D. AUSUBEL'S APPLICATION OF THE THEORY OF MEANINGFUL LEARNING

[1]KOSANAH AWAE, [2]MALI PRADITSANG, [3]JANJIRA WONGPRAPAIROT, [4]KRIANGSAK RATTAKUL

[1,2]Faculty of Education, Counseling Psychology and Guidance Department, Songkhla Rajabhat University
E-mail: [1]644194006@Parichat.skru.ac.th, [2]mali.pr@skru.ac.th,[3]Janjira.wo@skru.ac.th,[4]kriangsak.ra@skru.ac.th

Abstract - This academic article aims to disseminate knowledge, study, and application of Ausubel's Theory of Meaningful Learning. He believed that learning can happen when learners have basic knowledge that can be linked to new knowledge. Through this, learners can create relationships between existing knowledge and new knowledge as they learn. This knowledge can be acquired through study, skill training, or research. Ausubel has divided learning into four categories: meaningful learning, memorized reception, meaningful discovery, and memorized discovery. When teaching new things and new knowledge, instructors should think critically about connections. Proper organization and presentation will lead to better learning.

Keywords - Ausubel's Theory of Meaningful Learning, Meaningful Learning, concept mapping, Collective Thinking, Advance Organization Teaching

I. INTRODUCTION

Today, more and more people are interested in studying and paying attention to psychology. The concepts and theories of psychologists can be applied in numerous settings, whether in a family, a place of work, or an educational institution. The application of psychological theories, principles, concepts, and knowledge is helpful in various science fields. In the context of education, the concepts of David Paul Ausubel emphasize the importance of "meaningful learning."Ausubel's theory of meaningful verbal learning emphasizes the importance of structure and connecting new information to the known. Ausubel identified reception learning using expository teaching as the most effective method to use in helping students construct new knowledge. The structure of what is to be learned is clearly evident, and students can see how new knowledge connects to what they already know. The teacher's job then is to use expository teaching (below) to present this new information to enable learners to see the structure and make these connections (Ausubel, Novak, & Hanesian, 1978).

Ausubel's theory focuses on meaningful learning. According to his theory, individuals must relate new knowledge to relevant concepts they already know to learn meaningfully, and new knowledge must interact with the learner's knowledge structure. Meaningful learning can be contrasted with rote learning, and he believed in the idea of meaningful learning instead of rote memorization. Rote learning can also incorporate new information into the pre-existing knowledge structures without interaction. Rote memory is used to recall sequences of objects, such as phone numbers. However, it is useless in understanding relationships between objects (FPMIPA, n.d.)

II. LITERATURE REVIEW

Sirilak Kaewsomboon (2000) defined meaningful learning as learning where learners can relate the relationship between new knowledge and old knowledge in their knowledge structure. Later, it was developed as a preconceived structure for reading and understanding from textbooks, and more than 20 different diagrams were formed.

Chinorot Thinwilaisakul.(2012) said that A Theory of Meaningful Verbal Learning by David p. Ausubel is an intellectual psychologist. Ausubel states in the theory that learning is always meaningful to the learner. If learning can be connected to something that was previously perceived. The principle of teaching and learning management of this theory is that the concept, conceptual framework orconceptual framework on a particular subject is presented to the learners before starting to teach that content. It will help students learn the content in a meaningful way. Ausubel divided learning into four categories:

1. Meaningful Reception Learning
2. Learning by receiving memorization without thinking or like a parrot (Rote Reception Learning)
3. Meaningful Discovery Learning
4. Learning by rote discovery learning without thinking or like a parrot (Rote Discovery Learning)

Learning by receiving meaningfully (Meaningful Reception Learning)

It is said that meaningful learning depends on three variables.

1. Materials to be learned must be meaningful, meaning they must be related to what was learned and stored in the cognitive structure.
2. Learners must have experience and have the idea to link or regroup what they learn. Correlate with old knowledge or learning.
3. Learners' intentions and knowledgeable learners think to connect newly learned things. The relationship with the cognitive structure that is already in the memory.

Ausubel divides learning into three categories:

1. Subordinate learning is a meaningful learning method. Subsumption connects what needs to be learned with principles or rules that have been learned by obtaining additional information, such as when told, and then being able to be meaningfully absorbed into existing intellectual structures without the need for memorization. Correlative subsumption is meaningful learning formed by expanding or restructuring a pre-existing intellectual structure to associate with something to be reinstated.
2. Superordinate learning is inference learning by grouping newly learned things into a broad collective mindset and covering the top ideas of what to relearn.
3. Combinatorial learning is principled learning. Mixed rules of mathematics or science by reason or observation

Ausubel suggests advanced organization, allowing learners to learn meaningfully from teacher teaching or lectures. By creating a connection between pre-existing knowledge and new information or new collective ideas, students learn meaningfully and do not need to memorize.

The technical has several general principles. These include:

1. Arranging information you want to learn into categories.
2. Presenting a broad framework of principles before learning new things or divide lessons into essential topics and tell them about important topics that are new ideas to learn. Learn to listen with understanding. The learner sees a relationship between the structure and the wisdom thathas been stored in memory and will be able to use it in the future. At this stage, instructors should insert the ideal activity techniques in addition to explaining, such as using games, guessing problems, asking students questions, demonstrating, and scenario displays.

Ausubel considers advanced organization very important because it helps learners learn meaningfully from teacher teaching or lectures. The general principle applied is arrangement, composition, and composition of the information into categories. A teacher presents a broad framework and principles before learning new things, and the lesson is divided into essential topics. Instructors should use advanced organization techniques to help learners learn meaningful receiving types and meaningful discovery.

III. BENEFITS OF USING THE THEORY

APPLICATION OF THEORY

Niibnuravee Büraheng (2015) Büraheng applied the theory to guide the design of activities for problem solving. Khun Luk studied students' social skills in sacrifice, benevolence, kindness, and humanity by inserting teaching activities into an integrated learning management plan with inverted classroom teaching.The social skills education and achievements of the history of first-grade students by designing learning activities for each learner to study the knowledge sheets handed out by the instructor in advance and studying additional material from learning sources such as libraries, the Internet, Islamic history textbooks, and community sages using the inverted classroom teaching style, including:

1. Experiential engagement, with instructors guiding learners to learn content based on various strategies, including the use of custom-made tasks. Games, jalong scenarios, interactive media, experiments, or artworks.
2. Searching for concept exploration by the instructor to guide learners from various types of media or activities such as video media recordings, lectures, etc. Use Podcasts-type recording media, use websites, or chats via online media.
3. Meaning-making by the learner is an integrator to build knowledge skills from the media obtained through self-learning by creating blogs, tests, social media, and discussion boards.
4. Demonstration and Application is a creative creation of knowledge by the learner himself.By creating projects, having students discuss them in subgroups and summarize mind mapping into a writing paper, and having group representatives present learning in this way, all learners will be engaged. More importantly, the instructors have the learner bring the idea chart together to summarize the lessons in each of the 122 hours of learning management, allowing a learner to connect the relationships of that knowledge. A

learner learns meaningfully through activities that focus on the ability of individual learners to study independently of learning sources.

Duangkhae Rakthai, Nittaya Chimprasop and Kwanta Boonwat (2016, online). They applied the theory in studying the achievements of Second Year Nursing Students in Borommaratchachonnani College of Nursing by creating a meaningful learning management plan. There were six learning management plans, each with the same five learning steps:

1. Instructors presented a framework of theory and concepts/ethical principles in the nursing profession for an explanation.
2. The instructor presents an example to a learner. Questions and answers on critical issues contribute to the reasoning, ethical validity of theories and concepts/ethical principles, and ethics in the nursing profession.
3. Learners analyze and summarize the ethical accuracy obtained through observations. theoretical reasoning and ethical concepts/principles in the nursing profession
4. Participants jointly summarize the general implications of the activities of theories and concepts/ethical principles. Ethics in the nursing profession, as observed.
5. The instructor offers examples of activities in using additional nursing practices for learners to practice the implementation of activities.

The findings showed that before the learning management, the sample had an average score of 15.61, a standard deviation of 2.19, and after learning management, the sample had an average score of 17.30 and a standard deviation of 2.98. The achievement of the sample after meaningful learning management was higher and significant at .05, This showed that meaningful learning management helped the sample understand theories and concepts/ethical principles.

Monchai Charoennitikul (2015) applied the theory to develop a durable understanding of fifth graders of daily economics using a broad presentation model in advance. The model consists of three steps. First, teachers show a broad flow chart of the subject to students to see the subject's relationship while asking questions to motivate students to feel interested in studying and examine their original knowledge. Second, teachers organize learning activities with new content using graphical maps to encourage students to learn more about the relationship between new content. Third, students summarize the essence and approach to applying knowledge in everyday life. Students review the knowledge they have learned, assess the specifics of the learned subject, analyze the pros and cons of some content or compare the differences. Students were evaluated via pre and post-treatment tests using 30 four-choice multiple-choice questions. They observed students' durable comprehension behavior, self-assessment of students in self-awareness, and surveyed 5th graders' opinions on learning management.The results found that student knowledge was significantly higher after the treatment. The pre-test average was 12.50, and the post-treatment score was 22.17 of 30. The 5th graders liked the teaching method, with an average of 4.28 from 5 points.

Thidarat Saksacharit and Ubonsilp Phoprom (2014) They applied the theory to the study the Cippa learning management in conjunction with graphic charting techniques on academic achievement, critical thinking ability, and satisfaction with the science subjects of second graders. The Cippa Model is a form of learning management that emphasizes seeking knowledge for themselves as a synergy. Concepts include 1) knowledge creation concepts, 2) collaborative learning concepts, 3) ideas on learning readiness, 4) concepts about learning process skills, and 5) learning transfer concepts.

The Cippa learning management process has seven stages:

1. Reviewing existing knowledge
2. Seeking new knowledge.
3. Connecting new knowledge with existing knowledge
4. Cognitive exchange with a group
5. Summary and organization of knowledge
6. Practice and/or display
7. Application of knowledge and learning management using graphic charts allows learners to learn by linking new knowledge and experiences to the original knowledge and experiences that contribute to systematic thinking and meaningful learning instead of rote learning.

   Data show that the Cippa Learning Management Plan used with graphical planning techniques improved academic achievement and critical thinking capabilities at the .05 level.

Sutinan Sutthipoch (2015) applied the theory when comparing 5th graders taught mathematics by a discovery-based approach to game-based teaching with those taught by teacher manual instruction. The study used trial and control groups using attitude questionnaires and academic achievement tests. Students taught via game-based instruction had better scores than those taught by manual-based instruction. The difference between groups was statistically significantly at .05,

Rasol Abdullah Mirzaie, Javad Abbas Tehran, Iran, Javad Hatami (2008) They studied conceptual maps and the use of meaningful learning spaces in Bloom's Taxonomy for Atomic Structural Concepts. Apply a concept map to a trial group Teachers use schematics to teach content on the same basis and have learners present lessons by selecting several ideas from the lessons learned while drawing a concept map. Research has shown that the skills of experimental groups of students in concept mapping have increased significantly.

Waid Murnee (2018) Murnee applied the theory to study learning motivation for students of class V SDN Bersama 3 Malang. There was a difference between the trial class and the control class, where themeaningful learning outcomes were a new linking process to the relevant concepts contained in the person's cognitive structure.This study examines the influence of teaching planning based on the assumptions of meaningful learning from the principles of Novak's theory of education using maps, concepts, and other teaching resources. Students map ideas before and after the intervention. An improvement occurred in the quality of concept maps and understanding of concepts related to the Olympics, organized under Novak's educational theory principles. New teaching and learning tools should be part of physical education classes. For meaningful learning to occur, three conditions are needed: previous structures and knowledge involved, important teaching materials, and the desire of students to learn meaningfully. Existing concepts become different, more stable, and hierarchically organized, given the new meaning.

Luciana de Lima, Edgar Marçal de Barros Filho, Júlio Wilson Ribeiro, Rossana Maria deCastro Andrade, Windson Viana, Antonio José Melo Leite Júnio (2011, online) They applied the theory to the development and use of an m-learning application. They explored the requirements for developing m-learning applications in mathematics. The study presents three m-learning applications and explains solutions found during their development. They set out a proposal to use m-learning software in mathematics based on the principles of meaningful learning theory and make recommendations for future works.

IV. CONCLUSION

Ausubel defines learning as meaning (Mearningful learning) as learning that the learner receives from the teacher. Explain what needs to be learned and learners listen with understanding. The students saw the relationship of what they learned with the cognitive structures stored in their memory. and can be used in the future Teaching for the theory uses Advance Organizer teaching techniques, which is a way to bridge the gap between the knowledge that the learners already know. (Old knowledge) with new knowledge gained necessary Learn so that learners can understand new content better and remember better. with the following steps

- Organizing, arranging, and compiling information that needs to be learned into categories
- Present a broad framework before learning new things
- Divide the lesson into important topics. And tell them about important topics that are new concepts to learn.

Advance Organizer is very important. It helps learners to learn both meaningful receiving and meaningful discovery.

ACKNOWLEDGMENTS

This academic article was accomplished with great assistance from many parties.

Thank you to Dr. Mali Praditsang and Prof.Dr. Tim Walters for giving adviceand make this article a success.

We would like to thank Dr.Kriangsak Rattakul and Miss.Janjira Wongprapairot for their knowledge and advice on how to write academic articles.

REFERENCES

[1] Ausubel, D., Novak, J., & Hanesian, H. (1978). Educational psychology: A cognitive view (2nd ed.). Holt, Rinehart & Winston.FPMIPA. (N.D.). Learningtheories. https://www.academia.edu/35932647/LEARNING_THEORIES_Ausubels_Learning_Theory.

[2] Chinorot Thinwilaisakul (2012). The Effects of Advertising onYouth Learning, Case Study: Youth of the Sugar CaneCommunity. Retrieved 18 August 2022 Fromhttp://eresearch.library.ssru.ac.th/handle/123456789/201

[3] Duangkhae Rakthai, Nittaya Cheepprasop, and Kwanta Bunwas 2016). Achievements in the study of ethics and law in the nursing profession from Meaningful learning management. Retrieved May 18, 2022. Fromhttp://ojslib3.buu.in.th/index.php/education2/article/view/4779

[4] Luciana de Lima, Edgar Marçal de Barros Filho, Júlio Wilson Ribeiro, Rossana Maria de Castro Andrade, WindsonViana, Antonio José Melo Leite Júnio (2011). Guidelines for the Development and Use of MLearning Applications in Mathematics. Retrieved 18 May 2022. from file:///C:/Users/NCS%202020/Downloads/160.pdf

[5] Monchai Charoennitkul (2015). Developing Enduring Understanding.aboutdaily economic activities of Mathayomsuksa 5 students using a broad concept presentation format in advance. Retrieved on May 18, 2022. From https://he02.tci-thaijo.org/index.php/Veridian-E-Journal/article/view/48955/40658

[6] Niibnurawi Buraheng (2015). Effects of integrated teaching withinverted classroom teaching, mixed media, and educational innovations in social skills on behavior and achievement. Study on the subject of learning religious history of students in Grade 1. Retrieved on May 18,

2022.Fromhttps://kb.psu.ac.th/psukb/bitstream/2016/10633/1/TC1227.pdf

[7] Rasol Abdullah Mirzaie, Javad Abbas Tehran, Iran, Javad Hatami (2008). A concept map study of the use of meaningful learning spaces in Bloom's taxonomy. Retrieved 18 May 2022. Fromhttps://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.412.5040&rep=rep1&type=pdf

[8] Sirilak Kaewsomboon (2000). Comparison of Thai Language Achievement and Attitudes towards Thai Language of Juniorhigh school students. Retrieved May 18, 2022.From http://etheses.aru.ac.th/PDF/125471430_05.

[9] Suthinan Suthiphot (2015) applied the theory to compare learning achievement and learning attitude. Mathematics of Grade 5 students who are taught by a discovery-based teaching method using games and teaching according to a teacher's manual. Retrieved 18 May 2022. From http://www.journal.ssru.ac.th/index.php/JDAR/article/view/449/261

[10] Thidarat Sak Sucharit (2014). Effects of the use of zippa learning management combined with graphic mappingtechniques on learning achievement, analytical thinking ability, and satisfaction with science learning among high school students. Year 2. Retrieved 18 May 2022. From https://so02.tci-thaijo.org/index.php/SNGSJ/article/view/26748

[11] Waid murnee (2018). The effect of Meaningful Learning Ausubel on thematic learning motivation for class V students of SDN Bareng 3 Malang. Retrieved May 18, 2022. Fromhttp://etheses.uinmalang.ac.id/11848/?fbclid=IwAR0HzSOORQOsLOOZKTYGrOZKTYGrOZKTYGrOZKTYGrOZKTYGr0ZKTYGr0OZKTYGr0ZKTYGr0ZKTYGr0ZKTYGr0ZKTYGrOZKTY

★★★