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Enhancing Student Leadership Skills through Project-Based Learning in the Postgraduate Research Experience

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Abstract

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Keywords

communication, high-level thinking skill, student leadership, project-based learning, qualitative method

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Enhancing Student Leadership Skills through Project-Based Learning in the Postgraduate Research Experience

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Project-based learning (PjBL) is one of the learning models recognized by education experts as an effective method of achieving learning objectives in developing process skills; however, few studies have examined its potential for fostering leadership skills. This study aims to investigate postgraduate teacher students' experiences with project-based learning as a means of developing students leadership skills. The research involved 24 postgraduate students and utilized a qualitative approach to data collection and analysis. The findings reveal that while some aspects of project-based learning were perceived as straightforward, other steps were deemed challenging, particularly those that involved higher order thinking skill and emotional consideration. However, the process of interaction and communication during the learning process appears to be a critical factor in the development of leadership skills. These results suggest that further research is needed to explore the potential of project-based learning for developing postgraduate student leadership and to identify effective strategies for implementing this approach. Overall, this study highlights the importance of integrating leadership development into educational curricula and the need for ongoing professional development for teachers to effectively facilitate leadership skill development.

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Introduction

Leadership in educational institutions (Indriani & Hasanah, 2021) has received a lot of attention because the leadership of teachers and principals directly or indirectly influences the quality of the education produced (Elsan Mansaray, 2019). Leadership significantly impacts the strategic management process, considerably helping define the vision and mission of the organization (Jabbar & Hussein, 2017; Priyambodo & Hasanah, 2021), as well as the implementation process. Therefore, leadership courses must be developed in the teacher education curriculum (Egne, 2014).

Leadership education (Mazurkiewicz, 2021) is an educational process to build a scaffolding of attitudes, feelings, knowledge, and skills on moving others to want to work according to organizational goals voluntarily. Thus, lecturers need to develop learning strategies that are holistic, creative, and contextual so that lecturers can help develop student-teacher leadership skills (Ivić, 2016). To develop teacher-student leadership skills (Tatto, 2021), lecturers must be able to design instructions that can touch and move all components of

students' self from cognitive, affective, and psychomotor aspects (Guthrie et al., 2021; Page et al., 2021).

The Universitas Ahmad Dahlan (UAD) is an Indonesian university that places great emphasis on nurturing the leadership abilities of its students. Within the UAD's education management program, there is a specific course dedicated to honing leadership skills, known as the School Leadership Best Practice course. This course delves into the most effective practices for school leadership that can contribute to the sustainable development of educational institutions in various aspects.

Various experiences of successful schools/madrasahs in terms of leadership have been restructured so that they can be adapted and re-implemented by other work units to realize the quality of graduates, teachers, the learning process, and school management that are following the real needs of the world of education in Indonesia contextually and actually (Finkelstein, 1951; Heyward et al., 2011). Following the characteristics of this course, lectures are carried out on a practice basis, following the principles of outcome-based education (Katawazai, 2021; Rao, 2020).

One of the learning models identified by the learning principles of outcome-based education is project-based learning (Maryani et al., 2020). The project-based learning model (PjBL) is proven effective in developing critical thinking skills, student activity, and student creativity (Guo et al., 2020; Susanti et al., 2020; Winangun, 2021). Therefore, learning in leadership best practice courses is carried out through group project learning strategies. The learning approach used in this school leadership best practice course includes several characteristics of PjBL. Research projects require successful group dynamics and long-term goal-oriented work, so research is needed on what students feel and experience during the student leadership development process. However, there is no adequate data regarding the real benefits felt by students in developing leadership skills through the project learning process.

In this study, we focus on implementing PjBL from a student perspective to explore student experiences of implementing project-based learning in developing leadership. This research is essential to produce a conceptual model as a result of constructing knowledge from project-based learning practices that have been carried out by postgraduate students in the faculty of teacher training and education.

This research question refers to the qualitative research process on project-based learning experiences conducted by Matilainen et al. (2021). This research was conducted by guiding the research questions as follows:

1. Which phase is the easiest to implement during the research project learning process?
2. Which phase was the most challenging to implement during the research project learning process?
3. What leadership skills can develop in students as a result of their participation in the learning of this project?

Literature Review

Project-Based Learning

Project-based learning (PjBL) is a student-centered teaching method based on the theory of constructivism, which was developed by John Dewey (Larmer et al., 2015). The main objective behind developing this method was to create effective learning opportunities where learners can work collaboratively in groups to answer encouraging questions, solve problems, or overcome challenges with the aim of creating an end product. PjBL is not limited to

equipping students with content knowledge, but rather focuses on developing their psychomotor and social skills, such as seeking information from various sources, critical thinking, problem solving, self-evaluation, summarizing, and giving presentations which are highly recommended for lifelong learning (Aldabbus, 2018). In other words, PjBL educates all children rather than focusing on one aspect of learning.

Project-based learning (PjBL) has gained popularity and has been explored in various contexts and in different phases of schooling, from primary education to higher education. The goal of PjBL is to engage students in authentic problem investigations where solutions have the potential to be implemented and used in real life. Several benefits are associated with PjBL, including the following three unique experiences for students: (1) a sense of freedom to express opinions, ask questions, and discuss with colleagues; (2) the feeling of being able to influence the course of the learning process; and (3) the feeling of doing something that can be applied in practice (as well as contributing to teamwork). Other reported benefits of PjBL include developing metacognitive skills, such as self-regulation, co-regulation, and monitoring, as well as supporting independent learning (Hussein, 2021). To be able to realize project-based learning, it is necessary to pay attention to various challenges that come from the conditions of teachers, students, culture, and organization (Creely, 2018).

Setting of Research Project Learning in School Leadership Best Practice Courses

Leadership skill (Miasih & Hasanah, 2021) is a very important soft skill to be developed in learners, especially in education management masters education, where some of the students are teachers and principals. An educational process that can develop authentic student leadership and strengthen students' characteristics to serve and support the people around them is not only beneficial for the students and their educational institutions but also for prospective organizations where graduates work, and even for their future in society (Kiersch & Peters, 2017). Therefore, in universities, it is necessary to add more attention to the development of student leadership, both through the implementation of various student-centered learning strategies (Acton, 2018), as well as through mentoring (Levy-Feldman, 2018). Students need to develop various leadership skills as important soft skills, including communication and organizational skills, public speaking skills, emotional intelligence (Hine, 2014; Mokshagundam et al., 2019), and student collaboration skills (Leskinen et al., 2021). All of these leadership skills become provisions for students when they graduate and return to the institutions where they work.

There is a need to explore the impact of project-based learning on the development of leadership skills among post-graduate students. This research could focus on the ways in which project-based learning promotes the development of leadership skills, as well as the long-term impact of these skills on post-graduate students' careers. There is a lack of understanding of how graduate student leadership develops. At the same time, it is clear that the project-learning process in postgraduate education is an essential factor in leadership development; there is a need to explore how the project-based learning process contributes to the development of leadership skills among graduate students. This research could focus on the role of personality traits, prior experiences, and other environmental factors in shaping the leadership development of graduate students. Overall, these are just a few potential areas of focus for research on the gap in our knowledge in terms of project-based learning and the need to develop post-graduate student leadership. By addressing these gaps, we can better understand how to support post-graduate students in developing the skills they need to become effective leaders in their fields.

In general, the project learning process carried out in the "school leadership best practice" course at the Universitas Ahmad Dahlan Master of Education Management during the odd semester of the 2021/2022 academic year is as follows:

Table 1
Learning Activities in the Best Practice of School Leadership Course

Week	Activity	Learning Objectives
1	<ul style="list-style-type: none"> • The lecturer elucidates the course's distinctive features and learning objectives alongside the project-based learning approach as a pedagogical strategy to be employed by the students. • The students engage in group discussions to explore the concept of instructional leadership best practice and its relationship to the development of education policy in Indonesia, specifically regarding the profile of Pancasila students. • The students are reflecting on the learning process. 	<ul style="list-style-type: none"> • The students have a comprehensive understanding of the best practices in school leadership learning as an effort to improve the instructional leadership skills of the students. • The students have a broad understanding of the importance of instructional leadership skills in realizing the Pancasila student profile in schools in Indonesia.
2	<ul style="list-style-type: none"> • The students undertake an exploration of the role and function of leadership within schools, with the objective of realizing the student profile of Pancasila. • The lecturer delivers a lecture on the design of project-based learning activities and the themes of research projects that each group is required to select in order to address the main research question: "How effective is the instructional leadership model in realizing the Pancasila student profile?" • The students are reflecting on the learning process. 	<ul style="list-style-type: none"> • Students fully understand the project learning process plan and the expected final goals of the lecture.
3	<ul style="list-style-type: none"> • The formation of groups, the selection of research themes for each group, as well as the selection of research locations in accordance with the criteria set by the lecturer. • Criteria for the school where the research is located: Driving school that has implemented the Pancasila student development project learning reflection. 	<ul style="list-style-type: none"> • Students are able to collaborate in groups and are able to make decisions. • Students are able to identify leadership problems that occur in schools and the best solutions to overcome these problems.
4	<ul style="list-style-type: none"> • Students design projects, formulate research questions, and arrange time schedules, and determine the output targets that will be produced by each group as lecture products. 	<ul style="list-style-type: none"> • Students are able to plan effective programs. • Students are able to produce a systematic work program design.

		<ul style="list-style-type: none"> • Students are able to collaborate and communicate in groups.
5	<ul style="list-style-type: none"> • Students conduct initial coordination with research partners and arrange research permits to schools. Noted: in Indonesia for research students to school enough research permission from the campus. 	<ul style="list-style-type: none"> • Students are able to collaborate and communication with parties outside the group.
6-7	<ul style="list-style-type: none"> • Students collect field data, and conduct online consultations with lecturers. 	<ul style="list-style-type: none"> • Students are able to identify things that are important in the process of developing a school.
Midterm exam	<ul style="list-style-type: none"> • Summative test [a test of knowledge of instructional leadership and student profiles of Pancasila], and each student reports the role of each individual in his work group. 	<ul style="list-style-type: none"> • Students understand the concept of instructional leadership and have individual and group responsibilities.
8	<ul style="list-style-type: none"> • Students carry out progress reports on all activities that have been carried out in the form of seminars in class. 	<ul style="list-style-type: none"> • Students have responsibility and are able to do self-evaluation.
9-10	<ul style="list-style-type: none"> • Students perform data analysis in groups. 	<ul style="list-style-type: none"> • Students are able to communicate effectively orally and in writing.
11-12	<ul style="list-style-type: none"> • Students make a research project report using a template that has been set by the lecturer. 	<ul style="list-style-type: none"> • Students are able to think at higher levels and doing collaboration.
13	<ul style="list-style-type: none"> • Lectures are carried out by presenting the principal to convey the experience of leading a school in order to realize the Pancasila student profile program, as a practical lecture. 	<ul style="list-style-type: none"> • Students are able to think at higher levels.
14	<ul style="list-style-type: none"> • Students submit reports on group work orally in online meetings via zoom, followed by discussions and lecture reflections. 	<ul style="list-style-type: none"> • Students are able to think at higher levels.
Final exams	<ul style="list-style-type: none"> • Collection of group work reports • Individual reflection collection 	<ul style="list-style-type: none"> • Students are able to think at higher levels.

Researcher Role

As researchers in the fields of education, social humanities, and cultural studies, our role in this research is to utilize our expertise and academic background to investigate the most effective learning strategies for developing student leadership in tertiary institutions. With our direct involvement in the learning process at Indonesian universities, we are particularly interested in producing graduates who possess strong leadership skills and can serve as valuable human resources in their respective fields.

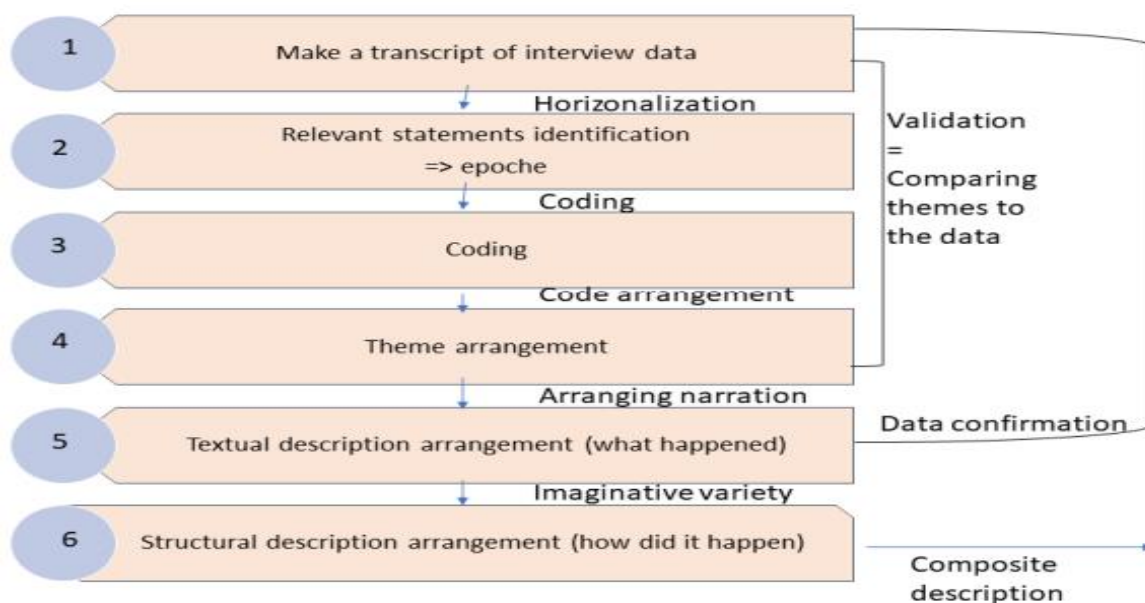
Research Methods

In our research, we adopted a constructivist approach, which acknowledges that a researcher cannot attain a definitive, singular reality, hence, comprehending a topic depends on subjective interpretations that are built on individuals' experiences within cultural and historical boundaries (Creswell, 2013). By utilizing this methodology, we have obtained research findings that are more comprehensive compared to those gained using solely phenomenological methods with their particular outcomes. Thus, our research processes as a whole fall under the umbrella of qualitative research procedures (Creswell, 2014).

We chose a place and research participants using purposive sampling (Oliver, 2015); namely, the characteristics of the participants were students who directly experienced the process and learning outcomes through project-based learning in developing their leadership skills. The number of students in this study was 24 students. The data collection method was in-depth individual interviews with the participants (Papke-Shields & Malhotra, 2001).

Upon completion of the school leadership best practice learning process in the Master of Education Management study program at Universitas Ahmad Dahlan, a period of reflection is always undertaken to evaluate the process and learning outcomes. In light of our forthcoming research on the topic of student leadership, we have submitted a written request to examine the experiences of students within the Education Management study program as they develop their school leadership skills. As an educational research project involving human subjects, it is noteworthy that in our local context of Indonesia, third-party approval is not required to ensure the ethics, security, privacy, and confidentiality of participants. Nevertheless, we, as researchers, have obtained the necessary research permits from the universities where these students are enrolled. To guarantee ethical practices, security, privacy, and confidentiality for all participants, we have incorporated informed consent procedures detailing the research's execution and participants' rights during their involvement in the research (Simpson & Innes, 2020).

Figure 1
The Steps of Data Analysis (Hasanah & Supardi, 2020)

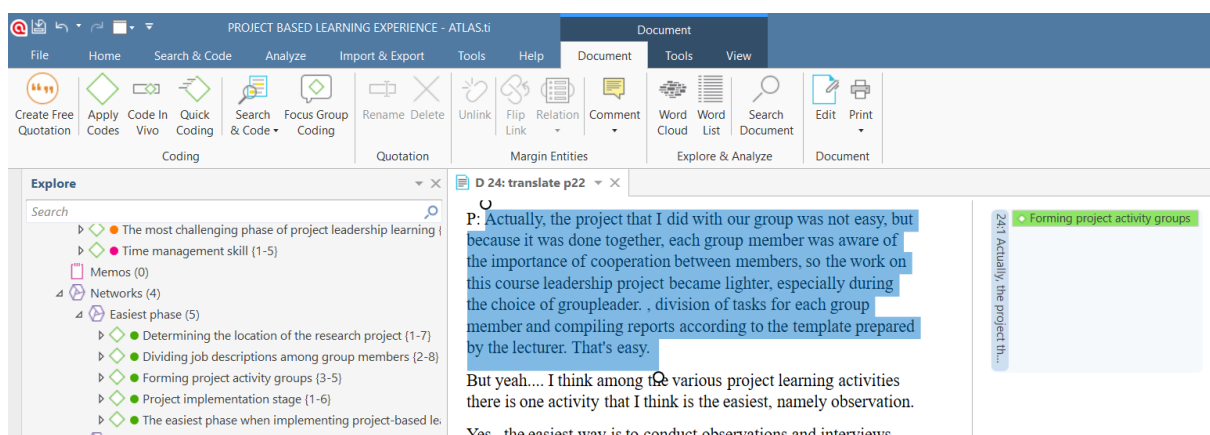


The data analysis process was carried out using the thematic analysis method of analysis, with the assistance of the Atlas.ti 9 application (Meier et al., 2008). After completing the data analysis, the next step is to proceed to the data interpretation stage and match it with the applicable theory. The matching results show new findings regarding implementing effective project-based learning in developing student leadership. In general, the steps of the data analysis process can be seen in Figure 1.

According to the information presented in Figure 1, the process of analyzing the data can be described in the following manner:

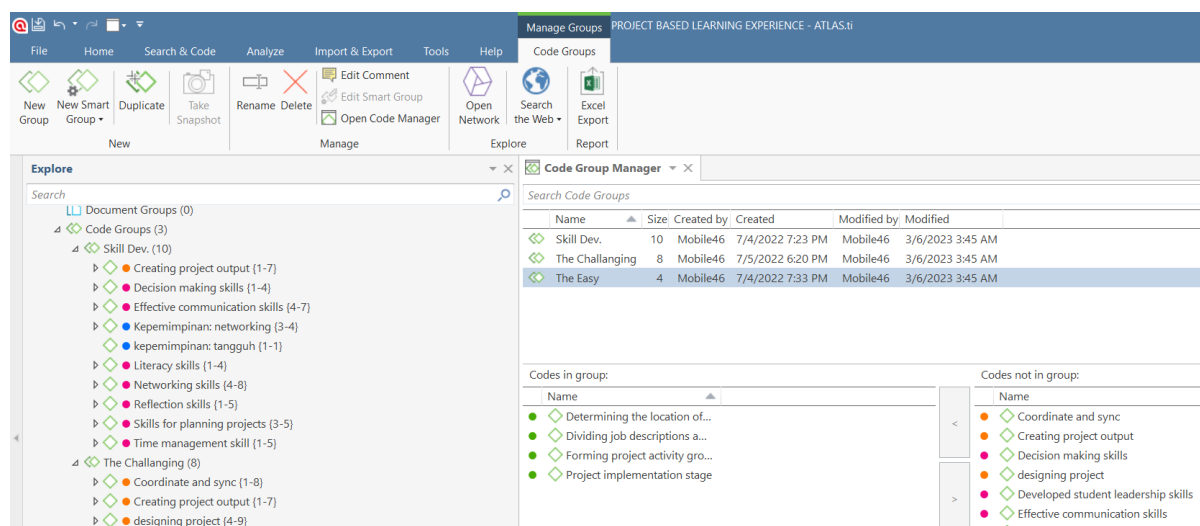
1. Initially, we transcribed the data by utilizing the recordings of the in-depth interviews, and subsequently, we thoroughly reviewed the journal and field notes to obtain a more accurate understanding of the research context. Our use of journal and field notes was essential in ensuring the precision and reliability of the data.
2. Subsequently, a comprehensive investigation was carried out to isolate statements related to our research topic. Throughout this phase, we carefully examined the accounts of the participants which effectively conveyed the fundamental essence of their experiences concerning the best practice leadership lecture process and the leadership skills they perceived to have developed while following the various learning steps. The meticulous execution of the coding procedure involved a comprehensive analysis of each word in the transcript to apprehend its significance and identifying appropriate terms that represent the essence of the statement in relation to the research context. Coding entails the discernment of pertinent meanings within each participant's statements, with reference to the research objectives and background. In essence, coding is a decision-making process where the researcher utilizes the research methodology and background to make crucial decisions regarding coding elements such as conceptual similarity, statement meaning, and data size. It is essential to maintain an unbiased approach during coding by assuming that every participant's statement is of equal value, thereby assigning impartial meaning to all relevant data. The procedure for conducting coding is illustrated as follows:

Figure 2
Coding Process



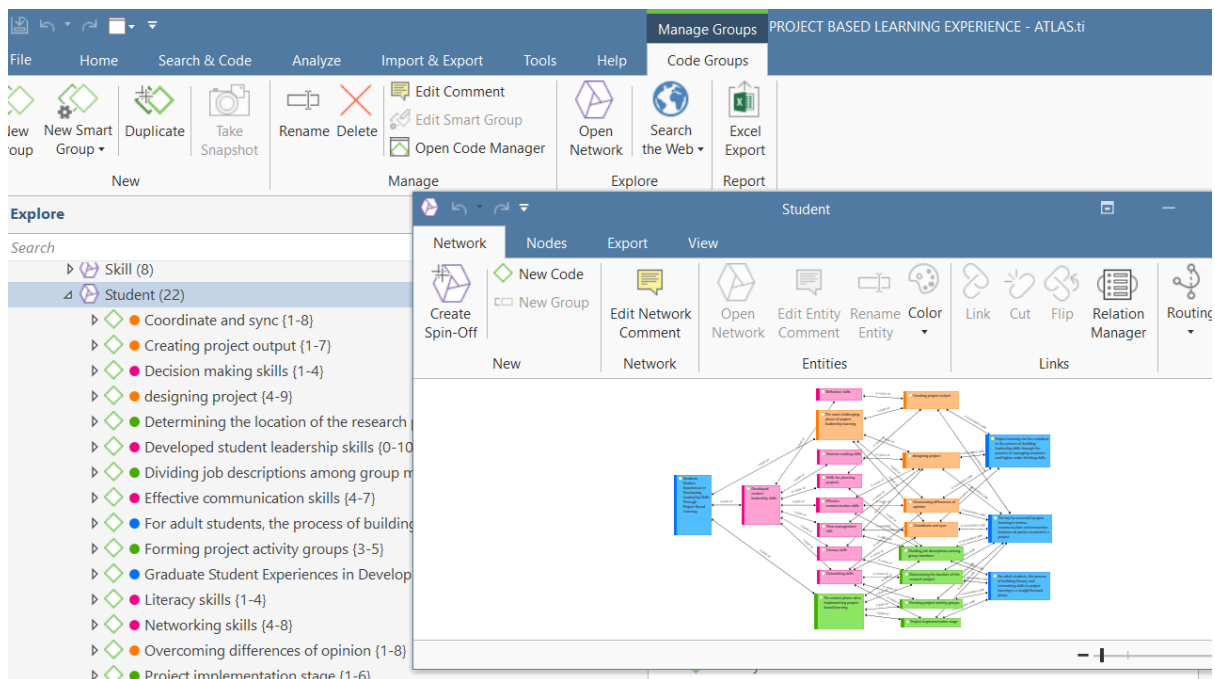
- Once all the transcripts had been encoded, a total of 23 codes were discovered, indicating the students' acquisition of leadership skills while engaging in project-based learning activities. Our subsequent task involves categorizing these codes into three distinct thematic groups: the easiest phase, the most challenging phase, and developing leadership skills.

Figure 3
The Process of Forming the Theme



- The subsequent step entailed organizing the Individual Textural Description (ITD) whereby we utilized data obtained from the coded and themed transcribed in-depth interview recordings. To create the ITD, we commenced by interpreting the significance of each participant's encounters, a process that adhered to Moustakas' (1994) recommendation that researchers should meticulously examine every participant's word or statement to unveil distinctive perspectives regarding the subject of study.
- Following the successful construction of ITD for each participant, we proceeded to develop a Composite Textural Description (CTD) based on all the themes identified. Once the CTD was in place, we crafted a Structural Description (SD) that captured the "hidden" experiences perceived by the researchers, illustrating the "how" of the phenomenon to clarify the "what" of the phenomenon (Moustakas, 1994).
- In order to construct a comprehensive understanding of participant experiences, we merged CTD and CSD to form a Composite Textural-Structural Description (CTSD), which was analyzed repeatedly to extract the essence of the experience. During this process, we reviewed and re-identified all the themes and transcripts, and took into account the Javanese cultural context that serves as the backdrop for participants' lives (Hasanah, 2022; Hasanah et al., 2019). To obtain a complete understanding of the group, cultural context was essential. The results of our combined analysis are presented in the discussion section, demonstrating how project-based learning can enhance postgraduate students' leadership skills. Specifically, we found that effective communication and interaction between all parties is crucial for successful project learning, and that project learning can facilitate the development of leadership skills through the cultivation of emotional management and higher-order thinking abilities.

Figure 4
Composite Textural-Structural Description



Findings

Based on the thematic analysis that we conducted on the views, feelings, and understanding of research-based learning practices in the Best Practice School Leadership course as a method in the process of developing student leadership, which was explicitly stated by the master's students in educational management that we interviewed, we found that the students assessed that the development of student leadership skills indeed needs to be trained through practice, not just emphasizing the reinforcement of knowledge about school leadership theories. Although there were participants that we gave pseudonyms who felt that research-based learning activities were quite tiring because they required a lot of physical and mental activities that were constantly monitored by the lecturer, especially through the process of self-reflection at the end of each class. Our themes referred to research questions about students' perspectives and feelings towards each coursework task they completed, ranging from activities that were deemed most challenging, the easiest work, and leadership values perceived to develop within the students as a result of completing the tasks in the course.

The research results are described as follows:

Theme 1. The Easiest Step According to the Students' Activities

The results of the data analysis indicate that for graduate students in educational management, there are four activities in the project-based learning process that are perceived as easy to carry out, namely: 1) determining the location of the research project; 2) project implementation stage; 3) dividing job descriptions among group members; and 4) forming project activity groups. These activities are illustrated in Figure 5 below:

Figure 5
The Easiest Phase in Project-Based Learning Process

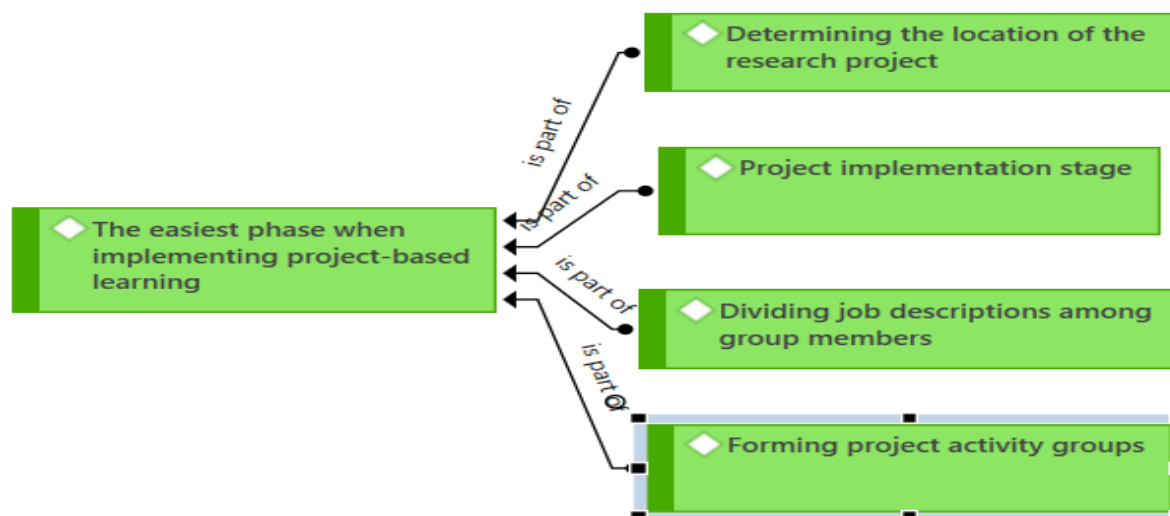


Figure 5 illustrates that there are four keywords indicating activities perceived as easy by postgraduate students in educational management during the research-based e-learning process, as follows:

The Process of Forming a Work Group.

Forming a work group in project-based learning constitutes a crucial phase in the planning and execution of a successful project. Therefore, students need to possess the ability to select appropriate partners to ensure effective collaboration within the team. Despite its perceived simplicity among master's students in educational management, this step remains a vital component of the project's overall success. The following statement from one of the participants is pertinent:

The most straightforward aspect of the preliminary phase of project-based learning is the formation of a functional team. It only takes a brief moment to identify individuals who are interested in joining the group, as we are all already acquainted with one another (P3, lines 6-9).

According to P7, a student who also works as a school principal, master's students have better academic maturity compared to undergraduate students. We have experience working in groups and a better understanding of how to communicate effectively with teammates skills. Master's students have more specific and high-quality skills compared to undergraduate students, which enables them to form effective work groups more easily. However, although master's students may consider forming work groups an easy task, good effort and communication are still necessary to ensure that the group can work effectively and achieve desired goals.

Choosing a Research Location

One of the jobs that must be done by students in conducting project-based learning is choosing a research location. According to postgraduate students, this is an easy thing because

they already have good relationships and communication skills. The following is P13's explanation of this:

The easiest thing in my opinion is to find/determine the object of the project, where educational institutions in Indonesia are very diverse, so choosing a place to be used as a project (in this case a school leadership best practice project) is quite easy, just how to communicate with related parties (P13, lines 7-9).

The ease of choosing a research location in this project-based learning process seems to be related to the Javanese culture, which values friendship highly. Similarly, a participant with the code 9 stated that choosing a research location in project-based learning can be a complex and challenging task. It requires careful consideration of various factors such as the availability of resources, access to data, expertise in the research area, and the relevance of the location to the research question. However, in their opinion, this task is easy because they have a friend who is a school principal, so it will be easy for them to obtain permission to conduct research there. As it is common in Java, once we know someone, dealing with matters becomes easier. As we often do in Java culture, it's easier to solve problems when we already know people involved. The most important thing is good communication.

Division of Job Descriptions Among Members

The easy phase according to some participants was the job description division phase because all group members were adults and had an awareness of their respective tasks in the study group. The statement regarding this matter is as follows:

We are postgraduate students who tend to have mature thoughts, each individual's work awareness is also high, so in our group, the most accessible phase is when we divide work tasks. Each member gets a task to support our research project's success, and all of them can commit to working together as a group. That is the most accessible phase in my experience (P21, rows 5-10).

Project Implementation

The project implementation session was perceived by the students as an easy part of the activity. The reason for the participants who said that project implementation was easy was because all they had to do was implement it, the preparations had been done thoroughly. Relevant statements regarding this matter were stated by P17 as follows:

The easiest phase of project assignment in my opinion is during project implementation with the children. Project implementation in our group is part of the data collection process. In that phase, all preparations have been done carefully the day before, so that implementation becomes easier (P17, lines 8-10).

P20 also states the same thing as what has been stated by P17 as follows:

For me, the easiest phase is the project implementation phase, starting from the preparation of materials, division of tasks, documentation, and also data collection for the preparation of project activity reports. All of these activities are easy because all you have to do is carry out according to the plan and time

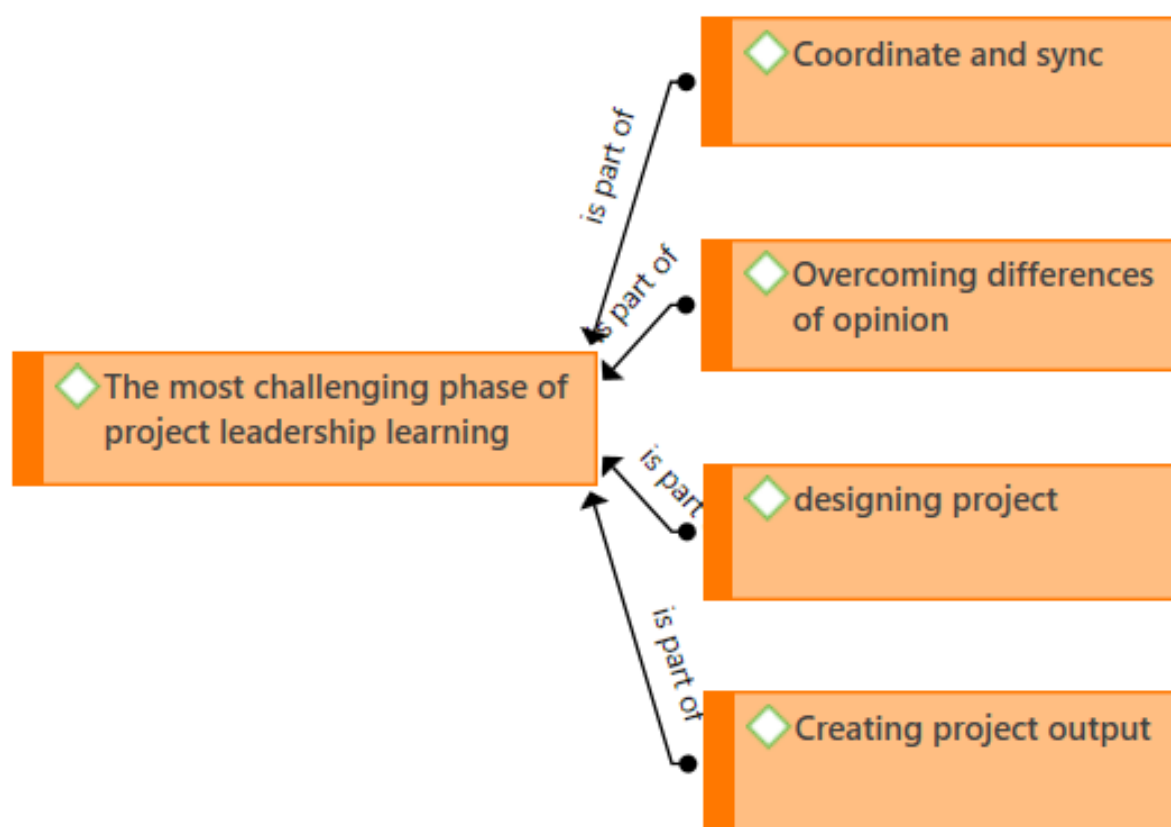
schedule that has been mutually agreed upon between all group members, as well as an agreement between our group and the principal of the school where you are doing the research (P20, lines 6-10).

Theme 2. The Most Challenging Phase

Based on the experiences of students during the project learning process in this school leadership course, there are eight main activities as shown in Figure 3 below:

Figure 6

The Most Challenging Phase of Project Learning



Designing Project

Based on the narratives of the participants, the activity of designing project designs is the most challenging phase for students. The process of designing a design requires high-level thinking skills and also requires deep thinking. Below is the relevant statement regarding this matter:

Among all the phases in the learning of this project I feel that the process of designing a project is the most challenging and difficult because all members of our group are officials in their respective schools so that our group must coordinate with personal time synchronization. Designing a design is not an easy thing, it requires a lot of knowledge and consideration so that it can be exactly according to the expected goals (P1, lines 56-68).

Overcoming Differences of Opinion

The participants stated that one part of challenging project-based learning activities is when there is a difference of opinion it is still difficult to find a solution. Below are some quotes from relevant participants about the difficulties of overcoming these differences of opinion.

The part that has not been mastered while running this project is accepting different opinions, because my dominant character always wants to influence not be influenced, so it is quite difficult to find agreement (P3, lines 71-73).

P14 also states the same thing regarding the difficulty of overcoming differences of opinion between members as follows:

When we move from one schedule to the next, sometimes we disagree with each other. Usually each member has their own views and both do not want to give in, so sometimes there is a tough debate in the group. Although in the end there is a solution, but I feel it is something difficult (P14, lines 69-73).

Coordinating and Synchronizing Schedules

In the condition of the COVID-19 pandemic, all human movement is limited, making the coordination process with teammates and resource persons something that requires great effort. Here are some relevant statements from participants:

After I followed and we went through in making this project, I personally had difficulties in terms of coordination and synchronization, considering that each individual has various activities and activities, plus the distance is quite far, so meeting and completing this project is a bit of a challenge, although it can still be solved with tremendous effort in our opinion (P12, lines 69-74).

Compile Project Output

According to the participants, one of the challenges in the project learning process was preparing the output because this process required foresight, the ability to interpret data, skills to create a product, and the ability to write reports. Below are some relevant statements made by the participants:

The most challenging phase in this project flow is the agreed product (output) manufacturing phase, namely video. I find this phase difficult because my competence related to making videos is still very limited. My video-making competence is still limited to the kinemaster application (P7, lines 23-26).

P11 also said that the process of preparing project outputs was very challenging because it required accuracy and synthesis skills. The following is P11's statement:

In my opinion, the most difficult challenge in the learning process of this project is re-exploring the data obtained and then synthesizing the data into a new science which is then poured into a report (P111, lines 25-27).

Theme 3. Developing Student Leadership Skills

Figure 7

Theme 3. Developing Student Leadership Skills

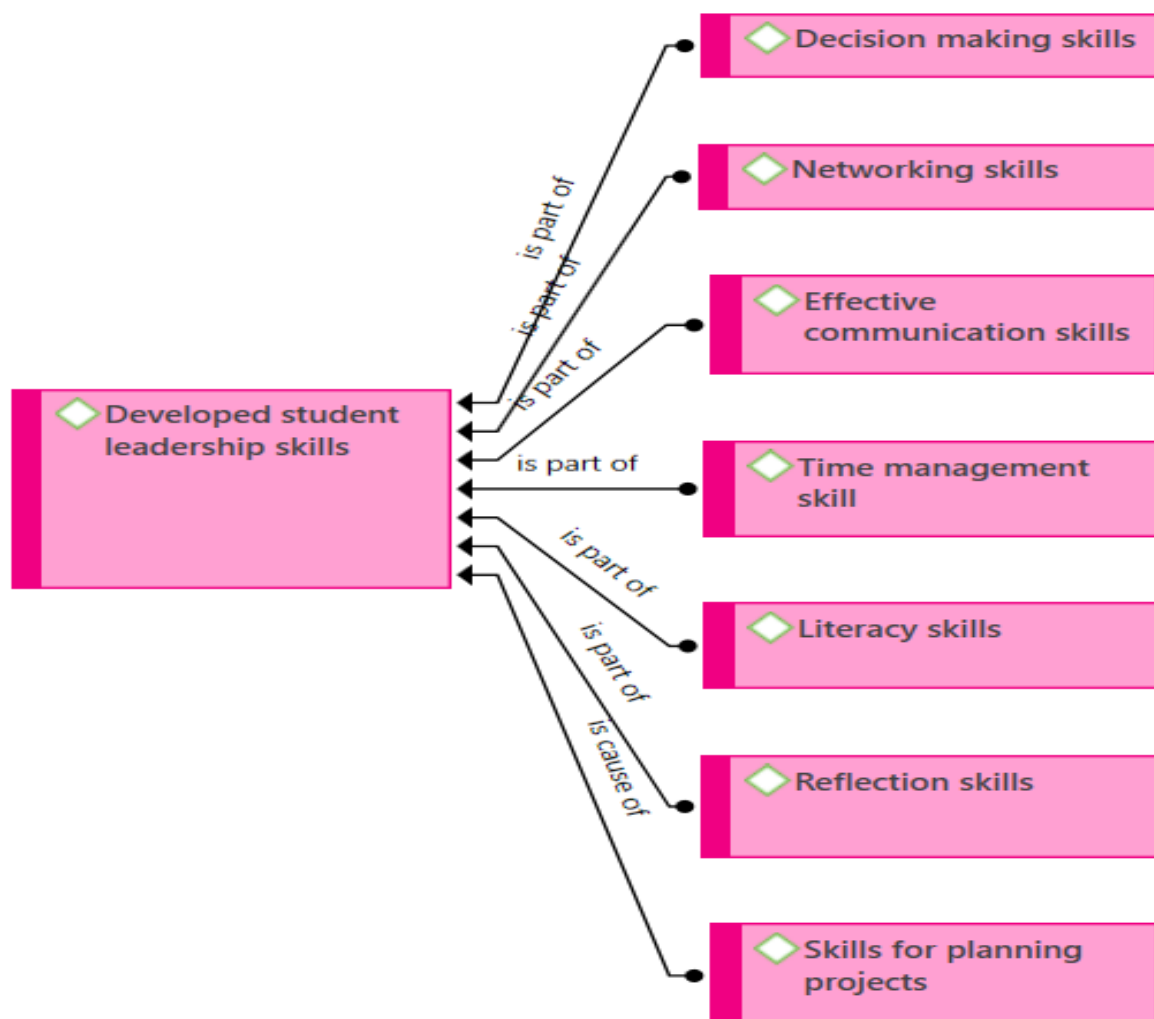


Figure 4 shows that the results of research project-based learning have succeeded in developing various leadership skills in students as follows:

Skills to Plan a Program

One of the leadership skills mastered by the participants after participating in project learning is the skill to plan a program more professionally. The participants admitted that through exploration, discussion, and discussion with all group members, the students became aware of the procedures for preparing a thorough plan. Below is P1's statement regarding this matter:

The initial process of project learning is to develop a design. In this process we conducted various information explorations related to matters related to the project topic that our group had chosen. With that process we have the skills to design a project carefully because it is accompanied by reading and working skills (P1, lines 91-94).

Effective Communication Skills

In research project learning, each process requires communication between groups so that participants feel the practice of interacting and communicating directly with group members and partners where the project is implemented. The participants felt that learning this project could improve their practical communication skills from this activity. Below is participant 13's statement, as follows:

The skills that I have understood and can put into practice as one of the leadership skills that have developed for me are the ability to communicate and coordinate, collaborate among friends, relate to other schools, learn about new government policies. This is a valuable experience for me (P13, lines 86-89).

Time Management Skills

Time management became a skill that was successfully developed as a self-skill of the participants through the learning of this project. The following are relevant statements regarding this matter:

In the early days of college, sometimes I felt pressured to attend this leadership best practice course because I was very disciplined in terms of the use of time. Everything must be in accordance with the time schedule that has been designed, both online and offline, it's the same, it must be on time. Over time and thanks to real examples from lecturers, I finally felt accustomed to time discipline, I even practiced the discipline at the school where I worked (P15, lines 89-93).

Literacy Skills

According to the participants, project learning has forced students to read and improve their reading skills because the whole process was checked and reviewed by the lecturer, given input and suggested to add materials. The following is P7's statement:

When I took this course in the form of research project-based learning, I felt that my literacy about leadership had improved. This I got apart from the lecturer's explanation, I was also actively looking for information on effective leadership behavior as material for the group to design projects and also at the stage of analyzing and interpreting data on leadership (P7, lines 91-94).

Networking Skills

Research project work in groups and the obligation to have partners for project implementation has made participants have better networking skills. Below is the relevant statement from P8:

Making projects in groups in this course has taught me many things, especially about the ability to collaborate with others and build networks to complete our projects. On the one hand, I also feel that my disciplinary abilities are developing because the lecturers always ask for troublesome progress about my role in the group, so I also have to take part in our group work seriously and

actively. This pattern has succeeded in forcing me to be really active and disciplined in doing group assignments (P8, lines 95-101).

Another statement that corroborates the previous opinion, quoted from P10 as follows:

Actually, I feel that many leadership skills have developed as a result of project-based learning in this leadership best practices course. These skills include the ability to plan, communicate, make decisions, collaborate, and reflect on activities. Among the skills that developed most prominently was my ability to build networks. This form of project-based learning involved external parties, so everyone had to have a network. As a result, I now know how to build a network at work and understand the tremendous benefits of this networking ability (P10, lines 91-96).

Decision-Making Skills

P1 emphasized that in the process of preparing the project design several options must be considered so that the project prepared is on target. Therefore, P1 felt that through this experience emerged the skills to make choices and make decisions quickly and accurately.

In preparing the project design, many considerations were conveyed by each group member and used as choices. That's when I felt there was a thought process that forced me as the group leader to make the best decisions so that the project that was compiled became a good project. In addition to the preparation of the project plan, in other project steps, I am often faced with various choices that require me to make decisions. This has succeeded in building my ability to make the right decisions because the lecturers also always give directions and clues to find solutions (P1, lines 96-104).

Participants 11 and 12 had the same opinion that during the project-based learning process, they were often faced with problems that required the ability to make decisions. These skills arise when each member communicates and exchanges opinions in assessing various alternative actions that might be taken. Good communication is critical to students' success in making the right decisions.

Reflection Skills

According to the participants, students were always asked to reflect in each phase of the project's learning activities. This has succeeded in improving the reflection skills of the participants, as stated by P21 below.

Every cycle in the learning activities of this project, we are always asked to reflect. The continuous practice of reflection makes me more able to do reflection to see what I've done, then I practice finding solutions to fix any shortcomings. In addition, I practice finding out the point of achievement of the program. This I feel is an extraordinary skill and I can do it (P21, lines 101-105).

Discussion

The results of the in-depth analysis of the codes and themes in this research indicate that there are two essential aspects of the postgraduate students' experience in carrying out project-based learning and its relation to the process of developing leadership skills; namely: 1) intense communication and interaction among all parties involved in a group project is the key to successful project-based learning; 2) project-based learning can serve as a medium in the process of developing leadership skills through the practice of managing emotions and higher-order thinking skills. A conceptual model of the research findings can be seen in Figure 5, as follows:

Figure 8

The Conceptual Model for Developing Student Leadership Through Project-Based Learning



The key to Successful Project Learning is Intense Communication and Interaction Between All Parties Involved in a Group Project

The results of this study indicate that each process in learning research projects in groups requires communication skills and interactions between all parties involved: lecturers and students, students and students, as well as students and partners in the project being carried out. The intensity of communication between groups (Kuswanti et al., 2020) allows students to have direct social interaction with other group members. This interaction in the learning process has an important function in developing students' social skills (Siddiky, 2020).

The pattern of intense communication and interaction among all project group members is the key to the group's success in achieving the learning objectives that have been set. This is in line with several research results which show that communication is very important when someone works in a group, because good communication can overcome various problems of misunderstanding, find solutions to overcome differences in views, and to overcome various dynamics that occur in groups (Fischer-Grönlund et al., 2021; Rollins et al., 2020; Tropp et al., 2021) so that it can be realized effective learning in realizing learning objectives (Visser et al., 2021). Group members can negotiate, coordinate, and collaborate smoothly through a communication pattern that both parties can accept, both the sender and the recipient of the message (Chen, 2021; Gai et al., 2021). The pattern of coordination and communication between participants represents the role that individuals play in group activities (Dowell et al., 2019), as well as being able to distinguish the learning outcomes of a learning process (Roldán-Álvarez et al., 2020).

The students highlighted the importance of feedback from lecturers during project implementation so that students better understand which targets have been achieved and which still need to be pursued and improved. Even though postgraduate students are adults, they still feel they need explanations and input from the lecturers to strengthen their understanding. This research shows that feedback from lecturers is essential in the learning process even though the learners are adult learners. The results of this study are in line with several previous research results, which state that feedback from teachers has a positive effect on the development of motivation, student activity, and student achievement (Gan et al., 2021; Han & Xu, 2020; Le, 2016; Panigrahi et al., 2018).

Project-Based Learning can be a Medium in the Process of Building Leadership Skills Through the Practice of Managing Emotions and Higher-Order Thinking Skills

Leadership skills (Akhwaba et al., 2020), are one of the most important soft skills in the world of education. The results of this study indicate that the pedagogical method in the form of project-based learning (PjBL) has the ability to develop skills in student teacher leadership (Nacak et al., 2020), like planning projects (Hero & Lindfors, 2019), decision-making (Valente et al., 2020), communication (Gratton & Erickson, 2007), literacy (Kaeophanuek et al., 2019), networking (Bruthers et al., 2021), and reflection (Guo et al., 2020).

The results of this study indicate that the process of developing leadership skills occurs in students when students interact and communicate directly with others, practice each step of learning in groups, and share responsibilities during the process of completing group assignments. In the process of implementing projects in groups, each member and group leader is required to be able to manage emotions and use high-level thinking skills. Thus, this study supports the findings of previous research which states that project-based learning has the ability to utilize students' potential in soft skills. PjBL preparation (planning), implementation, commitment, and assessment techniques each have a significant positive impact on improving soft skills among students (Dogara et al., 2019, 2020). It is proven that project-based learning facilitates the growth of learners in acquiring these skills (Khamdun et al., 2021; Musa et al., 2012).

Theoretical implications from this research suggest that project-based learning is an effective method for developing process skills and has potential for fostering leadership skills in postgraduate teacher students. However, the study also reveals that the process of interaction and communication during the learning process is critical in developing leadership skills, and that effective strategies for implementing project-based learning for leadership skill development need to be identified. These findings underscore the importance of integrating

leadership development into educational curricula and providing ongoing professional development for teachers to facilitate leadership skill development. Future research could explore the potential of project-based learning for developing leadership skills in different contexts and populations and investigate effective approaches for integrating leadership development into educational programs.

The practical implications of this research result are significant for both postgraduate teacher students and educators. Firstly, the study provides evidence that project-based learning is a potentially effective approach for developing leadership skills in students. This information is valuable for educators who are seeking to incorporate innovative teaching methods to enhance student learning outcomes. Secondly, the study highlights the importance of effective communication and interaction during the project-based learning process for developing leadership skills. This finding has important implications for educators who may need to consider how they can facilitate communication and collaboration among students during project-based learning activities. Thirdly, the study highlights the need for ongoing professional development for teachers to effectively facilitate leadership skill development. This finding suggests that educators need to continuously improve their teaching practices and pedagogical approaches to provide students with the best possible learning experiences. Finally, the study emphasizes the need for integrating leadership development into educational curricula. This finding suggests that schools and educational institutions should consider incorporating leadership development activities and opportunities for students as a part of their educational programs.

References

- Acton, R. (2018). Innovating lecturing: spatial change and staff-student pedagogic relationships for learning. *Journal of Learning Spaces*, 7(1), 1–15.
- Akhwaba, J. K., Bowa, O., & Keiyoro, P. (2020). Leadership skills, stakeholder management and execution of fibre optic infrastructure. *Journal of Engineering, Project, and Production Management*, 10(1), 2426–2437. <https://doi.org/10.2478/jepmm-2020-0010>
- Aldabbus, S. (2018). Project-based learning: Implementation & challenges. *International Journal of Education, Learning and Development*, 6(3), 71–79.
- Bruthers, C. B., Hedman, E. L., & Matyas, M. L. (2021). Undergraduate research programs build skills for diverse students. *Advances in Physiology Education*, 45(2), 399–408. <https://doi.org/10.1152/ADVAN.00165.2020>
- Chen, R. H. (2021). Fostering students' workplace communicative competence and collaborative mindset through an inquiry-based learning design. *Education Sciences*, 11(1), 1–13. <https://doi.org/10.3390/educsci11010017>
- Creely, E. (2018). 'Understanding things from within'. A Husserlian phenomenological approach to doing educational research and inquiring about learning. *International Journal of Research and Method in Education*, 41(1). <https://doi.org/10.1080/1743727X.2016.1182482>
- Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). Sage.
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches*. SAGE Publications.
- Dogara, G., Bin Saud, M. S., Bin Kamin, Y., Bin Abd Hamid, M. Z., & Bin Nordin, M. S. (2019). Developing soft skills through project-based learning in technical and vocational institutions. *International Journal of Recent Technology and Engineering*, 8(3). <https://doi.org/10.35940/ijrte.A9803.098319>
- Dogara, G., Saud, M. S. Bin, Kamin, Y. Bin, & Nordin, M. S. Bin. (2020). Project-based

- learning conceptual framework for integrating soft skills among students of technical colleges. *IEEE Access*, 8. <https://doi.org/10.1109/ACCESS.2020.2992092>
- Dowell, N. M. M., Nixon, T. M., & Graesser, A. C. (2019). Group communication analysis: A computational linguistics approach for detecting sociocognitive roles in multiparty interactions. *Behavior Research Methods*, 51(3). <https://doi.org/10.3758/s13428-018-1102-z>
- Egne, R. M. (2014). Representation of the Ethiopian multicultural society in secondary teacher education curricula. *Journal of Teacher Education for Sustainability*, 16(1). <https://doi.org/10.2478/jtes-2014-0003>
- Elsan Mansaray, H. (2019). The role of leadership style in organisational change management: A literature review. *Journal of Human Resource Management*, 7(1). <https://doi.org/10.11648/j.jhrm.20190701.13>
- Finkelstein, L. S. (1951). Education in Indonesia. *Far Eastern Survey*, 20(15), 149-153. <https://doi.org/10.2307/3023860>
- Fischer-Grönlund, C., Brännström, M., & Zingmark, K. (2021). The ‘one to five’ method - A tool for ethical communication in groups among healthcare professionals. *Nurse Education in Practice*, 51. <https://doi.org/10.1016/j.nepr.2021.102998>
- Gai, K., Wu, Y., Zhu, L., Choo, K. K. R., & Xiao, B. (2021). Blockchain-Enabled Trustworthy Group Communications in UAV Networks. *IEEE Transactions on Intelligent Transportation Systems*, 22(7). <https://doi.org/10.1109/TITS.2020.3015862>
- Gan, Z., An, Z., & Liu, F. (2021). Teacher feedback practices, student feedback motivation, and feedback behavior: How are they associated with learning outcomes? *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.697045>
- Gratton, L., & Erickson, T. J. (2007). Eight ways to build collaborative teams. *Harvard Business Review*, 85(11), 100-109.
- Guo, P., Saab, N., Post, L. S., & Admiraal, W. (2020). A review of project-based learning in higher education: Student outcomes and measures. *International Journal of Educational Research*, 102. <https://doi.org/10.1016/j.ijer.2020.101586>
- Guthrie, K. L., Ardoin, S., & Purita, R. (2021). Expanding influence of social class in leadership development. *New Directions for Student Leadership*, 2021(169), 121-131. <https://doi.org/10.1002/yd.20428>
- Han, Y., & Xu, Y. (2020). The development of student feedback literacy: the influences of teacher feedback on peer feedback. *Assessment and Evaluation in Higher Education*, 45(5), 680-696. <https://doi.org/10.1080/02602938.2019.1689545>
- Hasanah, E. (2022). Java community philosophy: More children, many fortunes. *Genealogy*, 7(1), 3. <https://doi.org/10.3390/genealogy7010003>
- Hasanah, E., Zamroni, Z., Dardiri, A., & Supardi, S. (2019). Indonesian adolescents experience of parenting processes that positively impacted youth identity. *The Qualitative Report*, 24(3), 499-512. <https://doi.org/10.46743/2160-3715/2019.3825>
- Hero, L. M., & Lindfors, E. (2019). Students’ learning experience in a multidisciplinary innovation project. *Education and Training*, 61(4). <https://doi.org/10.1108/ET-06-2018-0138>
- Heyward, M., Cannon, R. A., & Sarjono. (2011). Implementing school-based management in Indonesia. RTI Research Report Series. Occasional Paper. In *RTI International* (Issue September, pp. 1–15). <https://doi.org/10.3768/rtipress.2011.op.0006.1109>
- Hine, G. (2014). Student leadership development: A functional framework. *Journal of Catholic Education*, 18(1). <https://doi.org/10.15365/joce.1801052014>
- Hussein, B. (2021). Addressing collaboration challenges in project-based learning: The student’s perspective. *Education Sciences*, 11(8), 434. <https://doi.org/10.3390/educsci11080434>

- Indriani, S., & Hasanah, E. (2021). Peran Kepemimpinan Kepala Sekolah Dalam Upaya Mengembangkan Profesionalisme Guru. *Jurnal Kepemimpinan dan Pengurusan Sekolah*, 6(1). <https://doi.org/10.34125/kp.v6i1.571>
- Ivić, S. (2016). Frequency of applying different teaching strategies and social teaching methods in primary schools. *Journal of Education and Practice*, 7(33), 66–71. <https://files.eric.ed.gov/fulltext/EJ1122875.pdf>
- Jabbar, A. A., & Hussein, A. M. (2017). The role of leadership in strategic management. *International Journal of Research -Granthaalayah*, 5(5). <https://doi.org/10.29121/granthaalayah.v5.i5.2017.1841>
- Kaeophanuek, S., Na-Songkhla, J., & Nilsook, P. (2019). A learning process model to enhance digital literacy using critical inquiry through digital storytelling (CIDST). *International Journal of Emerging Technologies in Learning*, 14(3). <https://doi.org/10.3991/ijet.v14i03.8326>
- Katawazai, R. (2021). Implementing outcome-based education and student-centered learning in Afghan public universities: the current practices and challenges. *Heliyon*, 7(5). <https://doi.org/10.1016/j.heliyon.2021.e07076>
- Khamdun, K., Suparmi, S., Maridi, M., & Rusilowati, A. (2021). Development of vocational science learning devices to improve project based soft skills. *Linguistics and Culture Review*, 5(S1). <https://doi.org/10.21744/lingcure.v5ns1.1348>
- Kiersch, C., & Peters, J. (2017). Leadership from the inside out: Student leadership development within authentic leadership and servant leadership frameworks. *Journal of Leadership Education*, 16(1). <https://doi.org/10.12806/v16/i1/t4>
- Kuswanti, A., Saleh, A., Hubeis, A. V. S., Puspitawati, H., Muzykant, V. L., & Muqsith, M. A. (2020). Effect of group participative communication towards pekka economic empowerment. *International Journal of Advanced Science and Technology*, 29(3).
- Larmer, J., Mergendoller, J. R., & Boss, S. (2015). *Setting the standard for project based learning: A proven approach to rigorous classroom instruction*. ASCD
- Le, N. T. (2016). A classification of adaptive feedback in educational systems for programming. *Systems*, 4(2). <https://doi.org/10.3390/systems4020022>
- Leskinen, J., Kumpulainen, K., Kajamaa, A., & Rajala, A. (2021). The emergence of leadership in students' group interaction in a school-based makerspace. *European Journal of Psychology of Education*, 36(4). <https://doi.org/10.1007/s10212-020-00509-x>
- Levy-Feldman, I. (2018). The good teacher for the twenty-first century: a “mentoring teacher” with heutagogical skills. *International Journal of Mentoring and Coaching in Education*, 7(2). <https://doi.org/10.1108/IJMCE-10-2017-0067>
- Maryani, I., Putri, D. R., Urbayatun, S., Suyatno, & Bhakti, C. P. (2020). Metacognition and integrated-project based learning (I-PjBL) in elementary schools. *Universal Journal of Educational Research*, 8(3), 1046–1054. <https://doi.org/10.13189/ujer.2020.080339>
- Matilainen, R., Nuora, P., & Valto, P. (2021). Student experiences of project-based learning in an analytical chemistry laboratory course in higher education. *Chemistry Teacher International*, 3(3), 229-238. <https://doi.org/10.1515/cti-2020-0032>
- Mazurkiewicz, G. (2021). Educational leadership in times of crisis. *Risks*, 9(5). <https://doi.org/10.3390/risks9050090>
- Meier, A., Boivin, M., & Meier, M. (2008). Theme-analysis: Procedures and application for psychotherapy research. *Qualitative Research in Psychology*, 5(4). <https://doi.org/10.1080/14780880802070526>
- Miasih, R., & Hasanah, E. (2021). Best Practice Kepemimpinan Kepala Sekolah dalam Menciptakan Iklim Belajar Jarak Jauh yang Kondusif. *Jurnal Kependidikan: Jurnal Hasil Penelitian Dan Kajian Kepustakaan Di Bidang Pendidikan, Pengajaran Dan Pembelajaran*, 7(3). <https://doi.org/10.33394/jk.v7i3.3559>

- Mokshagundam, S., Pitkin, J., Dekhtyar, M., Santen, S., Hammoud, M., & Skochelak, S. E. (2019). Engaging medical students in leadership development. *Medical Science Educator*, 29(3). <https://doi.org/10.1007/s40670-019-00754-w>
- Moustakas, C. E. (1994). *Phenomenological research methods*. Sage.
- Musa, F., Mufti, N., Latiff, R. A., & Amin, M. M. (2012). Project-based learning (PjBL): Inculcating Soft Skills in 21st Century Workplace. *Procedia - Social and Behavioral Sciences*, 59. <https://doi.org/10.1016/j.sbspro.2012.09.315>
- Nacak, A., Bağlama, B., & Demir, B. (2020). Teacher candidate views on the use of youtube for educational purposes. *Online Journal of Communication and Media Technologies*, 10(2). <https://doi.org/10.29333/ojcm/7827>
- Oliver, P. (2015). Purposive sampling. In V. Jupp (Ed.), *The SAGE dictionary of social research methods*. <https://doi.org/10.4135/9780857020116.n162>
- Page, N. C., Nimon-Peters, A. J., & Urquhart, A. (2021). Big need not be bad: A case study of experiential leadership development in different-sized classes. *Journal of Management Education*, 45(3). <https://doi.org/10.1177/1052562920948921>
- Panigrahi, R., Srivastava, P. R., & Sharma, D. (2018). Online learning: Adoption, continuance, and learning outcome—A review of literature. *International Journal of Information Management*, 43, 1-14. <https://doi.org/10.1016/j.ijinfomgt.2018.05.005>
- Papke-Shields, K. E., & Malhotra, M. K. (2001). Assessing the impact of the manufacturing executive's role on business performance through strategic alignment. *Journal of Operations Management*, 19(1), 5-22. [https://doi.org/10.1016/S0272-6963\(00\)00050-4](https://doi.org/10.1016/S0272-6963(00)00050-4)
- Priyambodo, P., & Hasanah, E. (2021). Strategic planning in increasing quality of education. *Nidhomul Haq : Jurnal Manajemen Pendidikan Islam*, 6(1). <https://doi.org/10.31538/ndh.v6i1.1138>
- Rao, N. J. (2020). Outcome-based education: An outline. *Higher Education for the Future*, 7(1). <https://doi.org/10.1177/2347631119886418>
- Roldán-Álvarez, D., Bacelo, A., Martín, E., & Haya, P. A. (2020). Impact of different interaction protocols on group communication, satisfaction and learning outcomes of primary school children when using multitouch tabletops. *Computers and Education*, 152. <https://doi.org/10.1016/j.compedu.2020.103875>
- Rollins, P. R., De Froy, A., Campbell, M., & Hoffman, R. T. (2020). Mutual gaze: An active ingredient for social development in toddlers with ASD: A randomized control trial. *Journal of Autism and Developmental Disorders*, 51, 1921-1938. <https://doi.org/10.1007/s10803-020-04672-4>
- Siddiky, M. R. (2020). Examining the linkage between students' participation in co-curricular activities and their soft skill development. *Journal of Educational Sciences*, 4(3). <https://doi.org/10.31258/jes.4.3.p.511-528>
- Simpson, J. K., & Innes, S. (2020). Informed consent, duty of disclosure and chiropractic: where are we? *Chiropractic and Manual Therapies*, 28(1). <https://doi.org/10.1186/s12998-020-00342-5>
- Susanti, D., Fitriani, V., & Sari, L. Y. (2020). Validity of module based on project based learning in media biology subject. *Journal of Physics: Conference Series*, 1521(4). <https://doi.org/10.1088/1742-6596/1521/4/042012>
- Tatto, M. T. (2021). Professionalism in teaching and the role of teacher education. *European Journal of Teacher Education*, 44(1). <https://doi.org/10.1080/02619768.2020.1849130>
- Tropp, L. R., Uluğ, Ö. M., & Uysal, M. S. (2021). How intergroup contact and communication about group differences predict collective action intentions among advantaged groups. *International Journal of Intercultural Relations*, 80. <https://doi.org/10.1016/j.ijintrel.2020.10.012>

- Valente, J. Y., Cogo-Moreira, H., & Sanchez, Z. M. (2020). Decision-making skills as a mediator of the #Tamojuntto school-based prevention program: Indirect effects for drug use and school violence of a cluster-randomized trial. *Drug and Alcohol Dependence*, 206. <https://doi.org/10.1016/j.drugalcdep.2019.107718>
- Visser, H. J., Liefbroer, A. I., Moyaert, M., & Bertram-Troost, G. D. (2021). Categorising interfaith learning objectives: a scoping review. *Journal of Beliefs and Values*. <https://doi.org/10.1080/13617672.2021.2013637>
- Winangun, I. M. A. (2021). Project based learning: Strategi Pelaksanaan Praktikum IPA SD Dimasa Pandemi Covid-19. *Edukasi: Jurnal Pendidikan Dasar*, 2(1), 11–20.

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