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Korean university students' significant learning experiences and associated generic skills: A qualitative essay review

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The purpose of the present study was to explore significant learning experiences of Korean university students and examine associated generic skills. The study implemented a document analysis approach to investigate essays collected from 33 students in a 4-year university in Seoul, South Korea. A total of 102 excerpts were coded, forming 14 sub-themes which were categorized into five themes that describe students' significant learning experiences. The five themes are interacting with others, learning by oneself and about oneself, realizing applicability to real-life, venturing into advanced learning, and experiencing a respectful learning atmosphere. Also, 18 generic skills were identified which were categorized into four clusters, namely comprehensive thinking skills, information utilization skills, interpersonal skills, and personal attributes. The results of the present study provide the groundwork for understanding students' perceptions of significant learning experiences and associated generic skills.

KEYWORDS

significant learning experiences, generic skills, core competencies, document analysis, university students

Introduction

The rapid changes of the twenty-first century are marked by factors such as the advancement of technology and recession (Blustein, 2019), a sharp decline in the school-age population (Ban, 2016; Kim, 2022), and prolonged COVID-19 (Karalis and Raikou, 2020), calling for university education to change. In order to meet the varying needs of the ever-changing society, discussions on *well-teaching universities* have actively taken place in South Korea since the late 2000s. Specifically, demands for university education innovation have emerged, starting with the 2008 University Education Capacity Enhancement (UECE) project and the 2010 Advancement of College Education (ACE) project, focusing on enhancing the quality of education for students (Byoun, 2018).

These projects aim to foster *well-teaching universities* by establishing competencies-based education systems and curricula (Lee, 2017). As such, the key components of the education innovation taking place in South Korea are twofold; to teach well and to foster core competencies. Thus, the universities in South Korea are actively devising ways to take part in the nationwide innovation movement in order to provide more meaningful learning to students and to assess the learning outcomes based on the established core competencies.

In alignment with such education innovation, it would be imperative to first understand students' perceptions of what constitutes meaningful and significant learning. Significant learning involves experiences in which students apply knowledge across various situations, actively explore knowledge, and immerse themselves in the learning process (Strange and Banning, 2015). Fink (2003) pointed out that when classes are designed to foster significant learning experiences, students are motivated and can actively participate in learning. However, previous studies mainly focused on designing instructions to facilitate significant learning from the perspective of instructors (Saulnier, 2003; Levine et al., 2008; Trudeau and Kruse, 2014; Sanchez et al., 2020). There are only a few studies in South Korea that examined students' perceptions of significant learning experiences (Han and Hwang, 2021). Therefore, the current study intended to explore and understand students' own experiences of significant learning.

Moreover, the study tried to identify the generic skills associated with students' significant learning experiences. Generic skills are transferrable skills that can be applied in varying contexts beyond the boundaries of specific disciplines (Barrie, 2006) and are also referred to as core skills or core competencies (Bratianu and Vatamanescu, 2017; Virtanen and Tynjälä, 2019). In South Korea, the term *core competencies* is used to refer to generic skills that need to be fostered through university education. In accordance with various government projects that are leading the innovation of university education in South Korea, such as the aforementioned ACE project, the Ministry of Education and the South Korea Research Institute for Vocational Education and Training developed the Korea Collegiate Essential Skills Assessment (K-CESA) in order to measure six basic competencies of university students, namely communication competency, global competency, resource information technology utilization competency, comprehensive thinking competency, interpersonal competency, and self-management competency. Individual universities have also established their own core competencies, based on which they assess students and rearrange the curriculum and extracurricular activities (e.g., Park and Chung, 2017; Choi, 2020; Shin et al., 2021). Such emphasis on competencies has led Korean universities to evaluate learning outcomes, identify *good class*, and foster competitive global personnel required by the future job market based on the core competencies that they established (Jin et al., 2011).

While the importance of establishing core competencies or generic skills at the university level is recognized in South Korea, it should also be noted that the development of such skills need to be understood in the context of students' significant learning experiences. The development of generic skills is inseparable from the learning process (Drummond et al., 1998; Bath et al., 2004). Thus, it would be important to examine generic skills that are associated with learning experiences that students perceive as being significant.

Thus, the current study investigated university students' own experiences of learning generic skills in the context of their learning process, by first exploring the significant learning experiences identified by students, and then analyzing generic skills entailed in those experiences. In order to reflect the context of higher education in South Korea, in which core competencies-based education program is recently being emphasized, this study applied the document analysis method to examine essays written by students studying in a university located in Seoul, South Korea. The research questions are as follows.

(1) What experiences do students identify as being significant learning experiences at university?

(2) What generic skills are associated with students' significant learning experiences?

Literature review

Significant learning experiences involve applying knowledge across varying contexts, actively exploring new knowledge, and being immersed in the learning process (Strange and Banning, 2015). Engaging in significant learning experiences is different from merely cramming knowledge in that students not only understand what they learn and apply it to real situations but also get to know more about themselves and the world around them (Bae and Hwang, 2021). Thus, significant learning experiences are often discussed in relation to higher education (Fink, 2003).

It is not easy to define significant learning experiences. Learning is a personal, intentional, dynamic, and interactive process that tentatively generates an output characterized by specific knowledge produced at a given moment and context (Agra et al., 2019). Ausubel (2000, p. 1) used the term *meaningful reception learning* and defined it as "the acquisition of new meanings from presented learning material," and explained that meaningful learning takes place when students gain understanding by linking new knowledge and experiences to what they already know. The interaction between potentially new meanings and related ideas in the students' cognitive structure generates actual or psychological meanings. Since each student's cognitive structure is different, all newly acquired meanings are unique in themselves. Ausubel (1963) viewed meaningful reception learning as a result of the teacher's

successful leadership of the teaching-learning process. Based on Ausubel's theory, Joyce et al. (2000) proposed the instructional design principles to frame learner performance into goals and tasks, divide these tasks into small component tasks, design training activities, and align learning events in order to promote the transfer of prerequisite learning.

In order to provide a comprehensive understanding of significant learning, Fink (2013) suggested dynamic linkages of the following six elements that change students in significant ways: (1) *foundational knowledge* refers to basic knowledge that constitute the content of a course that is necessary for one to understand and remember in a course; (2) *application* indicates applying the previously learned knowledge to other situations so that students can acquire and develop advanced knowledge and skills; (3) *integration* refers to expanding one's thinking by linking acquired knowledge and ideas, such as identifying similarities and differences between subjects or different theories; (4) *human dimension* indicates actively interacting with others through which one gains deeper understanding of him or herself and the word; (5) *caring* is the process of changing in feelings, interests, or values in relation to a subject, and is also related to motivations for learning; (6) *learning how to learn* refers to learning skills that help one become a better and more self-directed learner and keep on learning even after the course is over.

Fink (2013) mentioned that any course can apply these six elements to create significant learning experiences. It was reported that in the class based on significant learning experiences with the six aforementioned elements, students learned how to think creatively, learned together with others, and learned how the content of the class affected them and the world (Levine et al., 2008; Evans et al., 2016). The significant learning experiences have strength in that they mean a holistic learning experience in which students learn knowledge and apply the learned knowledge to real problems and get to know themselves and the world through them (Strange and Banning, 2015).

However, previous studies on significant learning experiences have mainly focused on the instructors and how they can design and create significant learning experiences for students across disciplines (Saulnier, 2003; Levine et al., 2008; Trudeau and Kruse, 2014; Sanchez et al., 2020). These studies examined significant learning experiences proposed by Fink (2013) from the perspective of instructors. Very few studies, to the authors' knowledge, have examined significant learning experiences from the students' perspectives (e.g., Bae and Hwang, 2021; Han et al., 2021). Therefore, the current study intended to investigate what experiences students identify as being significant to themselves.

Moreover, since significant learning is not simply learning and memorizing content material but integrating knowledge and applying it in varying life situations, such learning experiences are closely related to generic skills. Generic skills are transferrable skills that can be applied in different contexts beyond the boundaries of specific disciplines (Barrie, 2006). Such skills are also referred to as core skills, key skills, generic attributes, core competencies, or employability skills (Bratianu and Vatamanescu, 2017; Virtanen and Tynjälä, 2019).

While courses specifically designed for generic skills may not be very effective (Hattie et al., 1996), there is a widespread belief that generic skills can be developed through various learning experiences at university (Kember et al., 2007). Kember et al. (2007) tried to connect generic skills to the teaching and learning environment and proposed that the characteristics of the teaching and learning environment that particularly developed students' generic skills were active learning, teaching for understanding, assessment, coherence of curriculum, teacher-student interaction, feedback to assist learning, assistance from teaching staff, relationship with other students, and cooperative learning. They addressed that the teaching and learning environment has a greater-than-expected impact on the development of generic skills (Kember and Leung, 2005; Leung and Kember, 2005; Kember et al., 2007). Virtanen and Tynjälä (2019) examined the types of pedagogical practices related to students' learning of generic skills and found that the learning of generic skills was not affected by any specific pedagogical practice, but rather required the use of various teaching methods and pedagogical practices.

It would not be possible to provide an exhaustive list of what constitutes generic skills. Attempts have been made to extract core competencies and sub-elements. The Organization for Economic Co-operation and Development (OECD) initiated the Definition and Selection of Competencies (DeSeCo) project in 1997 and defined core competencies as "the ability to meet complex demands, by drawing on and mobilizing psychosocial resources (including skills and attitudes) in a particular context" (OECD, 2005, p. 4). The core competencies in the DeSeCo project were classified into three broad, interrelated categories such as "use tools interactively," "interact in heterogeneous groups," and "act autonomously." Based on the DeSeCo project, the OECD Education 2030 project has identified three further categories of competencies such as "creating new value," "reconciling tensions and dilemmas," and "taking responsibility" (OECD, 2018). Previous studies have also examined various skills as being generic skills. Badcock et al. (2010) examined critical thinking, interpersonal understandings, problem-solving, and written communication to assess generic skills. Braun and Leidner (2009) suggested six domains of competencies: knowledge processing, systematic, presentational, communication, cooperation, and personal competence. In addition to these, Bath et al. (2004) included skills such as intellectual curiosity and rigor, ethical awareness and practice, integrity, and tolerance. Virtanen and Tynjälä (2019) examined pedagogical approaches that can foster the

following eight generic skills: resourcefulness, innovativeness, creativity, ability to operate in new situations, decision-making skills, ability to solve occupational problems, continuing learning skills, and self-assessment skills. The current study investigated students' own experiences of engaging in generic skills in the context of their learning process and identified generic skills associated with students' significant learning experiences.

Method

Data collection

This study used essays written by students attending a 4-year university in Seoul, South Korea. The essays were collected in the fall semester of 2021 from two courses in the Department of Education, namely Educational Administration and Adult Learning and Counseling, conducted by the corresponding author and the first author, respectively. The students enrolled in these courses were asked to write a reflection paper on their significant learning experiences as a part of their course assignments. Students were instructed to think about their significant learning experience(s) that they had during their university years and to freely describe their experience(s) in detail. The following guiding questions were provided: What were the activities you participated in?; What did you experience?; What made the experience significant?; and What factors were related to your experience?. Each essay was one to two pages long. After the end of the semester, when all the course evaluation was completed, the description of the research and a consent form permitting the use of the essays for research was announced to the students *via* the learning management system (LMS) used in the university.

Initially, a total of 43 essays were collected during the semester, and among them, 33 students voluntarily sent their written consent to allow the use of their essays. The 10 students who did not send the consent may not have wanted to participate in the research or they may not have checked the announcement sent through the LMS since the semester was over. Among the 10 students, two were international students from the Department of Hotel Management, and the rest were from the Department of Education; seven were female and three were male.

The final sample used in this study was 33 essays. Most students who consented to research were from the Department of Education with few exceptions: two from the Department of Engineering, two from the Department of Korean Language and Literature, one from the Department of English Language and Literature, and one from the Department of Humanities. The grade level of students ranged from sophomore to senior. The number of female students was 24 and male students was 9.

Analysis

The current study used a document analysis approach to assess essays written by university students. Document analysis involves a systematic procedure to examine and interpret texts and images of varying forms, including both public and private records, to gain meaning and understanding of the chosen phenomenon (Bowen, 2009). The documents used for analysis in this study were students' essays on significant learning experiences that they had during their university years. These documents were selected to examine students' perceptions on significant learning and to reflect the context of Korean education.

The study adhered to the following analytic procedure proposed by Braun and Clarke (2006) to derive themes and identify patterns and meaning from the collected data: (1) familiarizing yourself with your data; (2) generating initial codes; (3) searching for themes; (4) reviewing themes; (5) defining and naming themes; and (6) producing the report. First, the authors individually read the students' essays multiple times to absorb the rich details and to understand the essence of what the students were describing in their essays. While reading and re-reading the essays, we noted our initial ideas for the possible codes. Second, we compared our ideas for codes, examined the exemplary quotations, and generated initial codes. We listed the codes and went back to the essays, systematically coding the data and collating excerpts relevant to each code. In the process of finding supporting excerpts, the codes were added or removed, combined or divided, and renamed. For instance, an initial code named "participating in discussions" was divided into "saying my opinion in discussions" and "listening to others in discussions." In the third step, the revised codes were grouped into potential overarching themes, and we put initial names for each theme. Fourth, we reviewed the themes as well as the codes and their supporting excerpts within each theme. Similar themes were merged while themes without enough supporting data were removed, and sub-themes were generated. We checked for a coherent pattern of the codes within each theme. We also went through the essays again to make sure that the themes were accurately reflecting the meaning. In the fifth step, the finalized themes and sub-themes were named. Finally, we tried to build a narrative for each theme which is provided in the following Results section.

Although the main purpose of the analytic procedure was to derive themes for significant learning experiences, we also wanted to know what generic skills were associated with each of the themes. Therefore, in the process of coding, we also extracted generic skills that students directly mentioned in their essays and formed a separate list of codes for generic skills. After finalizing the themes for significant learning experiences, we listed the codes for generic skills within each theme and grouped similar codes into clusters, based on the classification by Braun and Leidner (2009) and K-CESA. Then, we named the clusters for

the generic skills. We tried to secure the validity of the study in terms of consistency and neutrality (Guba and Lincoln, 1985) and tried to maintain objectivity by seeking opinions on data analysis and results through a continuous consultation process so that the results derived through data collection and analysis were consistent, excluding any bias in the research process.

Results

The essays described various course-related and extracurricular activities that were identified as a significant learning experience. A total of 102 excerpts were coded and formed into 14 sub-themes, which were reorganized into five themes about significant learning experiences, namely interacting with others, learning by oneself and about oneself, realizing applicability in real-life, venturing into advanced learning, and experiencing respectful learning atmosphere.

From these experiences, 18 generic skills were induced which were categorized into four clusters. First is comprehensive thinking skills including critical thinking, creative thinking, problem-solving skills, recognizing and reducing prejudice, synthesis, and intellectual curiosity. Second is information utilization skills including information management skills and ability to apply knowledge into practice. Third is interpersonal skills including openness to others, collaborative skills, and communication skills. Fourth is personal attributes including the capacity to learn actively, autonomy, passionate attitude, self-confidence, self-understanding, self-esteem, and establishing a sense of value.

The five themes related to significant learning experiences and four clusters of associated generic skills are illustrated in **Figure 1**. Specific descriptions of the five themes and 14 sub-themes of significant learning experiences and the associated generic skills are provided below.

Interacting with others

Most of the students identified learning experiences in which they were engaged with one another as being significant. Interaction-based learning experience encompasses asserting one's own ideas, listening to others, receiving feedback, and engaging in team activities.

Asserting one's own ideas

Asserting one's own ideas to others in discussions or debates was identified as a significant experience. By trying to verbalize their perspectives, students were able to "construct knowledge" in their own way and "freely generated ideas." One student described her experience of having unguided discussions as "feeling as if I were an ancient philosopher sitting around a Greek bath sharing scholarly knowledge" with colleagues. Moreover, having an audience to deliver one's perspective led students to become more familiar with the content knowledge and memorize important information better.

> Each class was divided into groups for discussion, and a representative was selected to lead the discussion. Befitting the title the professor gave us, I found myself explaining what I knew to classmates like a real teacher. . . The reason why I have to call it a significant learning experience is that the contents I shared with my classmates are still perfectly remembered in my mind. For me, true learning occurs when I am actively using the knowledge so that it is stored in my long-term memory, and I can explain it to others whenever I want (Student 6).

Students reporting these experiences needed to grasp the essence of content materials and generate their own perspectives integrating what they have learned. Thus, they expressed these experiences as significant learning experiences when utilizing comprehensive thinking skills, such as creative thinking and synthesis. Also, they had to process and organize knowledge and opinion in such a way so that they could deliver it to others, involving information management skills.

Not only was asserting oneself meaningful in terms of knowledge, but it was also significant to some students at a personal level. Students reported that they were able to become more open to others and share their personal experiences by having discussions. One student also reported that he could establish his own values more firmly while he was trying to persuade his friends. The skills involved in these experiences are named openness to others and establishing a sense of value, respectively.

Listening to others' perspectives

Listening to others' opinions in discussions was an essential element of a significant learning experience. Most of all, students could gain different perspectives and expand their worldview by sharing others' viewpoints.

> By sharing opinions and conducting a discussion, we can rethink the topic in a direction different from what we initially thought and advocated. Through this, I think critical reflection on my opinion occurred, subsequently making changes in knowledge that I previously knew (Student 9).

Listening to others' ideas generated new inquiries, allowed students to synthesize different theories, and led the thought process in a different direction. Such broadening of perspective led students to think more critically and solve problems in innovative ways. It even guided students to reflect on themselves and face their own prejudice and rigidity, leading to a critical evaluation of oneself. One student also reported that he was "able to change his negative thoughts into positive ones" by listening to other opinions in discussions.

> During the discussion, I was able to look at the subject from various perspectives through critical thinking, and I was able to look back on myself, breaking the prejudice that I implicitly held. I felt a change in my thoughts, breaking my own stereotypes and looking from a new perspective (Student 21).

Students reported that these experiences were significant to them because they were involved in critical thinking, recognizing and reducing prejudice, and engaging in synthesis. Generic skills integrated in the experience of listening to others' perspectives were mostly comprehensive thinking skills.

Receiving feedback

Receiving feedback from lecturers and peers led to meaningful learning outcomes. Feedback was closely related to motivation. Receiving immediate feedback made students look forward to the class and participate more actively in activities, regardless of whether the feedback was positive or negative.

> A specific learning method that was meaningful to me was task-based learning and immediate feedback. In each semester, one or two courses offered weekly quizzes (multiple choice or written essay). In these courses, immediate feedback was provided each week, whether it be multiple choice or written essay. In the reconstructing the knowledge experienced in these courses, the immediate feedback provided by the instructor each week was the main motivator for learning (Student 2).

These students were motivated and proactive to learn and reported experiencing synthesis of knowledge by obtaining different perspectives through feedback. Students who received positive feedback reported gaining self-confidence and generating new and better ideas. Students receiving negative feedback also reported such an experience as being significant because it allowed them to identify areas of growth.

The most notable generic skill identified by students, whose significant learning experience was receiving feedback, was the capacity to learn actively. Students' perception of feedback being motivational and encouraging was related to actively participating in the learning process. Other skills included self-confidence and comprehensive thinking skills such as synthesis and intellectual curiosity.

Engaging in team activities

Engaging in team activities was significant interaction-based learning experience. Team activities may encompass the aforementioned discussions, debate, and feedback, but a notable aspect to consider would be togetherness. Students reported experiencing "a sense of belongingness" which allowed them to explore more since they felt reassured within their team. While trying to tackle a problem together, students engaged in productive discussions and critical thinking to find the appropriate solution.

> A long-term project was carried out as a small group activity. As a transfer student, I had a lot of difficulty in the beginning. . . since I did not know the campus culture or the overall atmosphere of the school. However, I was able to have social interactions with upperclassmen through the small group activities, and as a result, I found out that the campus museum was not being operated actively. By working with my excellent colleagues, I was able to find a solution to the problem that I could not have been able to solve on my own. As such, my knowledge construction takes place in a socio-cultural environment, so I came to realize again that learning cannot occur independently and that learning is a result of social interaction (Student 29).

In the process, most students described their experience of collaboration and communication with the teammates as being meaningful. A student expressed satisfaction of being able to produce high-quality assignment through collaboration. Accordingly, most emphasized generic skills in team activities were interpersonal skills such as collaboration skills and communication skills due to teammates striving for a common goal. Enhanced critical thinking and problem-solving skills were reported as a result of the collaboration.

Learning by oneself and about oneself

Learning that is led by one's directiveness and centers around oneself was a prominent experience students identified as being significant. There are largely two categories within this theme, namely self-directed learning and self-reflective learning.

Self-directed learning

Self-directed learning was described by twelve students and one of the common characteristics of the experience was that students were more motivated, passionate, and proactive about what they were learning. It was reported that students were able to focus on knowledge that they wanted to learn which made them look forward to learning.

> I initiated and continued learning based solely on my own will, organizing the contents and methods according to my own preference, and freely filled in the missing points scattered here and there. When there were no tests, I was learning what I wanted to learn, and not the knowledge that would be tested on an exam. I could focus more on the knowledge that I need and want to know right now. Also, passionate learning with complete intrinsic motivation was possible without getting pressure from anything (Student 3).

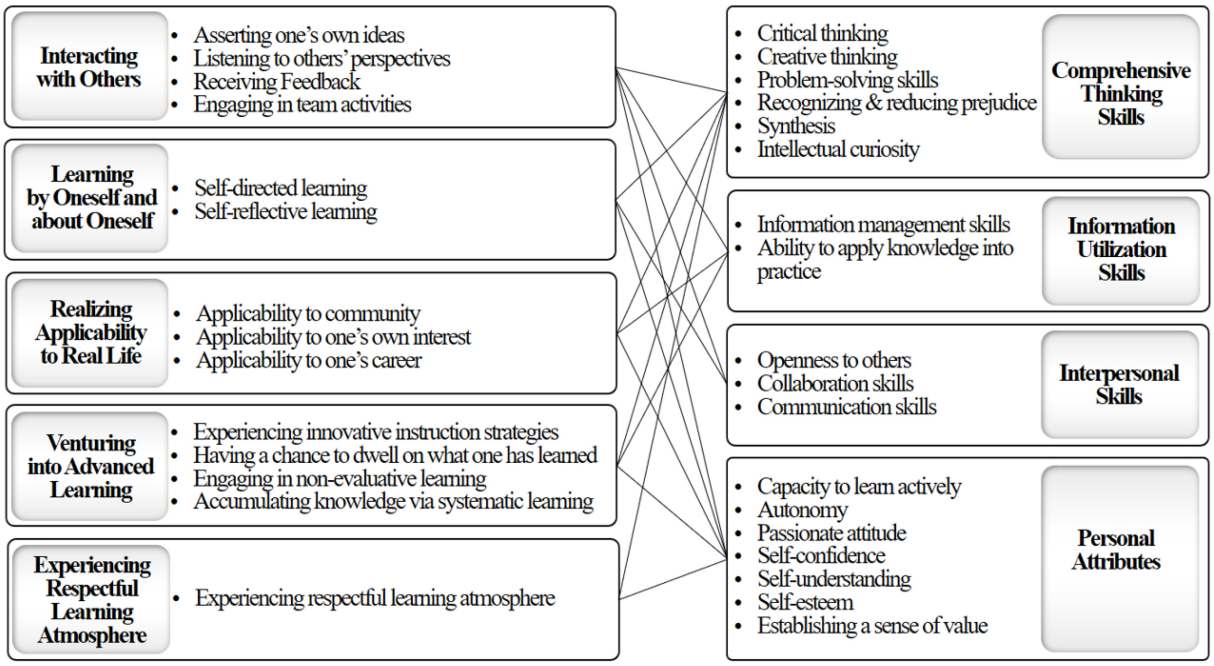

FIGURE 1
Themes related to significant learning experiences and clusters of associated generic skills.

Learning was also experienced as being "fun," "enjoyable," and "attractive" when it was self-directed as a result of students feeling "no pressure." Through self-directed learning, one student reported gaining "accurate assessment of the depth of her knowledge" and also the areas of growth which was a significant experience. Other aspects that made the self-directed learning experience significant was feeling the achievement, leading to in-depth learning, and being able to construct one's own knowledge and internalize knowledge. Also, self-directed learning was reported to lead to active communication with other learners. From these experiences, students were experiencing autonomy, a passionate attitude toward learning, and the capacity to learn actively. Also, intellectual curiosity and communication skills were reported in some students' experiences.

Self-reflective learning

Self-reflective learning was a powerful experience that allowed students to explore oneself and gain self-esteem, confidence, and understanding of oneself. While some self-reflective learning naturally occurred in the process of engaging in discussions with others or doing a written assignment, some were intentionally prompted in the context of specific courses, such as Art Therapy or Creating a Happy Family.

> Among the courses, the courses that made me focus on "myself" were especially meaningful. This is because I had more time to think quietly at home due to the COVID-19, and thinking about my future life naturally leads to interest in and exploration of myself. . . In order to create a family in the future that is full of happiness, the first priority was to have a deep insight and understanding of myself. There was an impressive activity, which was about writing my own 300 strengths. In the process, I was able to find my strengths even in trivial daily things. I was able to spend time exploring myself while fully concentrating on the task. I was able to define myself to some extent by thinking about my actions, tone of voice, personality, and values, and I was able to become more aware of my existence as a being (Student 11).

Students found self-reflective learning as being significant because they could find their own strengths, discover their true selves and accept them, and redefine their values. One student reported being able to produce "learning outcome that contain my identity" as a result of self-reflective learning. One student reported experiencing the change of behavior through reflecting on her own thoughts and discovering new and interests. From these experiences, several personal attributes were identified. Particularly, students reported enhancing self-understanding, self-esteem, and establishing a sense of value.

Realizing applicability to real life

Learning became meaningful when it was related to the real-life situations, whether directly to one's own life or to the community with which one is affiliated. Applicable learning occurred in the classroom and also through extracurricular activities. Categories of the theme include applicability to the community, to one's own interest, and to one's career.

Applicability to the community

Learning that was applicable to real-life situations in the societal level was meaningful to students. Because students could relate the learning material to the situations and people they recognized. One student recalled an experience of developing an educational program for school-aged students from a dual-income family and reported that the experience was meaningful because she was also "in the same situation, and there are actually a lot of people with dual-income parents." Such relation with the real situation encouraged her to participate more actively and be more passionate about the program. One student participating in a club activity reported that she was able to apply the learning theories that she had learned in class to systematically plan for the program.

> I believe that knowing how to apply knowledge to society is having a true learning experience. In college, meaningful learning experiences can happen through club activities and extracurricular activities (contests and volunteering). In my case, as a leader of a club, I had to search for activities the club would do over the course of a year. Education planning was the first step in any educational activity. I was able to plan activities more systematically by applying the educational model and learning theories that I had learned in the Department of Education. . . There were times when what I have planned did not work in reality. I realized that I had planned with certain stereotype, thinking "It will work," and also realized that I had to take into account various factors such as the participants, the characteristics of the participants, and the environmental factors with an open mind. This experience made me feel the necessity of the major classes, and my experiences helped me understand the content materials better (Student 10).

Other students also reported that being able to apply the learning contents to real-life situations allowed them to recognize the necessity of learning, which resulted in increased motivation, enjoyment, and active participation. Moreover, students took the time to investigate their community, identify problems, and critically evaluate the issues to generate solutions that are feasible. In the learning experience that is applicable to the community, a generic skill that stands out was the ability to apply knowledge into practice and problem-solving. Also, students reported focusing on their capacity to learn actively.

Applicability to one's own interest

Learning that was for one's own personal interest was significant for students. The personal interests of students varied from establishing one's own teaching philosophy as a future educator to language learning for practical reasons. One student was learning a new language to go abroad and to communicate with foreign friends and found the experience to be significant because she had a clear goal for learning and she could monitor her own progress.

> As I visit France often, I naturally developed an interest in French. . . I had a desire to communicate more actively, so I started learning (French). . . French grammar was difficult, but the more I learned, the more I felt like I was putting together a puzzle, and every time I learned a new vocabulary, more French words appeared on street signs and trademarks. Also, I even felt euphoric as my clumsy pronunciation gradually began to sound plausible. It was a novel experience in which the joy of learning the French language was motivating in itself. . . I was experiencing first-hand the concepts of intrinsic and extrinsic motivation learned in the educational psychology class (Student 16).

Another student expressed how much he enjoyed the Human Anatomy course, which was quite difficult and boring for most other students because the course materials were closely related to his own interest.

> I enjoyed taking this class because I was interested in the functioning of the body. The reason I was interested in the functions of the body was that I have a herniated disk and I like to exercise and do weight training as a hobby. Through the anatomy class, I was able to learn about the human body from a functional point of view, such as how the muscles of the body work, what specific movements these muscles are attached to, and what sensations they induce. I was able to take the lectures without difficulty and in a fun way as I studied the theory and practice while thinking about my own experience of exercise (Student 1).

Since this experience of significant learning was for one's own interest, students gained the capacity to learn actively as well as the ability to apply knowledge into practice. Moreover, students found the learning experiences to be meaningful because they were engaging in self-evaluation, monitoring their progress based on the personal learning goals that they set for themselves.

Applicability to one's career

Students found that learning relevant to one's own career path or helpful to one's career decision-making was significant. When they learned knowledge that is practical to the career field of their choice, they experienced enhanced

interest and enjoyment. With practical experience of real-life assignments such as engaging in program development, students had a meaningful experience of understanding how their previous knowledge can be utilized and applied.

> There was a time when I had the goal of becoming a "Korean language teacher." The lectures on Korean Language and Literature. . . which I took at that time, were memorable. In both lectures, the instructor was an actual Korean language teacher, so I was able to acquire a lot of knowledge related to the field. . . In particular, in both lectures, there was an assignment to do a mock lecture and upload a video recording of the demonstration. It was very difficult, but I feel that the experience of actually planning an educational program and writing a lesson plan was special (Student 13).

Students also reported that they were able to reflect back on their career choices and establish their sense of value regarding their career. The generic skill most identifiable in this theme was the ability to apply knowledge into practice and to establish a sense of value.

Venturing into advanced learning

Students felt that they were engaging in significant learning when they recognized themselves advancing in the learning process. This theme includes gaining experiences, especially *via* innovative instruction strategies, learning *via* assignments, engaging in non-evaluative learning, and accumulating knowledge through systematic learning.

Experiencing innovative instruction strategies

Students described their experiences of engaging in problem-based learning (PBL) and flipped learning (FL) as being significant. Through these innovative instruction strategies, students could have indirect experience of the world while collaborating with colleagues to solve problems. Participating in PBL and FL led students to "achieve growth in short period of time" as well as "produce outcome through synthesis." Students also reported that they were able to reflect on themselves, face their own prejudice, and think more flexibly. One student reported that FL was a new experience that changed her attitude to learning and made her feel like "an intellectual." These experiences led to heightened motivation, interest, creativity, and critical thinking. As the experiences illustrate, students were engaging in the capacity to learn actively. Also, comprehensive thinking skills, such as synthesis and problem-solving skills were integrated into the experiences of PBL and FL.

> The most memorable moment was the Cultural Immersion Project, which was a project to experience a culture that I had never experienced before and write a report. I decided to experience the culture of a sexual minority group and had various experiences by participating in the queer parade. I had negative thoughts about sexual minorities for religious reasons, but through the project, I was able to experience the culture and look back on myself, challenging my prejudices. I think it was a significant learning experience because it was a time to break the biases I had (Student 28).

> The first significant learning experience I experienced when I came to university was FL. It was a change from the learning method in which knowledge was delivered in the classroom, reviewed at home, and prepped for the class, to a new learning method of watching a video at home, putting the knowledge in mind, and then having a discussion in the classroom. At the time, I felt like a great intellectual. There was significance from novelty itself to have discussions together under the premise that everyone had already learned the material (Student 6).

Having a chance to dwell on what one has learned

Working on assignments was reported to be an effective tool that advances learning because it gave students an opportunity to review and reorganize what they have learned. Engaging in assignments during or after class, whether as an individual or in groups, helped students to "think deeply," "gain insight," and "express their thoughts freely." Assignments allowed students to expand their horizons and engage in critical thinking. One student reported that engaging on experiments allowed him to advance into deeper learning by helping him understand the theories better, make creative implications, and contain knowledge for a longer time. One student stated that her assignments required a lot of time and effort but it was meaningful because it required new ways of thinking. Another student said she was able to establish her value system and her own identity while engaging on reflective assignments.

> Personally, the part of the course that made me experience significant learning at university was the result of a task I worked on by myself, and not a test or one-way lecture. The task had more specific goals and details compared to other assignments, it was a topic I had never thought about, and it required a whole new way of thinking. The task was not easy and I had to invest a lot of time and effort to contemplate and complete it, and I think that was what made the experience significant (Student 7).

Through assignments that focused on the content material, students utilized comprehensive thinking skills such as critical thinking and creative thinking. Assignments that focused on self-reflection of the students, they engaged in the establishment of a sense of value.

Engaging in non-evaluative learning

Students found that learning that was not for exams meant more to them. Since their learning was not geared toward evaluation, they were "free to learn what (they) preferred" and found the motivation and enjoyment for learning. One student stated that he had found the meaning of learning and was able to self-evaluate his own progress. Also, another student reported that non-evaluative learning allowed him to express his thoughts rather than deliver information, which was a very meaningful experience. The key skill identified in this category was self-evaluation and autonomy.

> I did have experience of having discussion classes in middle school and high school. However, the difference here was that the class back then already had the right answer, and it was more like testing how well you talked about it. I had an experience of discussing climate change in the science class, and the arguments and the objections were already too obvious, and even before the discussions started, the process was already set and we just had to follow it. As long as you say the rights things in the right way, it was guaranteed that you would receive a perfect score on the performance evaluation. But when I came to college, the discussions in the classes were different... There were opportunities and time for me to say my own thoughts. Unlike high school, where I had been studying to receive good performance evaluation or test scores, these classes really gave me a chance to freely express my thoughts on given topic... I think having opportunity to expand my own thoughts is an experience of true learning that truly develops students' abilities (Student 30).

Accumulating knowledge *via* systematic learning

Learning through systematically designed courses and curricula allowed students to have significant experience because they could accumulate knowledge in a meaningful way. They were not simply inputting information, but were engaging in continuous inquiries and exploration. Since they had ample opportunities and course materials to fully grasp the knowledge, they maintained their intellectual curiosity, discovering new ways to utilize the knowledge. Hence the generic skills within these learning experiences include intellectual curiosity and information management.

> In order to answer these kinds of questions, it was necessary to first learn and understand the theory sufficiently, so rather than simply attending a class, I had to review it repeatedly and continuously explore how such a theoretical conclusion was reached. In addition, I investigated the exceptions to the theory, whether these theories are still valid, and if they are valid, how they can be used in our daily life... I started to become more interested and felt less vague about the theory through the process of learning the theory first, applying it to various situations, and rethinking the theory... In addition, when learning various theories, I first sequentially build up knowledge about one theory, and while learning the next theory, learn about the similarities and differences between the theories... I felt that the concepts were systematically accumulated, and I was able to experience significant learning (Student 22).

Experiencing respectful learning atmosphere

Seven students identified their significant learning experience as feeling respected in their learning environment. Such a respectful climate was sometimes created by the instructor intentionally and effortfully, sometimes by all the members of a class, and sometimes even by a title by which the instructor addressed each student. No matter how the atmosphere was created, students experiencing it reported feeling warm and welcomed. The learning climate allowed students to feel safe, leading the students to stir up the courage to express their opinion more actively in class.

> ... I was able to freely express my thoughts without pressure. I like to share my experiences and talk to others, but in most classes, I had to do presentations or discussions in order to get a score, and even when I have discussions, they were perfunctory most of the time, so I really liked the atmosphere of the class where I was able to freely share myself (Student 25).

Students also felt accepted which lessened their burden to perform. One student reported "being free to speak" in such an atmosphere, and another student wrote that the environment made it possible for him to ask questions and offer his ideas in class. Because students were able to take risk and challenge themselves in a respectful environment, they were more passionate and more inquisitive. They communicated more with one another as well. One student explicitly stated that she gained self-confidence and courage in the respectful atmosphere.

> I think that it was the role and attitude of the instructor that made the learner-centered teaching method even more possible. As a facilitator, the professor gave feedback on each stage of development and actively supported me to come up with better ideas. And although the knowledge that each team had formed was different, she respectfully accepted the diversity and complexity of everyone. From my point of view, as I received encouragement and praise, the class participation time became more interesting and I became more curious about the activities in each step of the course. Also, since I knew that all of my suggestions would be respected, I gained the confidence to offer my opinions more courageously (Student 29).

A typical generic skill identified by students, whose significant learning experience was experiencing a respectful learning atmosphere, was self-confidence and passionate attitude toward learning. Intellectual curiosity was also identified within the experiences.

Discussion

Findings and implications

This study examined the significant learning experiences identified by university students and analyzed generic skills entailed in those experiences. For this analysis, we collected 33 essays written by students studying at a university located in Seoul, South Korea, and applied a document analysis approach. In the current study, five themes about significant learning experiences were derived and systematized. The themes were interacting with others, learning by oneself and about oneself, realizing applicability in real-life, venturing into advanced learning, and experiencing a respectful learning atmosphere. These themes were reflected in the educational experiences of Korean students and were embedded in the Korean educational culture.

First, most of the students identified learning experiences in which they were engaged with one another as being significant. In the findings, students pointed out that meaningful learning for them involved freely speaking about their thoughts and opinions in discussions or debates, listening to other students' opinions and receiving feedback from lecturers and peers. This finding is in alignment with what Fink (2013) described as *human dimension*, one of the elements for significant learning experience indicating learning through actively interacting with others. However, this finding can be discussed further in the context of Korean education. Demanding high school curricula and a high level of standards in Korean high school systems might affect the way high school classes are taught and learned, and teachers and students cannot spend much class time having discussions. In addition, instead of education that broadens various thoughts, students are used to learning to get answers and cram knowledge (Lee, 2008; Kim and Cho, 2014). Therefore, for Korean university students, significant learning experiences are the experiences of constructing knowledge in their own way and freely generated ideas. Interaction with lecturers and peers led students to be continuously provided with information about their learning process, which means disclosing their own ideas and receiving others' opinions and feedbacks (Lee and Kim, 2008).

Second, students perceived the experiences of self-directed and self-reflective learning as significant learning experiences. This is because university students are adult learners. Previous studies on adult learners (Knowles, 1999; Merrian and Cafarella, 1999) assumed that they have different characteristics from elementary and secondary school students. These studies consistently argue that adult learners have diverse and rich experiences and various levels of self-directed tendencies. Self-reflective learning is a significant learning experience for students to explore themselves and gain self-esteem, confidence, and understanding of themselves. In the Korean high school education, there are not many opportunities to fully reflect on oneself as the education mainly focuses on preparing for the university entrance examination (Yoon, 2013). Therefore, it can be inferred that students attached significant meaning to these experiences of self-understanding and reflection.

Third, learning experiences related to the real-life situations are considered powerful learning experiences. Students' learning experiences are continuing to influence each other in succession, and at the time of experience, they are affected by interactions with the environment surrounding individuals (Dewey, 1916). Students perceived the learning as significant when they did activities to solve problems in the community through club activities. Students also recognized that learning experiences related to their careers and learning experiences that have confidence in their careers were significant. In South Korea, students often choose to go to a college based on the scores they receive on their college entrance exam without deeply considering their preference for a major, their aptitude, and career trajectory (Kim and Moon, 2005). Therefore, when students engage in an experience during their university years that transforms this uncertainty into conviction, students can discover the meaning of learning (Han et al., 2021).

Fourth, students described their experiences in courses using innovative instructional strategies such as FL and PBL as being meaningful. It is consistent with the results of previous studies that FL classes have higher learning effects and higher class satisfaction compared to traditional lecture-style classes (Moravec et al., 2010; Deslauriers et al., 2011; Touchton, 2015) and that students and teachers can become better problem-solvers *via* PBL (Mettas and Constantinou, 2008). Students perceived that the class experience of receiving intellectual stimulation and feeling a sense of accomplishment through a little tricky and challenging task was meaningful. Ramsden

(1991) suggested that clear goals and intellectual challenges in the class as being principles of good instruction. Brophy (2000) also emphasized that students should be provided with sufficient opportunities to learn higher-order thinking.

Fifth, students identified their significant learning experience as involving a respectful learning environment. Students pointed out that they could express their opinions more actively and freely in a comfortable atmosphere, and they also felt recognized. It is supported by previous studies (Lee and Kim, 2008; Han et al., 2021) that the instructor's passion or attitude affects the students' learning experiences.

From the aforementioned significant learning experiences, the current study also identified 18 generic skills categorized into four clusters: comprehensive thinking skills, information utilization skills, interpersonal skills, and personal attributes. First cluster was comprehensive thinking skills. Comprehensive thinking skills is one of the core competencies measured by K-CESA and is defined as the ability to engage in higher-order thinking to recognize and solve problems, make sound judgments, and present plausible solutions (Hwang et al., 2016). In the present study, skills such as critical thinking, creative thinking, problem-solving skills, recognizing and reducing prejudice, synthesis, and intellectual curiosity were grouped into the first cluster. Comprehensive thinking skills were involved with all five themes of significant learning experiences. That is, when students were engaged in learning experience that they identify as being significant, they were engaging in various higher-order thinking skills, indicating that generic thinking skills may be fostered in various contexts. As Kember et al. (2007) posited, generic skills can be developed through various learning experiences. Thus, while it is important to design a curriculum specifically to enhance certain generic skills, it is also important to build learning activities and atmosphere that students would recognize as being meaningful to them in order to facilitate various thinking skills.

Second cluster was information utilization skills, which include information management skills and ability to apply knowledge into practice. This cluster was formed based on the category of K-CESA called resource information technology utilization competency, defined as collecting, analyzing, and applying various resources, information, and technology (Hwang et al., 2016). In the current study, students only mentioned accessing and applying information and did not address other resources and technology, so the cluster only referred to information. Information utilization skills were related to learning by interacting with others, realizing applicability to real-life, and venturing into advanced learning. Kang et al. (2010) found information management and knowledge utilization, among others, as competencies in the cognitive domain that are necessary for learners to face the complex challenges of the modern world. In order to assist students to manage various information they are obtaining and to foster abilities to apply their knowledge, linking learning material to real-life situations, especially through innovative instructions such as PBL would be helpful. Also, it should be noted that the experience of asserting one's own ideas in discussions and debates involved processing and organizing knowledge and opinion. To enhance such information management skills, it would be important to provide opportunities for students to express themselves.

Third, interpersonal skills included openness to others, collaboration skills, and communication skills. K-CESA differentiates communication competency and interpersonal competency, the former including traditional reading, writing, listening, speaking skills and the latter including emotional relatedness, collaboration, mediation, leadership, and understanding of organization (Hwang et al., 2016). However, Braun and Leidner (2009) referred to social competence as encompassing cooperative competence and communication competence, and communication competence was referred to as verbally sharing ideas in discussions. In the current study, Braun and Leidner's (2009) concept of social competence is adopted, and the name interpersonal skills was used as an umbrella term to include collaboration skills and communication skills as well as openness to others, which was another skill addressed in the essays. In the findings, collaboration skills and communication skills were mostly reported along with the experience of engaging in team activities. It is interesting to note that students who reported having discussions as being significant did not report collaborative or communication skills as being associated with the experience while identifying openness to others as an integral part. This could be because, in team activities, the teammates strive for a common goal and the sense of fellowship could be the key factor in relation to the generic skills. This could be a meaningful finding for instruction design. From the perspective of significant learning, learning together with others is an important part of promoting significant learning (Fink, 2013; Evans et al., 2016), and team activities and discussions may both be used in the instruction. However, with a closer look, these two activities are associated with different generic skills; team activity with collaborative and communication skills and discussion with openness to others. Although generic skills are fostered in various learning contexts (Kember et al., 2007), cultivating specific generic skills may require tailored learning activities or environments.

Finally, the students' reports derived various personal attributes, such as self-confidence, autonomy, and passionate attitude as part of their significant learning experiences. Such personal attributes are in alignment with Braun and Leidner's (2009) notion of personal competence, indicating "positive attitude toward learning and development of the self" (p. 301). In the findings of the present study, all five themes of significant learning experiences were related to personal attributes. These personal attributes may be understood in relation to what Fink (2013) referred to as *caring* and *learning how to learn*. Caring refers to changing feelings and interests related to learning and increasing motivation, and learning how to learn is related to

being more self-directed (Fink, 2013). When these elements are integrated to create significant learning experiences, generic skills related to personal attributes may also be affected. Most of the excerpts also indicated that the experiences were identified as being significant because students had the opportunity to foster personal attributes. Therefore, learning activities should not only focus on content materials but also on developing personal attributes of students.

Previous studies found that generic skills are not effectively fostered through specific courses designed for generic skills (Hattie et al., 1996) or through a specific pedagogical practice (Virtanen and Tynjälä, 2019), but through various learning experiences and teaching methods (Kember et al., 2007; Virtanen and Tynjälä, 2019). The findings of the current study also illustrate that various generic skills are identified across different types of significant learning experiences. Nonetheless, certain generic skills are addressed more often with specific learning experiences, indicating that more research is needed to identify relationships between significant learning experiences and generic skills.

Limitations and direction for future studies

There are some limitations to this study. First, the essay data were collected mainly from students who are majoring in education. Students from different majors could offer varying perspectives on significant learning experiences from which different generic skills may be induced. Thus, future study is required to encompass students from different majors. Second, the data were collected from a 4-year university in South Korea, but there are also 2 and 3-year vocational universities in South Korea that focus on practical, field-specific knowledge and skills. Studies are needed to investigate the experiences of students from vocational universities to discover similarities and differences in students' experiences among different types of universities. Third, the current research focused on gaining insight *via* a qualitative approach and found certain generic skills to be associated with significant learning experiences. However, in order to fully understand the mechanism between significant learning experience and generic skills, an experimental or longitudinal approach may be useful to identify any directional and causal relationships between the two. Despite these limitations, the current study contributes to the understanding of students' significant learning experiences and generic skills by providing themes derived from the descriptions of students' direct learning experiences.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

Ethics review and approval was not required as per local legislation and institutional requirements. The participants provided their written informed consent to participate in the study.

Author contributions

AL and SJL contributed to conception and design of the study. SJL organized the database and method, and wrote sections of the manuscript. AL wrote the first draft of the manuscript. Both authors contributed to manuscript revision, read, performed the document analysis, and approved the submitted version.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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