emasains/issue/view/14.
18. Sugiyono, 2011. Educational Research Methods. Alphabet. Bandung.
19. [19] Tambunan, J & Tambunan, OL 2022. The effect of the quantum teaching learning model in learning on student character formation in the era of online learning at SMP Negeri 1 Meranti. Journal of Suluh Pendidikan (JSP). (10)1. 13-21