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# The meanings of experiential-, collaborative-, and inquiry-based learning

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**Abstract:** Using interviews, this study explores the meanings of experiential-, collaborative-, and inquiry-based learning as perceived by professors and students. To achieve this goal, Focus Group Interviews were conducted with both professors and students. Experiential learning involves engaging in activities meaningful to students, including both direct and indirect experiences. Through students' reflection, content is interpreted personally and transferred to other subjects or real-life situations. Collaborative learning is defined as two or more individuals gathering to solve a common problem and pooling their opinions to produce better outcomes than otherwise. Finally, inquiry-based learning involves acquiring knowledge and information through various methods and internalizing them intellectually, making them one's own. Based on these findings, the study discusses the direction of changes in classroom teaching.

***Keywords:*** *Collaboration-based learning, College education, Experience-based learning, Inquiry-based learning, Student-centered learning.*

## 1. Introduction

The paradigm of the space called university has changed from a place that provides education to one that produces learning according to social and temporal changes [1]. Accordingly, the university's function is changing to a place for education to strengthen learners' learning outcomes, that is, their capabilities, by focusing on "What will students learn?" rather than on "What will the professor teach?" Although traditional education has been knowledge-centered, with the important question "What do students know?" current universities value competency-centered education that focuses on "What can students do?" And in accordance with these changes, educational policies, curricula, and educational methods are also changing. Competency is an individual's underlying characteristic causally related to criterion-referenced effective or superior performance in a job or situation [2]. In other words, competencies are abilities and possibilities expressed by a combination of knowledge, skills, attitudes, and values. Besides that, competencies can be demonstrated by actions (performance) leading to certain results in a complex context [3]. Competency's characteristics in school education are as follows. First, competencies emphasize learning outcomes, and competency education seeks to understand the intended learning outcomes after the student's learning is completed, thus emphasizing educational accountability. Second, competency means performance ability. In other words, competency emphasizes what a student can do by concentrating on learning results; it also emphasizes the ability to utilize knowledge rather than simply having acquired knowledge. Third, competency implies totality by operating in an integrated manner when not only knowledge and skills but also defining characteristics such as motivation and attitude are organically linked to perform tasks and solve problems.

In sum, competency is not simply having acquired much knowledge but the ability to do something by combining knowledge, skills, values, and attitudes. This change in the educational paradigm serves as an opportunity to rethink what talents should be fostered through education; thus, many educational


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innovations and changes have occurred in university education. In particular, in Korea, various government financial support projects such as the University Innovation Support Project and the Linc Project aim to innovate in university education.

Moreover, innovating university education ultimately means innovating curricula and teaching methods; then, because knowledge in textbooks is no longer everything, learners can acquire competencies essential in the real world. Students need to acquire various capabilities to function well in an uncertain, changing real world. In particular, rapid social and temporal changes, such as the 4th Industrial Revolution and COVID-19, have become opportunities to expand learning spaces beyond the classroom to far-flung regions, countries, and even the virtual world. Due to these changes, various educational methods, for example, flipped learning, blended learning, and hybrid learning that combine online/ offline and move across time and place, are expanding [4, 15].

As such, many universities are attempting to implement learner-centered education to strengthen students' capabilities in the real world. For instance, a learner-centered class recognizes individual learners' diversity and facilitates autonomous learning. Learner-centered classes are expected to achieve, for instance, active learning participation, effective communication, improved learning motivation, and mutual respect [5, 6, 7]. The characteristics of learner-centered education can be summarized as experiential learning, collaborative learning, and inquiry learning.

First, experiential learning refers to a curriculum organized so that students learn through and reflect on their experience [8]. However, what is "experience" here? The dictionary defines it as something an individual has actually done or knowledge/skills gained from the action. Philosophically, content realized through sensation or perception of an object is experience. To summarize, experience can be "direct," that is, knowledge and skills gained by actual doing, or "indirect," that is, content realized through the senses or perception. Experiential learning means synthesizing and structuring various unstructured learning situations [9]. In other words, from direct learning experiences, experiential learners go through a reflective process and apply and verify abstract generalizations [10].

Kolb explained experiential learning according to the following four stages [8]. First, the concrete experience stage exposes students to new learning situations and allows them to learn using accumulated learning experiences. Second, the reflective observation stage recalls the learning experience from various perspectives. Third, in the abstract conceptualization stage, students generalize results of the reflective observation stage through critical, subjective judgment. Fourth, through the active experiment stage, students verify a concept generalized through subjective judgment by reapplying it to a learning situation [10]. In brief, what a learner simply does becomes an experience, and for something to be experiential learning, it must be accompanied by reflection and transfer.

Collaborative learning involves a curriculum organized to help students learn communication and consideration in society by promoting student collaboration by focusing on teaching and active learning methods such as discussions, debates, and projects. In other words, collaborative learning involves acquiring values and attitudes essential for learners to lead the worlds of work and daily life, as well as to create collective intelligence and further improve their individual abilities [8, 14].

Last, in inquiry learning, students develop and explore innovative ideas, knowledge, and creative alternatives through experiments and challenges, using abundant learning resources to recognize and solve diverse, complex problems [8]. Inquiry refers to recognizing a problem individually or in a group and solving it by collecting and analyzing related data to reveal its cause and potential solutions [11, 12].

Experiential learning, collaborative learning, and inquiry learning include educational content and teaching methods to strengthen learners' capabilities and field practice capabilities. However, because learner-centered education cannot ultimately escape the educational environment in which students learn, its definition may vary slightly depending on the institution. Additionally, opinions may differ between schools/ professors providing education and learners receiving education. Therefore, this study examines the meanings of experiential, collaborative, and inquiry learning based on professors and students' perceptions

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## 2. Methods

### 2.1. Participants

To examines these meanings, this study conducted 25 Focus Group Interviews (FGI) with 79 professors and 40 students from I University in G City

### 2.2. Data Collection and Analysis

From May 2023 to January 1, 2024, FGI was conducted using semi-structured interview topics such as those in Table 1. On average, interviews lasted from 1 hour 30 minutes to 2 hours and were held in the university's main building conference room and unit department conference rooms.

**Table 1.**
Interview topics.

| Interview topics |
|---|
| Meaning of experience, collaboration, and inquiry |
| Experience with experiential learning, collaborative learning, and inquiry learning |
| Advantages and disadvantages of experiential, collaborative, and inquiry learning |
| Support items to promote experiential, collaborative, and inquiry learning |

With the research participants' consent interview content was recorded, and field notes were taken to record research participants' important expressions and non-verbal expressions. After an interview was complete, all its content was converted to text within 3 days to prevent data loss.
Next, the collected interview data was analyzed using in vivo coding, a method using unmodified phrases or words from participants' speech as codes [13]. For this, the entire interview data was read at least three times, and the outline and flow of the entire text content was identified. Then, the first coding was performed by breaking the text into appropriate units. Afterward, I read the data several times, analyzed it line by line, underlined sentences or words I thought were meaningful, and took notes on related thoughts to conceptualize the data's substance. Then, secondary coding was performed to indicate importance in terms of size, focusing on whether a specific topic was repeated.

## 3. Results

### 3.1. The Meaning of Experience-Based Learning

What does experience mean here? In this study, answers included "trying it yourself," "becoming an opportunity for yourself to grow," "doing something meaningful when you think about it," "means to make fewer mistakes," and "confidence in your goal." It was also perceived as "giving information" and "material that can be used at any time in life." In other words, experience means gaining confidence in achieving one's goal through some meaningful activity; then this accumulated experience becomes knowledge that can be used at any time, reducing mistakes, and ultimately providing opportunities for personal growth, as expressed by a student-participant:

*Whether it's good or bad, I think it's an experience if I can try it and then develop further based on the experience. For example, with group assignments, I have done this much, but I can do this much more, or I can participate in this extracurricular activity next time based on other good experiences, and I think it is an experience that can be extended like this.*

Important here is "meaningful activity." The respondents' most common opinion about meaningful activities was "trying it yourself," but many other opinions held that, "if a book or lecture was meaningful to me, and I gained something from it, this could also be an experience." Because actually "trying everything yourself" is limited, if an individual experiences something indirectly through various materials (e.g., books, videos, lectures) and finds it meaningful, it can be understood as the individual's experience.

In other words, something can become an experience when an individual student considers the material's content, explores it, and "translates" it into the individual's language to understand it, rather

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than simply listening to a lecture. In addition, if an individual can use what is learned from books in other classes or in actual fields, that becomes accumulated experience:

*The process I go through. Doing it yourself is an experience, but I think you can also experience it through lectures or books. For example, when I listen to a lecture, I don't just study the content in the book, but I think and explore the content in the book with my own thoughts, and when I change it or understand it in my own language, it feels like an experience.*

The experiences above can be summarized as "meaningful activities for students" that include both direct and indirect experiences. Students gained experiences through a variety of methods, including lecture-style classes along with discussions, debates, presentations, special lectures, and role plays, experiments and practice, field experiential learning, and field training

First, experiential learning happens during class time despite the common misconception that lecture classes are not experiential. Of course, a class that simply conveys theory without meaning for students cannot be an experience. However, theoretical classes, discussions, debates, presentations, special lectures, role plays, and so on that are meaningful to students, allow them to participate directly, make knowledge their own, and express it in their own language; then it can become experiential learning.

In particular, student-participants recognized that stories about field cases and special lectures by field experts were effective indirect experiences because indirect experience in a field connected to one's future path is meaningful because it allows one to experience indirectly future career paths that are difficult to experience directly. However, if indirect experiences do not give meaning to special lectures unrelated to students' career paths, they do not perceive them as good experiences. As a professor observes:

*We think about what kind of experiences the college students will have and even show them videos. In the past, if you were invited by a CEO, you could give a special lecture. This is very good for students and can lead to employment later on. We exchange business cards and from there, it leads to employment.*

Next, students can try experiments, practical training, and demonstrations during class. These vary depending on the department's major characteristics, but in science, engineering, and healthcare, students can create something or prove a theory through experiments and practice. And in the humanities, students can indirectly experience working in the field by directly practicing or demonstrating what has been learned:

*In particular, I saw that simply understanding something in theory is very different from learning it yourself through hands-on experience and experiencing something through various trials and errors.*

Experiences outside the classroom include field experiential learning and field visits. Just as seeing once is better than hearing a hundred times, actually experiencing various fields related to one's major and connecting those experiences to one's classes can be a meaningful experience. In addition, if students have an opinion about their career path and learning during the process, it becomes motivation and allows them to participate more diligently in the learning process. In fact, student-participants understood the class through direct experience, felt they had made it their own, and thought that they were motivated by learning about the world of work they had envisioned.

Lastly, field work experience is similar to field training but is a slightly more direct experience. Field work experience means directly experiencing major-related jobs, such as internships, field training, and part-time field work. While onsite observation involves going to the field to explore and observe related jobs, field training allows the more direct experience of actually performing the job. In the nursing department, for example, student nurses go to a hospital for practical training. In the pet health department, students train part-time at an animal hospital during vacation. In addition, the Department of Special Education and the Department of Early Childhood Education provide practical training in special schools and kindergartens. Through these field experiences, students gain understanding of their actual world of work; based on these experiences, they become more motivated to study and plan their careers. As one professor has observed:

*Currently, about 10 students come to work at the hospital for a month during vacation. Once they come back*

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*from the practical training, they definitely adapt well to the class. In my opinion, especially in the health and medical field, if you touch and experience something like this and take an X-ray together even if you don't have theoretical knowledge about it, it seems to be much more helpful in later classes.*

Experiential learning is important for student interest and motivation, connection with theory, and growth through various experiences. Importantly, experiential learning is more interesting than sitting still and listening to lectures because it involves moving the body directly, and it motivates both learning and career through various activities. Additionally, simply "listening" to a lecture on theory cannot be an experience for students unless they understand it as their own and accept it as meaningful. And serving as a connecting link can provide a variety of experiences. When students directly experience a theory, they have already read being realized in the real world, the theory can be elaborated to become students' living knowledge. In this respect, experience serves as a link with theory, as this professor observed:

*When you keep giving lectures to college students, whether one-sided or two-way, the students are not able to quickly make it their own. So, the question of why experience is important is because of the nature of students these days, it seems that everyone has already created participatory classes and such since elementary school. Even college students will notice their peers much more if we visit them once rather than just giving lectures.*

Lastly, experiential learning promotes students' growth through diverse, challenging experiences of both success and failure. Via trial and error, they gain self-identity and self-confidence through accumulated successful experiences and will perform jobs more successfully based on these experiences when they enter the work world. In addition, students recognized that they could feel themselves growing through the accumulation of experiences. In other words, while learning through experience from the lower grades, they were aware that the capabilities they had earlier lacked were expanding. Thus, they perceived experiential learning very positively.

### *3.2. The Meaning of Collaboration-Based Learning*

Professors and students who participated in FGI described collaboration as "joining forces together," "having higher expectations than when working alone," "having others fill in the parts that I did not think of," "the process of managing relationships," "sharing individual abilities with the group," and "producing better results with more ideas." As a student summarized,

*I think collaboration is not about doing something alone, but about two or more people coming together, pooling their opinions, and ultimately leading to a good result.*

Regarding why such collaboration is necessary at school, students recognized that to go into society and work with diverse people after graduation, practicing and developing the ability to cooperate with various people through various advance activities at school are necessary. Basically, as one professor summarized, the ability to collaborate is essential for living as a community member of society:

*Fundamentally, collaboration is necessary because it is an element that must be achieved in relationships with others as members of a community. Collaborative classes are an element of putting water into a reservoir where a child can go out into society and grow into a necessary human resource. When water is put into the reservoir, various types of water can be mixed and become one reservoir, just as humans are part of various communities. It allows me to experience all the things I can experience when I go out into society as a member, so I wonder how I should act in times like this. To create such an experience, collaboration is absolutely necessary.*

Additionally, participants recognized that collaboration is necessary for leadership development. One prerequisite for leadership is, of course, multiple members of a group. Thus, collaboration is necessary to cultivate leadership that creates and leads relationships among various people. According to one student:

*I think I still learn a lot from group activities. Even though the kids don't talk when we do group work, I feel like I'm learning how to lead them.*

In particular, one student described collaboration as an "inevitable ordeal" because it cannot be done only with like-minded people. In addition, because all life settings (e.g., home, school, friendship, work,

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daily life) involve collaboration, it was recognized as natural and essential, like air:

*I think collaboration is an unavoidable ordeal. Since only like-minded people can't cooperate, even if they don't like each other, they have to bicker with each other to ultimately achieve their goals.*

Indeed, collaborative classes are conducted, for instance, through discussions, debates, team assignments, team presentations, and projects. First, discussions and debates are often conducted so that each team discusses a specific topic's pros or cons. Team assignments vary depending on the department's major characteristics. Science and engineering departments assign projects that involve conducting experiments or developing certain results in teams. Health-related departments assign many activities during which students are divided into teams and practice on each other. Humanities departments assign activities that involve creating materials or making team presentations. A professor highlighted the importance of communication in such projects and activities:

*Things like how to communicate when working with people from other organizations. I think there will be group reports and group assignments. So, it's communication skills. I think that's very important, and as I mentioned earlier, there's a kind of personality index, and it can be seen that communication is closely related to it. So, we continue to practice in class by accepting what others say as it is, giving our own thoughts about it, and sharing experiences that allow us to better structure information about each other. You can watch the video, do it with your partner, and experience these experiences in your group assignments. That's why communication and collaboration are really important in our social welfare.*

As such, except for subjects in which lectures were only on theory, most classes are run through various active assignments, such as discussions and debates, and team activities, assignments, presentations, and projects. In some cases, these team activities are performed as part of collaborative learning, under the recognition that collaboration is important. In other cases, team activities were conducted because some departmental characteristics and circumstances inherently mandate it.

### *3.3. The Meaning of Inquiry-Based Learning*

In the study, professors and students perceived inquiry learning as "digging into," "imagining," and "investigating deeply into an area they did not know about." In other words, exploratory learning is not simply acquiring certain knowledge unilaterally, but exploring and making knowledge and information acquired through various methods one's own through intellectual internalization. As one student defined it:

*Imagine it. Just as you can think of apples, grapes, and bananas if you give them the topic of fruit, if you give them one topic, you can think about it in many ways, and if you think about it, a lot of different opinions come together. If there are so many opinions, I think the results can be enriched to some degree, so when I think about a theory, I don't just think about that, but I also think about things like this because this theory has this, so there could be something like this as well. I think that if you write it, it can also be called inquiry.*

And as a professor defined it:

*Inquiry is the capacity to create one's own strength. In the end, you have to have your own strength, and taking a class means internalizing other people's knowledge as your own. To internalize it, inquiry is the same as digging. Only by digging the ground can I develop the strength to know how many meters I can really dig.*

Important in exploratory learning is the motivation and agency that enable students to learn independently. Student-participants responded that immersion in a topic occurs best when motivation is interest in inquiry or in content. For current inquiry learning, instructors' role is to facilitate students' motivation and interest. To do so, instructors must be able to explain the activity's purpose and reason accurately. When learners do not understand why they need to learn something, they lose motivation and purpose. However, if the reason(s) for learning certain content is explained accurately, learning and transfer occur together through combination with students' existing knowledge system, so they become more interested in content and develop a desire to learn autonomously:

*First of all, even if it is not related to your career path or the job you will do later, if the professor's class content or method is interesting, you will become interested in it, and as the course progresses for a few weeks, you*

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*will think that it will be fun to take that interest and study a little more about this part. When I do it, I tend to do some research about the class:*

A professor-participant explains:

*When students say, "I don't know why we do this activity in this class," it's hard to accept that, but even though it's a very difficult and troublesome task, if they can understand why they have to do it, they recognize that they absolutely have to do it. I think I have to do it even if it's hard. As long as you recognize that you have to do it, it seems to move on its own. So, when synchronizing, I think it is necessary for professors in class to explain the purpose and reason by saying that we are not just doing this without explanation, but that we are doing this because we need to know these things to do this.*

Methods for exploratory learning include asking questions, completing inquiry tasks, writing papers, participating in seminars and various experiences, writing, and problem-based learning (PBL) and project-based learning (PjBL). PBL and PjBL combine experiential learning, collaborative learning, and inquiry learning in that they require learners to use their past experiences, collaborate to solve given problems, and discover new alternatives. A professor describes the method:

*Now, when I take my first class, such as ethics and philosophy, I tell students to write down every question they have while volunteering or practicing. When I was volunteering or practicing, I always looked back and thought about the things that made me wonder, "Why is this like this?" and discussed the good questions among the questions asked during the semester. Do something like that so that you can think of alternatives to the questions you are curious about.*

## 4. Conclusion

This study examined the meaning of experiential learning, collaborative learning, and inquiry learning based on professors and students' perceptions reported in FGI. First, experiential learning means gaining confidence in achieving a goal through meaningful activity; such accumulated experience can be used at any time, reducing mistakes and ultimately providing opportunities for personal growth through experiments and practices, special lectures by experts, field experiential learning, role plays, and demonstrations.

Second, collaboration refers to two or more people coming together to solve the same problem and ultimately to lead to results better than a single individual might achieve. Such cooperative learning includes team presentations, team tasks, team activities, and team-based learning.

Third, inquiry is not simply unilaterally acquiring certain knowledge but rather exploring through various methods and intellectually internalizing the acquired knowledge and information. Such inquiry-based learning includes writing reports, producing portfolios, PBL, and PjBL.

Based on these definitions of experiential-, collaborative-, and inquiry-based learning, certain changes are necessary for learner-centered classes. First, learning content and learning methods must be designed to provide learners sufficient direct and indirect experiences. In this study, however, even if the experience was not direct, student-participants recognized that through various materials, indirect experience could be as meaningful to them as direct experience. In other words, when a student does not simply listen to a lecture passively but thinks about it, considers it, explores its content critically, and translates it into understandable language, it becomes a meaningful experience and these learner-centered classes are composed of various elements, allowing students to immerse themselves into the subject matter more effectively than in traditional classes. Thus, when the curriculum is structured so that students can learn through meaningful activities and reflect on them, the curriculum becomes experience-centered.

Second, active interaction and feedback between professors and students during class is very important. Students recognized that active interaction with the professor created good classes. At this time, active interaction means a close relationship between professor and student, immediate feedback, the professor's passion for the content, and classes tailored to the students' level. In other words, students become motivated and interested in inquiry from professors' passion and attitude for the

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subject and interest in learners and their true learning. In particular, students perceived that when feedback on assignments was given during the collaborative learning process, communication with the instructor improved, and the quality of assignments also improved.

Finally, opportunities should be provided so that students can use what they learn in class, in other classes or in the real world. In competency-based education, competency ultimately means the ability to perform an action as a result of learning. Therefore, for competency-based education to be properly implemented, students must be able to use learning outcomes in other classes or in the real world, rather than simply memorizing textbook content. Therefore, rather than providing students with one-dimensional knowledge during class, we should provide them with learning experiences based on various examples and actions to provide them with ample opportunities to utilize their learning in various environments.



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