International Journal of Advanced Culture Technology Vol.12 No.1 227-233 (2023)
DOI https://doi.org/10.17703/IJACT.2024.12.1.227

IJACT 24-3-28

Jigsaw class participation experience

Jungae Kim[1]
Assistant Professor, Department of Nursing, Chodang University, Korea[1]
jjosha6615@naver.com[1]

Abstract

This study was conducted to understand the essential structure and meaning of the experience of participating in the Jigsaw class designed to achieve the learning goals for nursing students with different basic learning abilities, and to prepare a plan for each individual to learn as a collaborator rather than a competition with each other. As a study based on Giorgi's phenomenological research method and in-depth interviews, data collection was collected from 10 study participants from December 1, 2023 to December 20, 2023. The main question used in the interview was "What impressed you after participating in Jigsaw teaching meathod?" The transcribed data were analyzed through the stages of overall recognition, classification of semantic units, transformation of semantic units into psychological expressions, and integration into general structures according to Giorgi's qualitative analysis method. As a result, a total of 89 semantic units, 35 essential psychological meanings, 13 sub-components, and 6 components were derived. The six components include 'good communication', 'difference appear in material preparation', 'easy to understand', 'finding team members who form a learning atmosphere well', 'A talkative class', and 'Unprepared team members are uncomfortable'. Based on the above results, it is expected that students in a passive position in class will become teachers themselves, take responsibility for preparing for learning, and provide useful basic data for developing programs that cooperate among students.

Keywords: *Giorgi analysis, Jigsaw class, Nursing department, Phenomenology, Students with poor basic learning skills*

INTRODUCTION

In recent years, as the number of universities in Korea has increased, which is difficult to fill the enrollment quota due to a decrease in high school graduates, universities are not requiring the necessary areas or course grades for college mathematics to secure student resources, which is expected to intensify in the future. Along with the popularization and generalization of university education, the problem of lack of basic academic ability of college students has become a common problem for most universities as students who lack basic academic ability and are less prepared than in the past enter college[1]. Lack of basic academic ability tends to increase the number of cases of dropping out or giving up studies without adjusting to college life due to poor learning ability. In particular, in the case of the Department of Nursing, it has been evident through basic course classes for many years that the basic math ability required for completing major courses has been lowered to the extent that it is difficult to take normal courses, according to the researcher's experience.

In order to solve this problem, the researcher chose the Jigsaw class, a participant-centered learning method, as a way to provide customized education to learners with insufficient basic education while conducting

Manuscript received: January 30, 2024 / revised: March 2, 2024 / accepted: March 10, 2024
Corresponding Author: jjosha6615@naver.com
Tel:+82-61-450-1818, Fax: +82-61-450-1801
Assistant Professor, Department of Nursing, Chodang University

nursing major classes. The Jigsaw class was a self-directed learning method, in which individual abilities and efforts were revealed through data collection and presentation appropriate to the learner's level. However, since it was not known whether this class was more effective for learners than other teaching methods, the students who participated in the Jigsaw class revealed their experiences through vivid statements, and furthermore, what they meant to them. For this study, the phenomenological research method of Giorgi[2] was used, and the psychological inner world of the study participants was to understand the participants' experiences by analyzing the uniqueness of the participants in more depth through situational statements of experiences using the method suggested by Huserl[3]. Considering these characteristics, Giorgi's phenomenological research method is an effective approach to revealing the nature and meaning of the experience through vivid statements about the experience of participating in the Jigsaw class.

Since the elements that make up education are intertwined with the needs of learners as well as the knowledge and motivation of instructors, a learning support system should be provided through continuous analysis of the needs of educational parties [4]. Various studies are being conducted in the field of pedagogy to systematically support the basic learning ability of universities, but there may be another variable in the pedagogy major, so it was necessary to find a way to choose a nursing major as a professor who was currently teaching. In other words, students with differences in basic learning ability had difficulty in achieving the goal of learning through one-sided educational delivery, so it was imperative to prepare systematic and effective measures for interesting learning to overcome it.

With the traditional teaching method, which is a one-sided cramming class for a large number of learners, it is difficult for instructors to teach considering the difference in basic learning ability of each learner, and learners who cannot keep up with the contents of the class are likely to give up halfway. On the other hand, Slavin [5] emphasized that they can learn from their peers, learn interdependence in the process of teaching, and have a high understanding of the class. As a cooperative learning developed by peer groups, Jigsaw cooperative learning is developed. Jigsaw cooperative learning is a learning model developed by Aronson [6] and is known as a learning method in which members of a small group actively participate in learning and solve problems through cooperation with each other in order to achieve a given learning goal by forming a small group of learners. The specific implementation method consists of first, constructing the learning structure in the form of a small group of 5 to 6 people, and second, each member of the group participates in the class responsibly and learns about their content.

The goal of the Jigsaw teaching method applied in this study was to make each individual learn as a collaborator rather than a competitor in order to achieve the learning goals for nursing students with different basic learning abilities. The specific operation method consists of small groups of students who participated in the major class, and then a partial class of the contents of each learning unit is conducted to all students. In addition, it was a teaching method in which students in each group had to cooperate rather than compete with each other to complete the entire unit's content by granting the students permission to teach the rest of the parts. The learning objectives to be completed in the learning unit were produced in advance as many as the students in each group, and after class was completed, problems were presented and solved. After presenting in their group, they moved to another group to collect information, and then returned to their group to convey the acquired knowledge.

What was solved in Jigsaw was evaluated as a multiple-choice paper-written test in the midterm exam, and in the final exam, it was evaluated as a short-answer paper-written test to increase tension over the results as well as the contents of the group activities. In a specific scenario, first, each learning unit consists of a group of 6 students. Second, a part of the learning unit is taught to all students. Third, for the remaining learning

units, students are given the authority to acquire learning and complete the rest of the contents. Fourth, after explaining their part in the Home group, they move to the Expert group and make a presentation again. Fifth, the same problem-solving answers are moved to another group and opinions are exchanged (Expert group), and sixth, the contents organized by the expert group return to their group and present them. In order to facilitate the operation, the group was organized in various ways in terms of gender and ability, and one student from each group was appointed as the leader, and he was the most mature student in the group.

As for the problem to be solved, a segment was created as many as the number of members of the Home group and assigned to each student to learn one segment. Individual students were allowed to access their own segment only. Students were given time to read and understand the segment more than twice. A temporary "expert group" was formed by allowing one student from each Jigsaw group to join another student assigned to the same segment, and students from these expert groups discussed the main points. They were given time to practice presenting the contents derived from the discussion to the Home group Jigsaw group. After that, they were asked to come back to their Home group, and asked each student to present their segment in the group, and encouraged others in the Home group to ask questions for explanation. After finishing all, a quiz about the data was given. As described above, the specific purpose of this study is to phenomenologically analyze the participants' experiences by applying the Jigsaw method, a self-directed learning method selected by the researcher, as a method to convey the same major knowledge to students with insufficient basic math skills. What was the experience of participating in Jigsaw classes?

METHODS

1. Research Design

This study was a qualitative study that applies Giorgi [2]'s phenomenological analysis method to reveal the essential structure and meaning of the Jigsaw class participation experience.

2. Participants in a study

Participants in this study are those who are enrolled in the four-year university nursing department of Group M, who have participated in Jigsaw classes, understand the purpose of this study and agree to voluntarily participate in the study, and use purposeful sampling and snowball sampling.

Due to the nature of qualitative research, rapport formation with the interviewee is very important, so we had time to talk about personal rapport formation and difficulties in work through several meetings before collecting data.

3. Data Collection

Data collection took place from December 1, 2023 to December 20, 2023, and individual in-depth interviews were conducted with the study participants until no new topics were found in the interview. In the interview, participants were allowed to freely state their experiences through comprehensive main questions, and specific statements were induced through follow-up questions that followed the participants' statements. The main question was "What was your experience of participating in Jigsaw class?" and the follow-up questions were "What was your experience during class?" and "When was it uncomfortable during class?"

The interview schedule and location were determined according to the convenience of the participants. The interview contents were recorded with the consent of the participants, and the recorded contents were transcribed directly by the researcher to the computer on the day of the interview. The first interview took about 50 minutes to 1 hour. Among the new data collection and the contents of the first interview, a second interview was conducted using direct interviews and phone calls to the three participants who needed additional explanations, and the second interview was conducted by the researcher who conducted the first interview, and

it took about 20 minutes until it was determined that the data were saturated in the same way.

4. Data Analysis

Data analysis was carried out in accordance with the four stages of the phenomenological experiential research method, an experiential research method developed by Giorgi, mainly using interviewed transcripts [2].

First, to grasp the overall meaning, the overall feeling of the participant's experience was grasped by reading the transcript repeatedly several times focusing on the phenomenon of interest in sexual harassment. In order to distinguish the semantic unit, focusing on the experience of participating in the Jigsaw class, the part with a change in meaning was marked as it was read, and divided into a meaning unit from a psychological point of view. Through repeated reading, if there are overlapping semantic units, the semantic units are classified so that they do not overlap. In addition, the psychological aspect, including the semantic unit expressed in the participant's language, was transformed into an academic language to derive an essential psychological meaning that can generalize individual experiences. Finally, the essential psychological meaning transformed into a psychological expression was integrated into one general statement.

By repeatedly performing the procedure of free change through imagination, comparing similarities and differences, deriving 159 similar or meaning-related semantic units as essential psychological meanings transformed into 37 psychological expressions, categorizing them and structuring them into 13 sub-components and 5 components.

5. The preparation of a researcher

Researchers have conducted qualitative studies applying phenomenology, so it can be said that they are equipped to conduct this study. In qualitative research, researchers are used as research tools and participate directly and actively in all processes of research. The researcher recognized the experience of participating in Jigsaw classes and tried to increase theoretical sensitivity, such as reviewing the literature of nurses' Jigsaw classes.

6. Securing the rigor of research

Among the four suggested by Sandelowski[7], in order to secure reliability, a trust relationship was formed so that participants could express their experiences honestly and comfortably, and then the interview was conducted in a quiet and comfortable environment. Through parentheses, we listened carefully to prejudices with a neutral and uncritical attitude. The interview began with an unstructured question, and after the response, we checked once more if there was anything else you wanted to talk about. The recorded interview data was directly transcribed by the researcher within 24 hours after the interview was completed. The analysis results were compared with the frequently transcribed raw data to correct the errors in the analysis, and the results of this study were presented to one nursing professor with qualitative research experience, and the validity of the interpretation was confirmed. In order to secure suitability, a person who had experienced sexual harassment in the hospital and could actively state this experience was selected as a participant in the study, and data were collected until the theoretical saturation in which no new data were released from the participant's statement while simultaneously collecting and analyzing the data. In order to secure the possibility of audit, the analysis was performed faithfully by following the phenomenological analysis method of Giorgi [2], and the purpose of the study, research method, data collection, and analysis process were specifically described so that readers or other researchers could verify the analysis process and results. The overall research process, analysis procedure, and results were continuously reviewed with a joint researcher, and advice from one nursing professor was received. Finally, the possibility of confirmation was secured by quoting the participant's statements in the research results so that the reader could confirm the validity of the researcher's interpretation or analysis.

7. Ethical Consideration

Considering the ethical issues that may arise during the research process, the researcher explained before the interview the purpose and purpose of the study, confidentiality and anonymity, voluntary participation and discontinuation of the study, approximate number and time of interviews, and prohibition of use of the collected data other than this study, and signed the consent form. The interview contents were recorded with consent, and all data were stored in code numbers instead of names when stored on a computer for confidentiality purposes. All data, including collected voice files, were stored by locking them on a separate

hard disk, and the researcher directly managed them to be careful not to be exposed to others.

RESULT

The study participants were seven men and women of nursing college students between the ages of 20 and 25, and as a result of analyzing their in-depth interviews, 297 statements were extracted, and 159 semantic units were derived by integrating overlapping contents. 159 semantic units were derived as essential psychological meanings transformed into 37 psychological expressions, and they were categorized and structured into 13 sub-components and 5 components. The essential structure of the research participants' experience of participating in Jigsaw is described around five components as follows.

1. Good communication

These components include sub-components such as 'explain in easy-to-understand words', 'explain at an appropriate speed', 'feedback well', 'supplement the unknown', and 'emphasize the important parts'.
Participants knew the level of their peer group better than professors during the Jigsaw class, explained it in easy-to-understand words according to their peers' levels, set the pace, supplemented the parts they did not know, and gave feedback well. The main contents are as follows;*The team member gave good feedback, researched the data well, and the action was good*
The presentation is concise and easy to understand.
The team seemed to explain the expertise well
It was explained in words that were easy for the team members to understand.
Team member summarizes well and presents it
Confidently presented by the team member
The speed and voice were good when I made the presentation
It was well explained and easy to understand.
Good at explaining the key
The explainer explained at an appropriate speed.

2. Differences appear in material preparation

These components include "Moved by the specific data survey," "Finding additional data," "I wish I could find the data properly," "Slightly lacking in content," and "Introduction to various cases."
Participants differed greatly in the quality of data depending on their team members. Some members impressed by presenting specific data, and complaints appeared due to lack of content. The main contents are as follows;*I was moved because the team member investigated the content in detail.*
The team members prepared well every time, so it helped me a lot.
The team member found the correct explanation and additional data well
I felt like I lacked the explanation of my team member
Most of the team members faithfully worked on the group assignment first and specifically explained the subject they were in charge of in the jigsaw class.
The team members explained it well in the right manner,
Some team members didn't know what they were talking about because the sound was low.
Some team members were disappointed that it would be good to look up the data properly and present it
The team members gave various examples.

3. Easy to understanding

The team members expressed their feelings by explaining them in easier to understand with student-level words than the professor explains. The main contents are as follows;*I felt my team member explain the problem well.*
Most of the team members explained well in an easy-to-understand and calm manner.
Most of the team members seemed to have a lot of knowledge about the problem.

The team members explained the textbook well.
The team members were kind and easy to understand.
It was easy to understand because I could conduct the class at the student level.

4. Finding team members who form a learninf atmosphere well

As the class progressed, the participants found that their delivery skills developed and gained confidence. The main contents are as follows;*As the class progressed, some team members led the team well*
As the class progressed, some team members led the atmosphere well.
As the class progressed, I expressed my opinion with confidence.
As the class progressed, he showed exemplary presentation.
I gradually came to devote myself to the presentation.
Gradually, I made eye contact to see if my team members understood.
.The team members helped each other well.
When we asked each other about something we didn't know, we found out again and let them know.

5. A talkative class

The Jigsaw class had to explain itself, so it was an opportunity to organize your thoughts and talk a lot, above all. The main contents are as follows;

It was a class where I had to talk a lot because I had to answer questions kindly.
I had to answer the question quickly, so I had to organize it in my head.
I can study on my own without the professor's class.
It was an opportunity to talk naturally with a friend who usually wanted to talk to.

6. Unprepared team members are uncomfortable

Team members who did not sincerely prepare for class caused inconvenience, and students' perception of this occurred. The main contents are as follows;

Some of the team members didn't present while the professor was away
Some team members finished it too simply and often didn't prepare
Group activities were inconvenient because of absent team members,
The additional information from the expert group was not well explained
I think it would have been easier to understand if there was more information.
I don't understand what you are saying that it would have been nice to report students during the presentation have a low voice.
Some team members didn't interact with the team members too small a voice
.I wish I could raise my voice.
Rather than explaining, it was a shame that I felt like I was just reading.
I think it would be good to increase the attendance rate.
There was an error in the presentation.
Some team members lack explanation of material and poor activity time distribution.
Some team members thought it would have been nice if they could have emphasized better.
I felt sorry for the timid appearance of a team member.
He explained it well because he knew a lot of information, but I think he was in a hurry because he didn't organize it well.

CONCLUSION

This study was a phenomenological study that analyzed the actual experience of students who participated in the actual class by introducing the Jigsaw teaching method developed so far in the actual major class as a way to make it easier for nursing students to access major subjects and interested in self-directed learning. The phenomenology question was what was the experience of participating in Jigswa class.

As a result of the study, six components were derived from the vivid experience of participating in the

Jigsaw class. The six components include 'good communication', 'difference appear in material preparation', 'easy to understand', 'finding team members who form a learning atmosphere well', 'A talkative class', and 'Unprepared team members are uncomfortable'. In context, the Jigsaw class for the participants can be said to have better delivery power because classes are conducted at the student level and learning contents are exchanged with each other compared to the traditional class, which is a one-way class delivery method[8].

However, data secretion was different according to the difference in participation, and it was more effective when there was a team member who formed a good learning atmosphere[9]. The results of the above contents have been proven in various educational field studies conducted so far [10] And above all, it can be said that it was a class that could express one's opinions, unlike the traditional teaching method in which learners passively and quietly participate. Overall, the Jigsaw class is a method that can actively elicit learners' participation, and it was possible to easily explain it to students with poor basic education level. However, it is judged that a specific method is needed to attract the interest of students with low participation. This study is expected to be a good material from experience when operating Jigsaw classes efficiently in the future.

REFERENCES

[1] MG Jeong, YJ Yang, A Study on the Perception and Demand of Teaching-Learning Participants to Support Basic Learning Ability of University Students and Educational Culture Vol. 22, No. 2, pp. 101~126, 2016.

[2] A. Giorgi, “The descriptive phenomenological method in psychology: A modified Husserlian approach,” Duquesne University Press, Pittsburgh, PA. 2009.

[3] E. Husserl, “The Essential Husserl: Basic Writings in Transcendental Phenomenology,” Indiana: Indiana University Press, pp. 60-79, 1999.

[4] Nuran, T., Student support as a factor affecting the quality of australiandistance education: The findings of the project to investigate quality andstandards in distance education. Paper presented for the workshop,“Student support in distance education and open learning: Maintainingquality in a changing environment” (Victoria, Australia, November 17, 1992.

[5] Slavin, R. E., Cooperative Learning in Student Team: What Research Says to the Teacher , Washington D.C: National Education Association, 1987.

[6] Aronson, E., The Jigsaw Classroom , Beverly Hills: Sage, 1978.

[7] M. Sandelowski, “The Problem of Rigor in Qualitative Research,” Advances in Nursing Science, Vol. 8, No. 3, pp. 27-37, 1986.

[8] HY Kim, HY Tak, The longitudial relationship among teaching methods, subject interest, and academic achievement in middle school mathematics, The Journal of deucation, Vol. 42, No. 4, pp. 61-76, 2022. http://dx.doi.org/10.25020/je.2022.42.4.61.

[9] GY Kim, JS Park, The relationship between teacher adminictration and class preparation from the perpective of educational sociology: Discrimination causal relationships and modulating effects by public and private types, Academic journal, Vol. 2013, No.-, pp. 1-23, 2013.

[10] JH Eun, JS Choi, The moderating effects of school environment between motivation and academic attidudes in high schools: Focusing on satisfaction level of learning facilities, teacher professionalism and class atmosphere, Journal of education and culture, Vol. 26, No. 4, pp. 621-643, 2020.