The Use of Qualitative Case Studies as an Experiential Teaching Method in the Training of Pre-service Teachers

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Abstract

This study presents the suitability of case studies, which is a qualitative research method and can be used as a teaching method in the training of pre-service teachers, for experiential learning theory. The basic view of experiential learning theory on learning and the qualitative case study paradigm are consistent with each other within the framework of such principles as subjectivity, environmental interaction, holism, contextuality, constructivism, and access to information (theorizing). The concrete experience mode of the experiential learning cycle corresponds to the data collection stage of qualitative case studies, the reflective observation mode corresponds to the data analysis stage, and the abstract conceptualization mode corresponds to the theorizing stage. Accordingly, this study notes that qualitative case studies can be used as a teaching method in the school experience course for the pre-service training of pre-service teachers. It also explains in detail the steps to be taken when this new method is used in the teaching process, the preparations that should be done prior to the employment of the method, and what should be considered in the application of the method.

Keywords: Experiential learning, Qualitative case studies, Teaching method, Pre-service teacher training, Higher education

1. Introduction

Knowledge and experience are two fundamental concepts, the combination of which constitutes learning. As knowledge cannot be obtained independently of experiences, experiences that do not cover knowledge are very rare. Learning is a continuous cycle that involves acquiring knowledge from life experiences and using this knowledge in new experiences. In short, this learning approach referred to as experiential learning can be used in the pre-service training of pre-service teachers within the framework of a specific teaching method to help gain the knowledge and experience necessary for the teaching profession. This paper discusses experiential learning theory and suggests that qualitative case studies are appropriate to the nature of theory and thus can be used in the training of pre-service teachers.

The purpose of this study is to theoretically propose a systematic teaching method (qualitative case studies) that will enable pre-service teachers to observe the reflection of the knowledge they have acquired in their theoretical courses before their internship training in real-life situations, to understand what is going on in the field, and to construct their subjective knowledge through comparison with what has been taught them theoretically by explaining their in-field concrete observations in their own minds based on their observational experiences (i.e. a systematic teaching method that will make pre-service teachers go through experiential learning stages).

2. Method

The study is a theoretical "basic research", which is one of the quantitative research methods. Basic research is carried out to establish a theory or model in a field of study, to strengthen or contribute to existing ones, or to test a theory. Basic research studies are intended to create knowledge and theoretical understanding with regard to basic human processes and other natural processes. This study provided the accounts of experiential learning theory concerning learning, explained the experiential learning cycle by examples, and presented the paradigm on which qualitative case studies are grounded as well as the research steps followed in qualitative case studies as a research method. The similarities between the definitions and accounts of experiential learning theory concerning learning and those associated with the qualitative case studies paradigm and the correspondences between the experiential learning cycle and the steps of qualitative case studies were discussed by examples. By this means, a systematic

account was provided for how qualitative case studies can be used as a teaching method in the training of pre-service teachers in practice.

3. Experiential Learning Theory

Kolb (1984, p.20) asserted that experiential learning theory offers a radically different view on learning processes differently from behavioral learning theories based on the experimental theory of knowledge and traditional educational methods and notes that this new theory is epistemologically based on rational idealism. According to Kolb, this new approach to learning offered novel prescriptions for the management of education through the creation of knowledge by establishing appropriate relations among learning, the world, and different life activities. Considering Kolb's experiential learning theory from a historical perspective, its mental roots extend to the research of Dewey, Lewin, and Piaget, so much so that the word "experiential", after which the theory is named, can be traced back to the work of the above-mentioned names. Experiential learning theory is far different from behavioral theories that reject the role of consciousness in the learning process and subjective experiences, and from cognitive theories that emphasize the processes including the acquisition and transformation of information and the recall of information through conceptual symbols. Experiential learning theory is a holistic learning theory that involves a combination of experience, perception, consciousness, and behavior in learning (Kolb, 1984, p. 20).

While formulating experiential learning theory, Kolb (1984) reviewed the learning theories of Dewey, Lewin, and Piaget and identified the common aspects of these theories. These theories have a significant influence on Kolb's ideas on experiential learning theory. Indeed, Kolb clearly discussed the learning theories of Dewey, Lewin, and Piaget and their common aspects in his seminal work "Experiential Learning: Experience as the Source of Learning and Development". The Lewinian model of Action Research and Laboratory Training includes a four-stage learning cycle. The first stage of this cycle involves current concrete experiences which form the basis for observations and reflections in the second stage of the cycle. Observations are later absorbed within a conceptual theory, leading to the formation of abstract concepts (analysis) and generalizations (conclusions) in the third stage of the cycle. These abstract concepts and generalization play a guiding role in the creation of new experiences, which is the stage of testing implications of concepts in new situations). Dewey proposed a learning definition similar to Lewin and described learning as a dialectical process integrating experiences and concepts and observations and actions (Kolb, 1984, pp. 21-22).

3.1 Experiential Learning Theory and Basic Characteristics of Learning

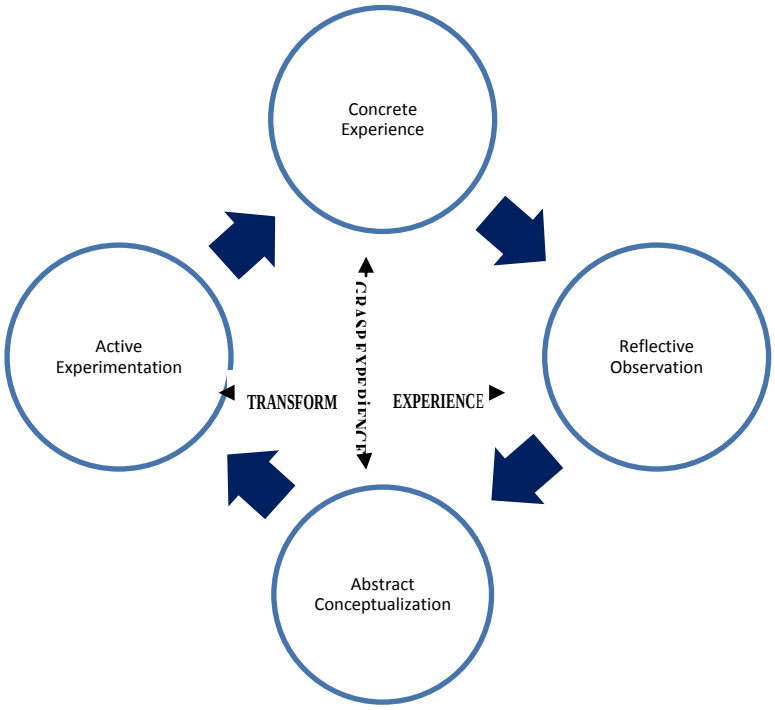
Kolb (1984, pp. 26-38) noted that Lewin, Dewey, and Piaget have great similarities in their ideas about learning and development and postulated the following propositions shared by these three great traditions, that is, the characteristics of experiential learning theory. Accordingly,

1. Learning is considered as a process but not results, outputs or products.
2. Learning is an ongoing process based on experience.
3. Learning process requires a resolution of the dialectical conflict between opposing modes in the adaptation to the world.
4. Learning is a holistic process of adaptation to the world.
5. Learning involves processes between individuals and the environment.
6. Learning is the process of creating information.

These characteristics of experiential learning theory will be discussed in more detail in the following sections when compared with the qualitative case study paradigm.

3.2 Experiential Learning Theory and Learning Cycle

Kolb (1984, p. 41) states that "learning is the process whereby knowledge is created through the transformation of experience". The theory explains learning based on a learning cycle consisting of four basic modes in the processes of "the acquisition and transformation of experience". These modes include concrete experience, reflective observation, abstract conceptualization, and active experimentation. Grasping experience occurs between concrete experience and abstract conceptualization; transforming experience occurs between reflective observation and active experimentation. This is depicted as "an idealized learning cycle or spiral where the learner touches all the bases – experiencing, reflecting, thinking, and acting – in a recursive process that is sensitive to the learning situation and what is being learned" (Kolb & Kolb, 2009a, pp. 298-299).



Experiential Learning Cycle (Kolb & Kolb, 2009a, p. 299).

"Concrete experiences form the basis for observations and reflections. The reflections are absorbed and distilled into abstract concepts that can create new implications for action. These implications can be actively tested and can serve as guidelines for producing new experiences. What is experiential in this learning cycle is not only the mode of concrete experiences but all modes" (Kolb & Kolb, 2009a, pp. 299-300).

According to Duff (1998, p. 337), "First, learners acquire information by immediate concrete experience from full involvement, without bias, in the new experience. Second, a stage of reflective observation on the experience occurs, where the learner organizes and examines the experiential data from different perspectives. Third, a stage of abstract conceptualization occurs, where learners develop generalizations that help them integrate their observations into sound theories or practices. Finally, in the fourth stage of active experimentation, learners use these generalizations as guides to new, more complex, situations. The process then repeats itself, with the new information re-entering the concrete experience stage, and so on". These modes (i.e. stages) which constitute the experiential learning cycle are explained below.

3.2.1 Concrete Experience

Kolb (1984) emphasizes that understanding the current experience and problem-solving is more important in the learning through concrete experiences than reaching a theory or generalizations. Feeling the situation is more important at this stage than thinking about the subject (as cited in Gencel, 2007, p.126).

For example, observing what kind of communication process occurs in a classroom or holding interviews with the teacher and students in that classroom is actually a concrete experience. Communication skills of the teacher, physical characteristics of the classroom, the number of students in the classroom, the age and developmental characteristics of students, the environment students come from, the socioeconomic environment the school is located in, and physical and social facilities are among the factors that affect the communication process in the classroom. The gathering of related data through interviews and observations is also a concrete experience. In the next stages to transform these concrete experiences into knowledge, the results of these experiences are presented conceptually and a set of principles and generalizations about the classroom communication processes are formulated through implications derived from these results.

3.2.2 Reflective Observation

This is the stage between concrete experiences and abstract conceptualization. It serves a bridge that connects experience with knowledge and enables the transfer from experience to knowledge. It involves a deep contemplation, interpretation, conceptualization, and reflection of concrete experiences. However, this reflection occurs within the

framework of thoughts, perspectives, and perceptions arising from experiences that individuals have at the stage of concrete experiences.

For example, a person who tries to know how a communication process takes place in a classroom observes that the teacher constantly lectures on the subject without giving an example, without promoting a classroom discussion environment, and without giving students the right to speak; therefore, students give up listening to the lecture after a while and some students sleep while some start talking to each other. Accordingly, that person reflects on this observation and comes to conclude that mutual and active communication cannot be achieved in the classroom since the teacher speaks in a flat monotone. He or she describes this situation as "the teacher swamped with words". He or she is informed by classroom observations and student interviews that "the teacher speaks too fast explaining the subject in a ceaseless manner and students thus fail to catch up with the speed of the teacher's speech and to comprehend the lecture". He or she describes this situation as "students' speed of comprehension not considered". Thus, he or she defines and names these events related to the classroom communication observed through concrete experiences and explains what happens in the classroom in terms of communication.

3.2.3 Abstract Conceptualization

This stage is the process of reaching theoretical information through the conceptualization of concrete experiences. As highlighted by Kolb, at this stage, logic and ideas are foregrounded rather than feelings (Sharlanova, 2004, p. 38). Using experiences, abstract principles, generalizations, and analysis, in short, different dimensions of theoretical knowledge are attained. According to the learning cycle, at this stage, students must formulate concepts that integrate their observations with logical theories (Kolb, 1984, p. 30).

For example, a person investigating how a communication process takes place in a classroom makes observations and interviews, that is, have a set of concrete experiences. Later, that person reflects these experiences in verbal concepts and explains what happens in the classroom. At this stage, he or she makes inferences and creates a piece of general theoretical information about the classroom communication in his or her mind. He or she produces a number of principles and generalizations about what factors hinder effective classroom communication, what qualities or behaviors teachers should have to ensure effective communication, and how to organize the physical setting of the classroom. What should be emphasized here is that the knowledge acquired at this stage is theoretical knowledge.

3.2.4 Active Experimentation

This mode of the learning cycle involves the stage where the theoretical knowledge acquired at the previous stage is applied to or tested in a new experience. The theoretical knowledge acquired at the abstract conceptualization stage is used to make guesses about the real world. This mode differs from the concrete experience mode in that individuals apply the knowledge so far acquired through observations and reflections to real-life situations.

For example, let's think that the person investigating how a communication process takes place in a classroom is a pre-service teacher. At the end of the above-mentioned stages of the learning cycle, this pre-service teacher formulated the general principles noting that the teacher should give students the right to speak, lecture the subject within a scope of a specific plan, discuss it with students and use audiovisual items instead of using only words. When this pre-service teacher applies these principles to his or her own in-service teaching practices, it turns to be active experimentation. While the previous stages involve testing information written in books thorough observations in real life situations, this last stage involves applying the knowledge acquired through concrete experiences and related reflective observations to real-life situations.

4. Case Study as a Qualitative Research Approach and a Research Design

"Qualitative research is defined as a type of research that uses qualitative data collection tools such as observation, interview, and document analysis and follows a qualitative process to present perceptions and phenomena from a realistic and holistic perspective as they are. In other words, qualitative research is an approach that attempts to investigate and understand social phenomena in their natural environment through a conceptualization-based understanding" (Yıldırım & Şimşek, 2013, p. 45). The paradigm qualitative research is based on is quite different from the positivist paradigm. This paradigm beyond positivism will be further elaborated in the next section through a comparison with the experiential perspective of learning.

4.1 Basic Features of Qualitative Research Approach

Patton (2014, p. 53) notes that personal experiences and fieldwork are the main activity of qualitative research. Fieldwork involves entering the environment where a phenomenon is observed, establishing direct and personal connections with people in their own environment to determine their views and perceptions of that phenomenon, and

thus having personal experiences. A phenomenon, fact or situation can be completely understood only through establishing connections with that situation or related people. Qualitative research aims to assign a researcher an effective and relevant role and to help gain insight. The insight can only be achieved by being involved in and becoming part of the phenomenon or situation that is investigated or observed, by revealing individuals' perceptions of that phenomenon or situation, and by having in-depth experiences.

Qualitative research particularly strives for exploration, discovery and inductive reasoning. Inductive analysis begins with specific observations and produces general patterns. As the researcher begins to understand the patterns of the studied phenomenon, concepts, categories or dimensions of analysis are derived from open-ended observations. The researcher reaches concepts and themes related to the research problem based on the detailed data gathered through experiences. These concepts and themes lead to a set of principles and generalizations regarding that problem (Yıldırım & Şimşek, 2013, p. 53).

Information about a phenomenon, case or situation is not independent of their context. The truth is real within the framework they exist. The context of research is formed by the physical and social characteristics of the environment in which the research is conducted, and the cultural and psychological characteristics of people who provide information for the research. In qualitative research, context is important to understand a situation in all its aspects. Qualitative research involves in-depth reflection (reflexivity). According to Patton (2014, pp.64-65), the researcher's view of the research is part of the context of research results. In other words, research results are not independent of the researcher's point of view. However, the researcher must be aware of his or her own point of view. Thus, in-depth reflection (reflexivity) requires self-understanding and self-questioning. However, the researcher should be aware of not only his or her own point of view but also the point of view of people he or she observes or interviews with, and the cultural, political, social, linguistic and ideological background of their discourse.

4.2 Case Study as a Qualitative Research Design

Yin defines a case study as an empirical research method that "investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (as cited in Yıldırım & Şimşek, 2013, p. 313). A case study can be described as a research method that allows a deep examination of a phenomenon or a fact through the use of "how and why" questions, which distinguishes it from other research (Yıldırım & Şimşek, 2013, p. 313).According to Glesne, (2012, p.30), "case study involves participant observations, in-depth interviews and a detailed review of collected documents". The case can be individual or it can include a group like family, class, office or a hospital ward. Even larger-scale communities, such as a city, an institution or a profession can be the case. Additionally, cases such as several individuals, several parents, several classes and schools, several institutions are also instances of multiple cases. Case studies involve gathering in-depth and detailed information from different sources of information. Participants' thoughts and explanations are combined with information gathered through other data collection instruments to determine the case investigated (Yılmaz, 2014, pp.263-264).

A case study is a research design used in qualitative research. A research design is a logical construct that combines research problem, sub-problems, collected data, and results. In short, it is a plan that leads the researcher from the beginning to the end of research. Accordingly, each research design targets at least four questions: What are the problems to study? What kind of data concerns these problems? What data should be collected?, and How should the results be analyzed? The main steps to follow in a case study include the determination of research problem (the formulation of theoretical framework), the determination of sub-problems, the determination of the case and analysis unit, the identification of research participants (sampling), the development and application of data collection instruments, the analysis and interpretation of data, and the establishment of theory through analytic generalizations (reporting of the case study) (Yıldırım & Şimşek, 2013, pp.316-317).

5. The Similarity between the Qualitative Research Paradigm and Experiential Learning Theoretical Perspective of Learning

The paradigm of qualitative case studies completely overlaps with the definitions and explanations that experiential learning theory proposes about learning. Subjectivity, environmental interaction, holism, contextuality, constructivism, and knowledge acquisition (theorizing) are foregrounded in the research process of qualitative case studies and in the learning process of the experiential learning cycle. These overlaps are discussed below.

5.1. In experiential learning theory, learning is considered as a process, not as results, outputs or products. Teaching should focus on promoting students' self-learning and self-development in a process. Education is considered as a continuous restructuring of experience. Learning is an ongoing process by which experience is

transformed into knowledge and vice versa through individuals' interaction with the environment. According to Dewey, in the learning process, learners find solutions to problems, which are naturally encountered through interactions with the social and natural environment, again in this environment (as cited in Üst, Bayraktaroğlu & Narter, 2017, p. 224). Thus, the learning process means that individuals gain experience through life experiences and reflects these experiences in the real world. It should be noted that experiences are individual and vary from person to person. Learning is thus a subjective process.

Qualitative case studies have a paradigm beyond positivism and this paradigm supports a worldview by which the reality occurs in the social environment and constantly changes. According to Glesne (2012, p.11), knowing refers to how individuals interpret or make sense of objects, facts, behaviors or perceptions. It is assumed that facts exist not only in individuals' mind but also in social structures such as society within the framework of individual perceptions. The phenomenon or situation examined in the qualitative case studies cannot be considered separately from the researcher's point of view. Thus, such studies do not entail a complete objectivity. What matters here is that the researcher clearly states his or her point of view and attitude in the research context (Yıldırım & Şimşek, 2013, p. 71).

5.2 In experiential Learning Theory, Learning is a Synergistic Process between an Individual and the Environment

According to Piaget, learning involves comparing new experiences with the existing schemes in mind, assimilating a new experience if it fits into the existing schemes or otherwise in case of a disagreement, creating new schemes in mind, and reorganizing the existing schemes (Kolb & Kolb, 2005, p.194). Thus, learning is based on the communication with the environment and the understanding, interpretation, and construction of knowledge through experiences. Learning means understanding through experiences.

The basic paradigm in qualitative case studies is to perceive and understand the world as it is, which contains by its very nature, complex instances and phenomena in a mutual causality relationship (Yıldırım & Şimşek, 2013, pp. 56-57). Qualitative research involves understanding a phenomenon or a case as it is in its natural environment through the researchers' interaction with this environment and within the framework of the researchers' experiences arising from this interaction. The purpose of the research is to understand through interactions with environment, and experiences.

5.3 In Experiential Learning Theory, Learning is a Holistic Process

Learning does not involve only knowing. Learning is a unified form of thinking, perceiving, feeling, and behaving. Our experiences and mental schemes organized through experiences include not only knowledge but also our feelings, subjective thoughts and perceptions. Additionally, all these happen under the influence of our natural and social environment. Thus, the natural and social environment influences our perceptions and thoughts which, in turn, influence our behaviors. Learning is the process of knowledge creation through meaningful relationships between the mind and the environment.

According to Patton (2014, p.59), qualitative case studies involve a holistic approach. "Accordingly, researchers analyzing qualitative data strive to understand the case or phenomenon studied as a whole. This indicates how important the definition and interpretation of the social environment of a person or of the external context of an institution is to understand the whole of what is observed during the research or what is told in the interview". Behaviors are affected by perceptions and thoughts. It is also important to determine thoughts and perceptions underlying behaviors. Perceptions and thoughts are not independent of the social environment. Qualitative case studies involve observing behaviors to completely understand a phenomenon or a case and exploring thoughts and perceptions underlying these behaviors. All these require considering the phenomenon studied from a holistic view of the context within which the phenomenon occurs.

5.4 In Experiential Learning Theory, Learning is a Process of Knowledge Creation

Experiential learning refers to learning from experience and learning by living and doing. Knowledge is the conceptually transformed or structured form of experiences. Wurdinger (2005) notes that experiential learning is built on the foundations of interdisciplinary and constructivist learning. In the experimental method, when a part of the whole is examined, the selected part's relation with the other parts of the whole is not considered. This does not reflect the real situation and the real world. However, experiential learning considers a phenomenon or a case holistically through an interdisciplinary rather than a single discipline (p. 24).

According to Glesne (2012, p.12), qualitative case studies adopt the assumption that "variables are complex, interrelated and difficult to measure; the future and direction uncertain" in contrast to the positivist paradigm that sets forth the assumption that "variables are definable and relationships are measurable". Accordingly, unlike the

experimental method, qualitative case studies do not divide the phenomenon studied into parts and analyze variables as a whole because they are not separated by exact boundaries and are interrelated by a complex structure This approach involves better understanding the social world and life, and the phenomena and events within their natural environment, examining in depth the variables underlying phenomena or events and their relations with each other within a certain period and thereby creating new and significant knowledge (Ekiz, 2009, p. 33). In qualitative case studies, research is an information creation process to understand the phenomenon or event.

5.5 In Experiential Learning Theory, Learning is a Continuous Experience-based Process Which Begins with Experience and Leads to Theoretical Knowledge

Lewis and Williams (1994) argue that students have concrete experiences and reflect these experiences from various perspectives. Following these reflective observations, students engage in abstract conceptualization and reach generalizations that integrate their observations into theories. Later, students use these generalizations as guides to take action called active experience. This leads to another series of concrete experiences and another round of more sophisticated learning. Kolb underlines that learning turns into an ongoing cycle based on experiences, the cycle increases in complexity in every new experience, and this ever-increasing complexity turns into a learning spiral (p. 6).

Qualitative case studies begin investigating a problem without developing a hypothesis. It is checked whether these generalizations are also true for other cases. In other words, these principles and generalizations are tested in new cases (Yıldırım & Şimşek, 2013, p. 65).

6. The Similarity between the Learning Cycle Modes of Experiential Learning Theory and Qualitative Case Study Stages

The learning process described in various cyclical in experiential learning theory has similarities with certain steps of the research process followed in qualitative case studies. These similarities are discussed below.

6.1 Concrete Experience - Data Collection

In experiential learning theory, one first must go through concrete experiences through the source of information to obtain some information about a topic, to mentally comprehend and conceptualize this information, and thereby to reach a set of generalities about the topic. Direct, non-interpretive and experience-based information is collected through concrete experiences. Thus, the concrete experience mode corresponds to the data collection stage of a qualitative case study.

At the data collection stage of qualitative case studies, qualitative data on a sample selected in relation to the research problem are collected using designed data collection tools including observations, interviews and document analysis. Similar to the "concrete experience" mode of the learning cycle, the data gathered in this way include information derived from unrecognized, unreflected and uninterpreted concrete experiences such as interviews and observations. This information will be described and expressed as abstract concepts at next stages, ultimately leading to theoretical knowledge.

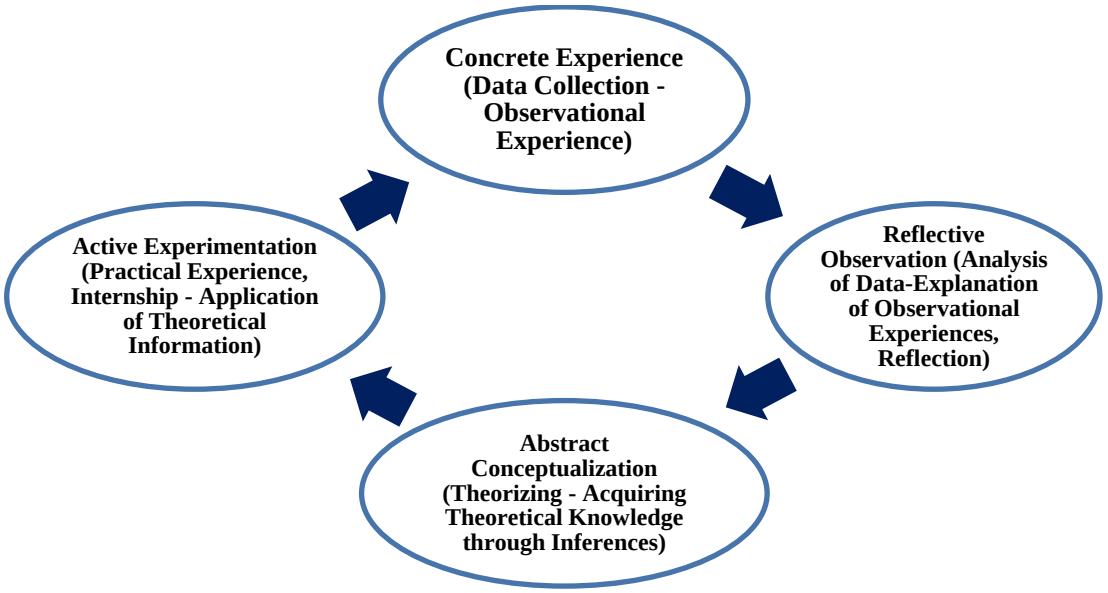
6.2 Reflective Observation - Data Analysis and Interpretation

This stage involves the verbal or conceptual description, interpretation, and reflection of concrete experiences. Concrete experiences are considered and what is happening is verbally interpreted and analyzed. It can also be defined as the expression of experiences and the verbalization of observations. The vocabulary is important for the verbalization and discussion of the perceiving and comprehending of experiences. This stage involves reflecting on relevant views and thoughts, questioning how facts are formed, and drawing certain conclusions (Sharlanova, 2004, p.37).

In a qualitative case study, raw data collected through interviews and observations were interpreted and analyzed. The main purpose of the analysis is to verbalize what the collected data mean. This stage corresponds to the "Reflective Observation" mode of the experiential learning cycle. Similar to the "Reflective Observation" mode, the data analysis stage of qualitative case studies involves the verbal expression of observations made as a concrete experience, and the explanation of these observations using concepts and themes. The data obtained in the qualitative case studies are first written out as words and phrases. Among these words and phrases written, those that are significant, explain what is happening and answer the questions why and how are identified to reach meaningful expressions, that is, "concepts". These concepts are classified according to their relationships, similarities, and differences with each other; these are called "categories or themes" (Yıldırım & Şimşek, 2013, p. 264). In short, it involves the verbal reflection of experiences, or more specifically, observations.

6.3 Abstract Conceptualization – Formulation of Analytic Generalizations and Theories

This mode of the experiential learning cycle involves the mental formulation of the general theoretical knowledge distilled from experience. Learners who have concrete experiences express their experiences through reflective observations. At the end of the process, they create general outcomes or theoretical knowledge in their mind through inferences. At the end of the research process in qualitative case studies, generalizations can be reached by considering the varying nature of social events and the fact that each situation is unique. Additionally, implications are made for theoretical knowledge in light of the collected and analyzed data. These implications may include the confirmation, explanation, exemplification or refutation of existing theoretical knowledge as well as the introduction of new theoretical knowledge. Theoretical knowledge derived from the qualitative research process is rather like an experience and perspective for other researchers (Yıldırım & Şimşek, 2013, p. 98). In experiential learning theory, the information obtained at this stage also offers a viewpoint to the person for a similar new experience.



A Co-representation of Experiential Learning Cycle and Qualitative Case Study Stages

7. The Use of Qualitative Case Studies as an Experimental Teaching Method in the Training of Pre-service Teachers

In scientific research, the design is a logical construct that combines research problems, collected data, and results. In short, it is a plan that leads the researcher from the beginning to the end of research (Yıldırım & Şimşek, 2013, p. 316). The method is a planned path to achieve a specific goal. In the teaching process, a method is a planned course of action to reach pre-specified learning goals. The previous sections of this paper discuss that the definitions and explanations of learning in experiential learning theory completely overlap with the paradigm of qualitative case studies and that the learning modes of the experiential learning cycle correspond to some stages of the research process in qualitative case studies. Based on these similarities, this paper suggests that qualitative case studies can be used not only as a research method but also as a teaching method in the teaching process.

7.1 The Suitability of the Method for Teacher Education

Teaching is a profession and teacher education is a vocational education. "Vocational and technical education is, in the broadest sense, the process of promoting an individual's balanced mental, emotional, social, economic and personal development and of helping to acquire knowledge, skills, attitudes and professional habits required by a profession, which is obligatory for individual and social life" (Şahinkesen, 1992, p. 691). Vocational education focuses on the observation and experience of the profession.

Teacher competencies include cooperation with other teachers, class management, learning guidance, the ability to use teaching methods and techniques, planning teaching process, and ensuring student participation (Çelikten, Şanal & Yeni, 2005, p.218). Accordingly, to achieve these competencies, a teacher should have theoretical knowledge of different disciplines, observe the application of this theoretical knowledge in actual situations, draw theoretical inferences from these observations and test these inferences several times through real experiences. This leads us to the learning cycle of experiential learning theory which overlaps with qualitative case studies as previously discussed.

Against this background, it seems that qualitative case studies can be used as an experiential teaching method to help acquire teacher competences.

7.2 The Application Area of the Method

A question to be answered is "which course or discipline can this method be used for?". In Turkey, the course "school experience" is one of the vocational courses taught at undergraduate level in teacher education programs ("Higher Education Council", 2017).

The faculties of education in universities have issued guidelines on how to run the school experience course. Accordingly, the purpose of the school experience course is to help pre-service teachers to be better prepared for the teaching profession and to acquire the ability to use background knowledge, skills, attitudes and habits concerning special field education and the teaching profession in a real educational environment. Within the scope of this course, pre-service teachers are expected to observe a school day of teachers and students in the practice school, to design a lesson plan, to observe a class in terms of the use of teaching methods and classroom management, to prepare worksheets and other teaching materials, to carry out group work, to prepare tests, to evaluate student work, and to explore school facilities and their problems. Each work is conducted weekly and independently of each other; at the end of each work, pre-service teachers are asked to report their work. Each work is filed in a portfolio and the lecturer running the course makes an evaluation through this portfolio file ("Erciyes University", 2010). This paper does not include a detailed review of the school experience course plan. However, within the scope of this course, pre-service teachers are asked to make more participatory, holistic and systematic observations and interviews rather than making independent weekly observations as an observer from outside so that a learning process appropriate to experiential learning theory can be ensured through the qualitative analysis of data. In other words, it is proposed that qualitative case studies can be used as a teaching method for the school experience course.

7.3 The Suitability of the Method for Student Level

Whether the new teaching method is suitable for the level of pre-service teachers should also be discussed. The new method is based on experiential learning theory. Experiential learning is defined as a multi-linear model of adult development (Kolb & Kolb, 2009b, p.43). Miettinen (2000, p. 54) describes experiential learning theory as a fundamental approach in the tradition of adult education theory.

Lewis and Williams (1994) claim that adult students bring their previous experiences to their learning environment of university education and they like to refer to their previous experiences while learning in the class; sensitive teachers benefit from these previous experiences (p. 5). Considering educational studies on the application of experiential learning theory, they mostly cover higher education into which adult education is integrated (Kolb, Boyazits & Mainemelis, 2001, p. 235). It seems that the practices of experiential learning theory are suitable for adult education and for use in higher education.

7.4 Implementation Steps of Qualitative Case Studies as an Experimental Teaching Method

The research steps followed in qualitative case studies (Yıldırım & Şimşek, 2013, pp. 93-98) and the questions that need to be asked about the planning of the teaching process in qualitative case studies employed as a teaching method are as follows.

Determination of Research Problem: Which subject area will include the theoretical knowledge pre-service teachers obtain at the end of the learning process as planned?

Establishing the Theoretical Framework: What is the available theoretical information that can form a framework for pre-service teachers' process of obtaining the theoretical knowledge?

Phrasing Research Question or Questions: What information will pre-service teachers obtain at the end of the learning process? What questions will this information correspond to in the identified subject area?

Determination of Research Sample: Where and with whom will pre-service teachers have concrete experiences required to obtain the theoretical knowledge?

Design and Development of Data Collection Tools: Which concrete experiences will eventually lead to theoretical knowledge? How will these experiences be planned in advance?

Application of Data Collection Tools: What kind of data will be gathered through planned concrete experiences?

Analysis and Interpretation of Data: How will the data collected through concrete experiences be verbalized?

Analytic Generalizations and Theorizing: How will the data collected through concrete experiences and verbalized be transferred into abstract theoretical knowledge?

7.4.1 Determination of Research Problem (Learning Area)

Several issues including classroom management, time management, classroom communication process, the use of teaching methods, class attendance, roles of teachers and students in the teaching process, and so on can be investigated through qualitative case studies, which can provide extensive data. Each of these topics can be expressed as a research problem.

It is of key importance that the research process is well planned at the outset and each stage is traceable and controllable. Each pre-service teacher should investigate different research problems and the lecturer should keep track of pre-service each teacher in the research and learning process; however, this will complicate controlling the teaching process. The topics to be investigated should be limited to a planned operation and management of the research process.

Limiting the problem area does not mean to investigate only one aspect of the situation to be studied. For example, if a classroom communication process is to be studied, its interaction with other variables affecting it or affected by it can be investigated. In a theoretical sense, the communication process influences or is influenced by many variables such as the teacher's teaching method, student participation, classroom management, and time management. Thus, although only the classroom communication process is chosen as the problem area, qualitative case studies holistically analyze this process in terms of its interaction with other variables. It is more appropriate to diversify research questions while limiting the problem area. The interaction of research topic with other variables can be expressed as research sub-problems and inter-variable relationships can be accordingly analyzed.

7.4.2 Establishing the Theoretical Framework

"The theoretical framework helps the researcher to define research sub-problems, to identify their relations, to determine the dimension of data collection tools, and to select themes used in the analysis phase" (Yıldırım & Şimşek, 2013, p.94). Establishing the theoretical framework means to form a framework by summarizing the theoretical information on the studied problem situation under sections. This framework guides the researcher towards what sub-problems to use to gather data, what critical issues to consider in interviews and observations, and how to categorize the collected data. For example, if pre-service teachers do a qualitative case study on classroom communication within the scope of the school experience course, they should first be informed of the theoretical framework of classroom communication process. The lecturer and pre-service teachers should together explore the theoretical information about the classroom communication process and establish the theoretical framework at this stage.

7.4.3 Phrasing Research Question or Questions

This stage involves writing questions about which sub-dimensions of the initially identified research problem are investigated. Observations and interviews to be made at a later stage will constitute concrete experiences to answer these questions. If pre-service teachers do a qualitative case study on classroom communication within the scope of the school experience course, they should investigate not only classroom communication but also the interaction of classroom communication with other variables such as classroom management, teaching methods and techniques, time management, and class participation to hold a holistic view of the classroom learning-teaching process. It is thus important to pose questions that reveal the effects of different variables on each other.

"What roles does the classroom teaching method assign to teachers and students in the communication process? How do teacher behaviors guiding the classroom communication process affect student participation? How do teacher and student roles in classroom communication affect classroom management?" Such questions help pre-service teachers to investigate classroom communication in terms of its interaction with different variables.

7.4.4 Determination of Research Sample

The field of the teaching profession includes schools and classrooms. Doing qualitative case studies in the school experience course, pre-service teachers actually do field research. Among qualitative research sampling methods, purposive sampling can be used to determine the research field. Purposive sampling methods are those that allow an in-depth study of situations that are thought to have rich data (Yıldırım & Şimşek, 2013, p.134). Sampling according to different criteria can cause time- and cost-related difficulties when pre-service teachers do qualitative case studies within the scope of the school experience course. Thus, it seems to be more appropriate to use convenience sampling although there are many purposive sampling methods. Convenience sampling is a method that speeds up and offers practicality to the research and is often employed when other sampling methods are unavailable to use (Yıldırım & Şimşek, 2013, p.141). Pre-service teachers can make observations and interviews in easy-to-reach schools or classrooms.

It is important that pre-service teachers make their observations in one classroom and hold interviews with teachers and students in that classroom. Non-professional pre-service teachers are more likely to have difficulty in doing qualitative research in more than one school or classroom and comparing results in different classrooms. Thus, the conduct of research in a single class in a school facilitates the traceability of the research (learning) process. Among case study designs, it seems logical to use a holistic single-case study design. A holistic single-case study design involves the analysis of only one case as its name implies. If there is a well-formed theory, this design can be used to confirm or refute it (Yıldırım & Şimşek, 2013, p.326).

7.4.5 Design and Development of Data Collection Tools

In qualitative case studies to be conducted within the scope of the school experience course, the lecturer and pre-service teachers should together prepare interview and observation forms for the systematic collection of data. Each section or question in these forms offers researchers an insight into what kind of data can be obtained. The discussion of the predicted data in the classroom guides pre-service teachers at the data collection stage.

7.4.6 Application of Data Collection Tools

This stage, in which pre-service teachers make in-situ observations and interviews using data collection tools within the framework of the problem situation and sub-problems, corresponds to the "concrete experience" mode of the experiential learning cycle. Through the data collection stage of qualitative case studies, pre-service teachers are actually involved in the experiential learning cycle. When the lecturer regularly monitors the data collection period and the collected data are shared in the classroom, it helps the lecturer to be able to guide the research (learning) process. It is essential to share the collected data to correcting and complete, if something is missing or wrong, in the process. When the lecturer participates in pre-service teachers' in-situ observations and interviews and offers help, it facilitates the regular progress of the process and fosters pre-service teachers' motivation.

7.4.7 Analysis and Interpretation of Data

In a sense, this is a reflection of concrete experiences enjoyed at the data collection stage, that is, interviews and observations, on concepts and themes. Thus, the stage of data analysis and interpretation correspond to the reflective observation mode of the experiential learning cycle. Within the scope of the school experience course, pre-service teachers analyze what their observations and interviews mean and what the observed behaviors and interview statements mean by arriving at concepts and themes.

Pre-service teachers may face some uncertainty about what the observations or statements mean and they may fail to completely formulate the projected concepts and themes in their mind. Thus, it seems to be more appropriate to conduct analyses initially under the lecturer's guidance and through examples interactively in the classroom until pre-service teachers develop a certain understanding of how to appropriately perform the data analysis steps and to reflect a holistic view in analyses. The lecturer of the course should monitor and guide the analysis of each pre-service teacher.

7.4.8 Analytic Generalizations and Theorizing

This stage involves arriving at general and theoretical knowledge through experiences, comparing experience-based knowledge with theoretical knowledge, and offering theoretical principles and generalizations based on research results. This stage of qualitative case studies corresponds to the "abstract conceptualization" mode of the experiential learning cycle.

At this stage of the research (learning) process, when the lecturer guides pre-service teachers on how to make such deductions through examples, it will help pre-service teachers to link their background knowledge to the theoretical information written in books. Thus, it seems to be more appropriate to make theoretical deductions based on research results initially under the lecturer's guidance in the classroom environment.

It is important to maintain the process in an interactive manner until pre-service teachers develop a certain understanding of how to demonstrate research results and accordingly make theoretical deductions. After pre-service teachers acquire this understanding, they should be granted a certain amount of time and the opportunity to make theoretical deductions. During this period of time, the lecturer of the course should monitor and guide the deductions made by each pre-service teacher. It is of key importance to present research results and the theoretical knowledge based on these results in the classroom and to share and discuss them through direct quotations from the observation and interview data. Thus, pre-service teachers gain an insight into how to use the theoretical knowledge, which they acquire in the research process within the scope of the school experience course, when they become trainee teachers and in-service teachers, and into what to consider in light of this knowledge in a real professional experience.

8. What to Plan before Qualitative Case Studies as an Experiential Teaching Method

8.1 Planning of the Research (Learning) Process

Qualitative case studies require spending a long time in the field. Moreover, if these studies are to be used as a teaching method, certain phases of the teaching process are added to the time allocated to the research process and the duration may be extended. Thus, each step of the research process should be planned in advance. This planning should be shown on a time schedule. The steps including the determination of research problem and sub-problems, the formulation of theoretical framework, and the development of data collection tools are the steps that can be performed together with pre-service teachers in the classroom prior to in-situ practices. It is important to determine the school/ classroom of the research in advance and to know where and with whom to conduct the research in order to save time. No additional time should be reserved for this within the research period. If the lecturer deigns the research problem and sub-problems, theoretical framework and data collection tools in advance, more time can be allocated to in-situ practices. If this preliminary preparation is not made, all the steps need to shaped from the beginning together with pre-service teacher teachers, which will be time-consuming.

At the data collection stage, pre-service teachers gather data in the field using interview and observation forms. At this stage, pre-service teachers should be given time enough to collect adequate data. When pre-service teachers plan how many weeks, how many days a week and how many hours a week to spend in observations and interviews, and draw a time schedule, it makes the research process controllable and traceable. A separate time should be allotted in the time schedule to regularly present the data gathered through observations and interviews in the classroom and to share and discuss them under the lecturer's guidance.

The data analysis and theorizing steps include the free time required for pre-service teachers to perform these steps, the time in this free time that should be reserved for individual interviews with the lecturer, and the time required to share the work completed in these steps under the lecturer's guidance in the classroom. They should also be planned on the time schedule.

One of the issues that should be considered while planning the research process is that qualitative case studies should be conducted with as minimum as possible number of pre-service teachers. Crowded groups make it difficult for the course lecturer to guide the process and to manage the process in a planned way.

8.2 Making Essential Amendments in Teacher Training Programs

Having pre-service teachers do qualitative case studies within the scope of the school experience course is important from them to observe and experience the practices of professional knowledge they theoretically learn and to make sense of theoretical knowledge through experiences. Thus, vocational courses, the practices of which can be observed in the field through qualitative case studies, should be taught before the school experience course.

Qualitative case studies require researchers to have theoretical knowledge and practical experience. Pre-service teachers who carry out qualitative case studies should be trained on qualitative research methods and case study methods. Thus, the courses "qualitative research methods" and "qualitative research practices" should be included in the first years of teacher training programs.

For pre-service teachers, doing in-situ qualitative case studies is a process that requires labor and time. When pre-service teachers take multiple classes other than the school experience course within a term, it makes it even more difficult for them to focus on their own school experiences and limits their time. Thus, the term in which the school experience course is taught should not include too many theoretical courses.

9. What to Consider in the Application of Qualitative Case Studies as Experiential Teaching Method

9.1 Collection of Context-related Data in the Research (Learning) Process

It is important to context-related collect data in the research process. Collected data on the research problem are valid in their own context. Context-related data include information on the environment in which the research is conducted and on people from whom data are collected. These are social, psychological, cultural and physical characteristics. Context-related data form the basis for problem-related data (Yıldırım & Şimşek, 2013, p.46). For example, behaviors of the teacher guiding classroom communication are not independent of his or her professional experience, perspective on communication, and characteristics. Pre-service teachers should know teachers and students they will observe and interview with, and the physical and social characteristics and facilities of the school and classroom before they start collecting data on the research problem in qualitative case studies to be conducted within the scope of school experience course. To do this, they should have preliminary interviews with teachers, students, school administrators and guidance services and review written documents containing important

information. When the research process is planned, the stage of context-related data collection should also be planned in the time schedule.

9.2 Data Recording

At the data collection stage, it is important to record data collected through interviews and observation forms. When pre-service teachers' interviews with students and teachers are recorded using voice recorders and classroom observations using video recorders, it facilitates data sorting and analysis. Permission to record is required. It facilitates the permission process when it is notified that the data are collected for the school experience course, this course aims to help pre-service teachers to acquire experience in the teaching profession, and the data will not be used for any other purposes.

9.3 Preparation of Research Reports and Process Evaluation

Preparing a research report containing all research data, documents and records at the end of the research process are important to evaluate how pre-service teachers have an experiential process, and what theoretical information they obtain at the end of the process. Research reports must include the theoretical framework for the identified problem situation, problems and sub-problems, a section describing the role of pre-service teachers in the research process, context-related data, information on research sample, the preparation and application process of data collection tools, information on how data are recorded and classified, information data analysis, research results, pre-service teachers' interpretation of results, and conclusions drawn from results.

9.4 Preparation for Internship Training

At the end of the research (learning) process completed through qualitative case studies within the scope of the school experience course, experience-based theoretical information should be applied and tested in the field. Internship training corresponds to the "active experimentation" mode of the experiential learning cycle. In other words, through qualitative case studies, pre-service teachers carry out the work corresponding to the first three modes of the experiential learning cycle, which include concrete experience, reflective observation, and abstract experimentation. Qualitative case studies involve pre-service teachers' observational experiences rather than active or practical experiences. Active experience is a practice-based experience. Pre-service teachers practically apply their professional knowledge in their internship training and test it in the field.

10. Discussion and Conclusion

The use of qualitative case studies as a teaching method in the training of pre-service teachers means to follow a path from theory to practice. Thus, qualitative case studies will become a systematic method of learning/teaching on the basis of experiential learning theory. Qualitative case studies used in the investigation of many problems in education and generally used in the evaluation of curricula will also be used as a teaching method; thus, the use of such research will expand and become widespread.

Before pre-service teachers put into practice what is theoretically taught to them on the subjects of teaching methods and techniques, classroom management, classroom communication, preparing an instructional plan, etc. during their internship trainings, they need to get to know the field, to observe the application of these subjects in the field through concrete observations, to explain what is going on in the field on the basis of these observations, and to make generalizations by making inferences from these explanations. This process, which can be called a field research, must have a systematic method. The present study theoretically asserts that qualitative case study is the method to be adopted in the field research to be carried out in the field of teacher training.

10.1 The Contributions of the Study to the Field

10.1.1 The "school experience" course, which is contained in the teacher training programs offered in Turkey, is a course having a quality of field research that is received by pre-service teacher prior to their internship training. However, the curriculum of the course makes no mention of a teaching method and a systematic teaching process. With the present study, the teaching method of the course will be named as "qualitative case studies", and it will be possible to plan the teaching process of the course as specified in the present study.

10.1.2 Qualitative case studies, proposed as a teaching method in the present study, may be used as a new and effective teaching method for equipping pre-service teachers with field experience based on observations within the framework of teacher training.

10.1.3 With qualitative case studies proposed as a teaching method in the present study, a practical way will be put into effect that will allow, within a well-planned teaching process, pre-service teachers to construct in their minds the

theoretical knowledge they have acquired before their internship training through their observational experiences by undergoing the first three stages of the experiential learning cycle.

10.1.4 Qualitative case studies, proposed as a teaching method in the present study, will guide instructors who teach the 'school experience' course in planning a controlled, sustainable, and systematic teaching process.

10.1.5 Thanks to qualitative case studies, pre-service teachers will be able to construct their own knowledge and improve their research skills by conducting empirical research within the framework of the problems and sub-problems pre-determined within the scope of the 'school experience' course and comparing what they have learned theoretically with the results of such empirical research.

10.2 Recommendations

10.2.1. The effects of the application of qualitative case studies, proposed as the method of field research in the field of teacher training, in teaching on providing pre-service teachers with professional knowledge and skills and positive attitudes towards the teaching profession and on ensuring permanent learning should be searched experimentally.

10.2.2. The curricula of the courses in other countries that are similar to the "school experience" course taught in Turkey having a quality of field research in the field of teacher training should be evaluated within the framework of experiential learning theory and the experiential learning cycle based on the relevant stakeholders' perceptions and views. That is, curriculum assessment studies should be carried out.

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