

INTEGRATING QUANTUM LEARNING TO IMPROVE STUDENTS' LINGUISTIC COMPETENCE

Nengah Dwi Handayani¹, Ida Ayu Made Sri Widiastuti²

¹Universitas Mahasaraswati Denpasar, Jalan Kamboja 11A, Denpasar, Bali, Indonesia. E-mail. ndwihandayani@gmail.com

²Universitas Mahasaraswati Denpasar, Jalan Kamboja 11A, Denpasar, Bali, Indonesia. E-mail. idaayuwidia@unmas.ac.id

ABSTRACT

Quantum Learning is a trend of meaningful learning that allows the creation of a fun learning atmosphere. Motivation and students' engagement become a prime attraction for successful teaching and learning practices. Happiness in learning provides a positive impact on students' peacefulness and builds up students' creativity. The present study was conducted to attempt at improving linguistic competence through implementing quantum learning to EFL students triggered by the fact that the students have poor ability in linguistic competence. The results of the analysis of the questionnaire clearly showed that the students' attitudes and motivation in learning linguistic competence through quantum learning were improved significantly. This study implies that quantum learning is an effective teaching model to improve the students' linguistic competence. Therefore, the use of quantum learning should be carefully considered as an effort to optimally maximize students' engagement in language learning.

Keywords: Integrating, Improving, Quantum Learning, linguistic competence

INTRODUCTION

Linguistic competence is very closely related to the use of language to convey expressions and interpretations of concepts, thoughts, feelings, facts, and opinions for oral and written discussions. All of these interactions can occur in diverse social and cultural contexts, which will determine the characteristics of written or spoken languages, such as grammatical, pragmatic, and sociolinguistic characteristics. In principle, linguistic competence is closely related to communication competence (Brown, 2004; Nguyen, 2016). Therefore linguistic competencies related to the use of adequate language include: (1) the use of adequate written language and structuring of content; (2) reading and writing scientific documents in the native language of the reader; and (3) reading, writing, and translating into other languages that are commonly used in communication (Bilgisi, 2017).

Linguistic competence involves a set of skills, knowledge, and attitudes that are interrelated and supported with each other to make successful communication that may be destined for various communities that will be able to understand communicating knowledge and even using it, provided they have been realized correctly from a linguistic point of view (Bilgisi, 2017). This research focuses on increasing linguistic competence which includes grammatical competence, sociolinguistic competence, discourse competence, and strategic competence. These

competencies are developed in the learning process in a continuous learning cycle divided into two cycles. Each cycle will consist of two learning sessions. Moreover, teachers should also conduct a progressive assessment to promote students learning achievement (Widiastuti, 2018).

Grammatical competence is the domain of grammatical and lexical capacity. It includes the rules of sound, grammar, sentence structure, vocabulary, and semantics. A person is considered to have grammatical competence if he masters the rules of pronunciation and spelling, the rules of the form of words, the rules of standard sentences, the rules of vocabulary, and the rules of meaning. Sociolinguistic competence refers to understanding the social context in which communication occurs, including role relationships, the information conveyed to participants, and the communicative goals of their interactions. Someone who mastered that competence means that they can understand and use language in various contexts and situations. Discourse competence refers to the interpretation of individual message elements in the meaning of the relationship between the speaker and how the meaning is represented concerning the whole discourse or text (Mantra, Kumara, 2018). This ability implies the existence of skills in using cohesive and coherent discourse; in the sense of the use of solid and intact forming elements of discourse, including the use of cohesion and coherence tools. Strategic competence refers to the mastery of communication strategies, including how to start, stop, maintain, improve, and redirect communication (Brown, 2004; Dhanya, Alamelu, 2019).

One of the most appropriate learning methods that is considered to be effective to enhance students' linguistic competence is quantum learning. According to several studies indicated that quantum learning is very successful in improving various language skill and other students' ability. This is one of the reasons why this particular learning method is implemented as an effort to improve students' linguistic competence. Quantum learning is a learning strategy that can sharpen understanding and memory, and make learning a fun and useful process (Adityarini, Waluyo, & Aprilya, 2012). Some of the techniques put forward are techniques for increasing self-abilities that are already popular and commonly used. However, some techniques can be developed that ultimately aim to help students be responsive and passionate in facing challenges and changing realities.

Quantum Learning is a lively composition of learning, with all its nuances, and focuses on dynamic nuances in the classroom interaction environment that establishes a foundation and framework for learning and also includes specific instructions for creating an effective learning environment, designing curriculum, delivering content, and facilitating the learning process (Tirtawati, Adnyana, & Widiyanti, 2014). Some important things to note in quantum learning are as follows. Students are recognized about the power of the mind that is infinite. It was stressed that the human brain has the same potential. In addition, it is explained about physical and scientific evidence that describes how the brain processes work. quantum learning creates the concept of motivation, steps to foster interest, and active learning (Fauzi, & Muchlis, 2013; Maba, & Mantra, 2018). Quantum learning enables students to make a simulation of active learning concepts with a description of activities such as: learn anything from every situation, use what you learn to your benefit, make sure everything is done, rely on life.

Quantum learning conceptualizes organizing the stage of the right learning environment. The structuring of the environment is aimed at building and maintaining a positive attitude. A positive attitude is an important asset for learning (Zeptiana, (2015). Quantum students are conditioned into an optimal learning environment both physically and mentally. By managing

the learning environment in such a way, students are expected to get an effective first step to regulate the learning experience (Sariah, Rasyid, Herlina, 2018). The structuring of the learning environment is divided into two namely: the microenvironment and the macro environment. The microenvironment is where students do the learning process. Quantum learning emphasizes the arrangement of light, music, and space design because all of that is considered to influence students in receiving, absorbing, and processing information. This seems to be the power of originality quantum learning. The aim of structuring is to create an atmosphere that creates comfort and a sense of relaxation. Relaxed circumstances encourage students to be able to concentrate very well and be able to learn very easily. Tension prevents blood flow and brain processing and ultimately student concentration (Mahendra, Suara, & Wiyasa, 2014).

In respect to the benefit of quantum learning, as described above, the learning model is certainly useful to be implemented in the English language classroom as being observed that the teaching of English is a very challenging task for the teacher. One of the most difficult to teach is linguistic competence. Linguistic competence is very important for students. Considering the importance of linguistic competence, therefore it needs to continually be improved in order that the students attain high competency in linguistic competence. To improve the students' linguistic competence, the teacher needs to use appropriate teaching methods. One of the most appropriate teaching methods nowadays is quantum learning. In quantum Learning, the students can develop their communication skills by understanding the others' opinions or ideas, making comments and asking questions to one another about the material given.

Quantum Learning is a powerful and engaging teaching and learning methodology that integrates best educational practices into a unified whole. This synergistic approach to the learning process covers both theory and practice. It has been proven to increase academic achievement and improve students' attitudes toward the learning process. The integrated, comprehensive programs turn abstract theory into a practical application that can be used immediately in the classroom (Mahendra, Suara, & Wiyasa, 2014). Quantum learning which is also called accelerated Learning is a systematic approach to teaching the whole person, containing the specific core elements that, when used together, empower students to learn faster, more effectively and joyfully. In quantum learning classrooms, teachers and students gain the skills and motivation to create an academically successful school community (Tirtawati, Adnyana, & Widiyanti, 2014).

The field of learning material that can be developed in quantum learning are various in their forms, such as a topic or an issue about politics, movies, music, novel, culture, etc. In this method, the students are divided into groups then they will work in group activities. They can share and deliver their ideas, comments, etc about something in their groups. In that case, by doing this activity it is hoped that their linguistic competence automatically will be increased. Furthermore, the teacher can give many more chances to the students to develop and to deepen their insight about something by linguistic competence it as well as to learn how to appreciate others' opinions or ideas. Through understanding the importance of linguistic competence and the powerful essence of the quantum learning method, therefore, the researcher was strongly motivated to improve the students' linguistic competence skills through quantum learning.

METHODS

To accomplish this research study, the researcher used Classroom Action Research (CAR) design. This design was chosen due to the fact that CAR was used concerning the improvement of linguistic competence by applying the quantum learning method in teaching by using two kinds of tests, they were, initial reflection or pre-test and reflection or post-test (Maba, Perdata, & Putra, 2018). Hence, the initial reflection or pre-test (IR) was intended to evaluate the pre-existing linguistic competence of the students, while reflection or post-test (R) was meant to reveal the expected increase in the students' linguistic competence after the subjects have been taught linguistic competence through quantum learning.

In this present study, the teaching-learning processes were divided into two cycles in which each cycle consisted of four interconnected sessions. Each session consisted of four systematic activities, namely: Planning (P), action (A), Observation (O), and Reflection (R). It was compulsory to note that IR (Initial Reflection) was a term usually used in classroom action research which referred to pre-test in linguistic competence.

Basically, this study was held to find out the effectiveness of teaching linguistic competence through quantum learning. The degree of the effectiveness of the method implemented through quantum learning in improving linguistic competence was figured out by comparing the mean score gained by the students with their corresponding mean scores of the reflections or post-test of both first cycle and second cycle. The most required data to answer the research question under study was gathered through administering pre-test and post-test, some supporting data were collected through administering a questionnaire to the subjects under study. Therefore, there were three kinds of raw scores obtained for the present class action study, they were, (1) scores showing the subjects' pre-existing linguistic competence, (2) scores showing the subjects' progress achievement in linguistic competence, (3) scores showing the subjects' changing learning behaviors

FINDINGS AND DISCUSSION

Findings

Quantum Learning is a learning model that creates an effective learning environment, by using elements that exist in students and their learning environment through interactions that occur in the classroom (Adityarini, Waluyo, & Aprilya, (2012). The most valuable asset in the learning process according to Quantum Learning is a positive attitude. If individuals have high expectations for themselves, high self-esteem, and confidence, they will succeed, and then they will get high achievements (Fauzi, & Muchlis, 2013; Kyky, 2015). The way each student sees a problem is an important thing in learning, usually, failure will make a student feels stupid, sad, and stops making an effort to achieve the goals. Actually, behind a failure, there is information needed to achieve success. To emphasize a positive attitude in each individual, we need feedback from us, that everything that works then always has a small failure in learning.

The data analysis led to the establishment of the finding of present class action study which investigated the effectiveness of the quantum learning method in improving the linguistic competence of the students under study. The mean of initial reflection or pre-test scores obtained by the students in linguistic competence pointed out the mean figure of 4.00. This mean figure clearly showed that the pre-existing linguistic competence of the students was low. The result of the data analysis of the reflection scores in the first cycle showed the increasing mean figures of 5.10, 5.60, 5.90 and 6.40. The mean figures obtained by the students of each session in the first

cycle were clearly much higher than the mean figure of the initial reflection score. The grand mean figure of the reflection or post-test scores obtained by subjects under study was much higher than the mean figure of the initial reflection score. The resulted grand mean figure for the first cycle was 5.80. This grand mean figure convincing discovered much higher than the mean figure of the initial reflection scores. This grand mean figure convincing by revealing that the teaching linguistic competence to the students through the quantum learning method significantly improved.

The results of the data analysis of the reflection or post-test score obtained by the students in the second cycle turned out to show the progressing mean figures of 6.80, 7.10, 7.40 and 7.90. Compared with the mean figure of initial reflection scores, the mean figure obtained by the students for each session was convincingly much higher than the initial reflection mean figure. The grand mean figure of the reflection or post-test score obtained by the subjects in the second cycle was 7.30. There was the difference mean figure of 1.50 between the first cycle and the second cycle. This significant difference mean figure suggested that the teaching of linguistic competence in the second cycle through quantum learning could be remarked to be more effective than the first cycle. This was due to the fact that the second cycle was a revised version of the first cycle, in that the teaching scenarios in the second cycle were accordingly revised by taking into account the weaknesses found out in the first cycle.

The results of the analysis of the questionnaire items showed the comparative percentages of 59.30 %, 29.75 %, 10.95 % and 0 % for items A, B, C, and D respectively. The results of the comparative percentage figures obtained for the present class study proved that the subjects' learning behavior changed positively, that was their attitude and motivation heightened significantly.

The findings of this study were believed to have rather limited validity as well as reliability. This was due to the fact that during the undertaking of this study, there were some compounding variables which were not simply controlled. Therefore these research findings were applicable only to the subjects under study. In summary, the findings that the researcher presented above showed that the quantum learning method was considered to be effective enough in improving the linguistic competence skill of the students

. This study revealed that quantum learning is learning a festive learning process, with all its nuances. Quantum learning allows all connection, interaction, and differences that maximize learning activities. Quantum learning mainly focuses on the active dynamic interaction within the classroom environment, interactions, establishing. The main principle of Quantum Learning is bringing the students' world into learning activities, therefore the learning process becomes really authentic and realistic. This condition enables students to learn more easily and happily. Observing how the learning process conducted in English learning environment, this study also found that there are at least five basic principles of Quantum Learning have to be considered by the teachers: (1) teachers should know everything to be learned by the students, (2) teachers should really know the objective of learning, (3) teachers should know what learning experiences must be carried out in learning process, (4) teachers should correctly and sufficiently acknowledge every effort undertaken in learning, (5) teachers should provide a celebration for students' success.

Based on the data analysis and the classroom observation, it can be set out some advantages of quantum learning as follows: (1) Quantum learning stem from cognitive psychology, (2)

Quantum learning focused on quality and meaningful democratic interaction, (3) Quantum Learning accelerated learning to attain higher level of learning achievement. (4) Quantum Learning focuses on the mastery of academic skills and social skills, (5) Quantum learning place perceptions, values and beliefs as an important part of the learning process, (6) Quantum Learning enables students' learn independently, (h) quantum learning incorporate wholly students' body and mind in all learning activities.

CONCLUSION

The present class action study dealt with improving linguistic competence of the students understudy preceded through quantum learning in the form of classroom action study which consisted of two teaching cycles, where each cycle consisted of four successive sessions. The administration of the initial reflection to the students clearly showed that the students had low linguistic competence before they had been taught by using quantum learning method.

The result of data analysis of the reflection of the first cycle and second cycle showed that mean figures progressed and increased significantly. This indicated that quantum learning was an effective method for teaching linguistic competence. In addition, the result of the analysis of the questionnaire scores vividly showed the increasing percentage figure. These findings substantially proved that the attitudes and the learning motivation of the subjects under study changed and increased positively. The findings of the present action study convincingly proved and showed that the problems on linguistic faced by the students could be satisfactorily overcome through the implementation of quantum learning.

ACKNOWLEDGEMENT

The authors would like to thank the editor of IJOLIDA for their valuable time, support and advice in completing the current study.

REFERENCES

- Adityarini, Y., Waluyo, J., & Aprilya, S. (2012). *Penerapan Model Pembelajaran Quantum Learning Dengan Media Flashcard untuk Meningkatkan Motivasi dan Hasil Belajar Siswa Kelas X di SMA Negeri 1 Purwoharjo- Banyuwangi Tahun Pelajaran 2011/2012 (Pada Pokok Bahasan Animalia)*. Pancaran, 2(2), 189–199.
- Bilgisi, M. (2017)*. Types Of Competence In Linguistics: A Review of Processes and Their Implications In Human Perception And Action. *DTCF Dergisi* 57(1): 157-170. DOI: 10.1501/Dtcfder_0000001508
- Brown, H. D (2004). *Language Assessment Principles and Classroom Practices*. New York Pearson Education Inc.
- Dhanya, M., Alamelu, C. (2019). *Factors Influencing the Acquisition of Writing Skills*.

International Journal of Innovative Technology and Exploring Engineering (IJITEE),
Vol 8 (7C2): 259-263

- Fauzi, A., & Muchlis. (2013). Implementasi Model Pembelajaran Kuantum pada Materi Reaksi Reduksi-Oksidasi untuk Meningkatkan Aktivitas Belajar Siswa Kelas X. *Unesa Journal of Chemical Education*, 2(2), 81–87.
- Zeptiana, K. (2015). Aktivitas Penerapan Model Quantum Learning Dengan Pendekatan Peta Pikiran Terhadap Hasil Belajar. *JPG (Jurnal Penelitian Geografi)*, 3(4), 1–9.
- Maba, W., Perdata, I. B. K., & Putra, I. G. N. N. (2018). Classroom Action Research Practices of State High School Teachers in Bali Province. *International Research Journal of Management, IT and Social Sciences*, 5(5), 54-60.
- Maba, W., & Mantra, I. B. N. (2018). The Primary School Teachers' Competence in Implementing the 2013 Curriculum. In SHS Web of Conferences (Vol. 42, p. 00035). EDP Sciences.
- Mahendra, I. K. A., Suara, I. M., & Wiyasa, I. K. N. (2014). Pengaruh Model Pembelajaran Quantum Teaching Berbasis Experiential Learning Terhadap Hasil Belajar IPS Siswa Kelas V SDN 13 Pemecutan Tahun 2013/2014. *MIMBAR PGSD Undiksha*, 2(1).
- Mantra, IBN ., Kumara, DGAG. (2018). Folktales As Meaningful Cultural And Linguistic Resources To Improve Students' Reading Skills. *Lingua Scientia*, Vol. 25 (2), 82-87
- Nguyen, H. T. (2016). Peer Feedback Practice in EFL Tertiary Writing Classes. *English Language Teaching*, 9(6).<http://dx.doi.org/10.5539/elt.v9n6p76>
- Sariah, Rasyid, Y., Herlina. (2018). 112101 Improving Writing Skills of Recount Text through Quantum Learning Model with Concept Map Technique. *Journal of English Language Studies Vol.3(1)*: 101-112.
- Tirtawati, N. L. R., Adnyana, P. B., & Widiyanti, N. L. P. M. (2014). Pengaruh Pembelajaran Kuantum (Quantum Learning) Dan Peta Pikiran (Mind Mapping) Terhadap Keterampilan Berpikir Kreatif dan Hasil Belajar Biologi Siswa SMA. *Jurnal Pendidikan Dan Pembelajaran IPA Indonesia*, 4(1).
- Widiastuti, I.A.M.S. (2018). EFL Teachers' Beliefs and Practices of Formative Assessment to Promote Active Learning. *The ASIAN EFL Journal*. Vol. 20 (5): 96-112.
- Widiastuti, I.A.M.S. (2017). Teachers' Understanding of Formative Assessment. *Jurnal Bahasa dan Seni*. Vol 45(1).