

# Transformative Effects of MBKM on Student Potential in Social Studies Pedagogy: A Cross-Sectional Survey of Prospective Elementary Teachers

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## ARTICLE INFO

### Keywords:

*merdeka belajar–kampus merdeka* (MBKM);  
social studies pedagogy;  
teacher education;  
experiential learning;  
prospective elementary  
teachers

### Article history:

Received 2025-07-13

Revised 2025-09-09

Accepted 2026-02-11

## ABSTRACT

The Merdeka Belajar–Kampus Merdeka (MBKM) policy promotes experiential learning to strengthen pre-service teachers' professional readiness, yet evidence in elementary social studies pedagogy remains limited. This study describes the multidimensional potential of prospective elementary teachers who participated in MBKM-related activities and examines gender differences in reported potential. A cross-sectional survey was conducted with 258 fourth-semester elementary teacher education students at Universitas Khairun, Indonesia (62% female; mean age = 20.4 years). Student potential was measured using a validated 40-item, 5-point Likert questionnaire across five dimensions: cognitive, affective, social, pedagogical creativity, and independence/adaptability (Cronbach's  $\alpha = 0.912$ ). Item validity showed acceptable item–total correlations ( $r = 0.421–0.591$ ,  $p < .001$ ). Because the data were non-normally distributed, gender comparisons were tested using Mann–Whitney U with effect size  $r = Z/\sqrt{N}$  ( $\alpha = .05$ ). Overall student potential was high ( $M = 169.59$  of 200), with independence/adaptability yielding the highest mean dimension score ( $M = 34.25$  of 40). Female students reported higher scores than male students across all dimensions and the total score, with statistically significant differences ( $p = .013–.047$ ) but small effect sizes ( $r = 0.12–0.15$ ). Participants reported strong multidimensional potential within the MBKM experiential learning context, and gender differences were consistent but modest. Given the single-institution, cross-sectional design and reliance on self-report, findings indicate associative patterns and should not be interpreted as causal effects or generalized nationally.

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## 1. INTRODUCTION

Basic education plays a strategic role in shaping students' intellectual, social, and moral foundations in the future (H.-L. W. Pan, 2023). One of the important pillars of basic education is social studies, which functions as an instrument of knowledge and as a means of internalizing social and

national values (Heppt et al., 2023). The Social Studies course for elementary school teachers at universities plays a vital role in preparing competent, creative, and adaptive educators who can respond to the dynamics of global society (Niu et al., 2022). However, the reality shows that teacher education processes often remain trapped in traditional approaches that emphasize theoretical knowledge, lack practical application, and are irrelevant to the real challenges faced in elementary schools (Yang et al., 2023). Social education in primary education plays a vital role in shaping students' intellectual, social, and moral foundations. However, primary school teachers are often taught in a theoretical approach that lacks practical application. Many prospective teachers rely on conventional lectures, failing to connect social studies concepts with students' real-life experiences. This gap creates limitations in internalizing social and national values, which should be the essence of social studies learning in elementary school.

In line with the era of globalization and the Industrial Revolution 4.0, higher education is required to develop graduates who not only master academic material but also possess critical thinking skills, collaboration skills, creativity, and practical communication skills (Melash et al., 2020). This need has become increasingly urgent in elementary school social studies education, which requires prospective teachers to connect theory with social reality, develop contextual learning methods, and build meaningful learning experiences for elementary school students (Sáez-López et al., 2022). Therefore, universities, as institutions that produce elementary school teachers, must be able to transform and facilitate the comprehensive and sustainable development of students' potential (Sanz et al., 2023).

In response, the government launched the Merdeka Belajar–Kampus Merdeka (MBKM) policy, emphasizing experience-based learning, including internships, teaching assistance, village projects, and research. Ideally, MBKM provides broad opportunities for elementary school teacher education students to develop multidimensional potential that is more relevant to field practice. However, its adoption and impact are still uneven: some students consider MBKM an administrative burden, while active participation is relatively low. Thus, there is a gap between the policy objectives and actual implementation. This policy aims to provide freedom and autonomy for higher education institutions and students to create innovative learning methods relevant to the needs of the times (Hardiansyah, Armadi, et al., 2024). MBKM emphasizes the importance of experiential learning, which involves learning through real-world experiences outside the campus through various activities such as internships, teaching assistance, village projects, research, and entrepreneurship (Hardiansyah, Sukitman, et al., 2024). This approach is considered capable of enriching students' knowledge, expanding their social networks, and honing the skills needed in the workplace, including basic education (Maussumbayev et al., 2022).

Although implementing MBKM provides excellent opportunities to improve the quality of prospective elementary school teachers, the reality shows that there are still significant challenges. Many prospective teachers cannot fully utilize the MBKM program to enhance their pedagogical and social potential (Hardiansyah et al., 2022). Most students remain focused on completing administrative curriculum requirements and view MBKM as an additional burden rather than an opportunity for self-development (Lee et al., 2022). The main gap that this study seeks to address is the lack of empirical evidence on the impact of MBKM on the development of prospective teachers' potential in elementary school social studies pedagogy. Previous studies have highlighted the administrative aspects of MBKM, but rarely assessed its contribution to elementary school education students' cognitive, affective, social, pedagogical creativity, and independence/flexibility dimensions.

The main problem elementary school teachers face when educating students in the context of elementary school social studies learning is their low ability to apply innovative learning strategies appropriate to the material's characteristics and the needs of students (Blundell et al., 2020). In the PGSD program, MBKM is operationalized through structured teaching assistance in partner elementary schools, educational internships, and community-based projects, enabling students to engage directly with real instructional and social contexts relevant to elementary social studies education. Study results indicate that approximately 64% of elementary school teacher education students at several universities

in Indonesia still rely on conventional lecture methods when asked to practice social studies instruction (Zhurat et al., 2020). This has resulted in students' limited ability to integrate social concepts into contextual and enjoyable learning situations (Lubicz-Nawrocka & Bovill, 2023). Additionally, national survey data conducted by the Indonesian Association of Elementary School Teacher Education in 2022 revealed that only 38% of elementary school teacher education students felt confident teaching social studies in elementary school after completing the relevant course (Farias-Gaytan et al., 2022).

This shows an urgent need to strengthen students' potential to face the demands of teaching elementary social studies more effectively and innovatively (Smolkowski et al., 2023). The urgency of research on implementing MBKM on students' potential in elementary social studies courses is further strengthened by relevant quantitative data. According to a report by the Directorate General of Higher Education (2023), only around 29.7% of elementary school teacher education students actively participated in MBKM programs, while the rest chose conventional pathways due to limited information, mental readiness, and insufficient institutional support (Sandilos et al., 2023). Furthermore, among students who participated in the MBKM program, approximately 51.5% showed significant improvement in communication skills, collaboration, and field adaptation. However, the specific impact of MBKM on mastery of elementary social studies material and the development of students' pedagogical potential has rarely been studied in depth and systematically (Rüth et al., 2022). This emphasizes the need for further studies to understand the extent to which MBKM can be a strategic instrument in enhancing the potential of prospective elementary school teachers, particularly in elementary social studies learning, which has unique challenges in instilling social and national values.

Based on the gap between the objectives of the MBKM policy and the practices of elementary school teacher education, this study formulates several research questions that need to be answered empirically. First, this study seeks to determine the extent to which student participation in MBKM programs relates to the development of their multidimensional potential, including cognitive, affective, social, pedagogical creativity, independence, and flexibility. Second, this study examines whether there are significant differences in the development of this potential based on gender, given that previous studies have shown variations in learning experiences between male and female students. In addition, if the data allows, this study also seeks to identify specific MBKM activities—such as internships, teaching assistance, or village projects—that contribute most to higher potential scores. The formulation of these research questions is an essential foundation for bridging the gap between MBKM policy and actual practice in social studies education in elementary school teacher education, while also providing direction for developing more relevant curricula and learning strategies.

Previous studies have shown that MBKM has been extensively researched to strengthen soft skills, employability, and entrepreneurship development among students in various fields of study. For example, research by (Abdigapbarova & Zhiyenbayeva, 2023) revealed that MBKM can improve students' work readiness through internship experiences and cross-sector collaboration. Similarly, a study by (Preuss et al., 2023) found that MBKM supports strengthening leadership and problem-solving skills among engineering students. However, similar studies remain limited in the context of elementary school teacher education, particularly in social studies courses. Some studies focus on implementing MBKM as teaching assistance without linking it to particular courses (Väätäjä, 2025). Additionally, international studies on experiential learning and service learning emphasize the importance of student involvement in real-world social contexts to enhance professional skills and social empathy (Catalano et al., 2023). These studies confirm that direct field learning experiences can shape students' critical and reflective perspectives, particularly in understanding societal dynamics. However, studies that specifically assess the contribution of MBKM to the potential of prospective elementary school teachers in elementary social studies learning, particularly in Indonesia, are still rare.

A gap analysis of previous studies shows significant gaps that need to be filled. First, there has not been much empirical research that directly examines the impact of MBKM on students' potential in elementary social studies courses. Second, most studies emphasize the administrative and policy aspects of MBKM without exploring the specific pedagogical contributions of prospective elementary

school teachers. Third, there has been no in-depth integration between the concept of MBKM and contextual learning relevant to the elementary school social studies curriculum, which requires a transdisciplinary and reflective approach. These gaps strongly support the need for this study to provide more comprehensive theoretical and practical contributions.

The novelty and justification of this study lie in the integrative approach used to assess MBKM's contribution to the multidimensional development of students' potential. This study does not only assess cognitive aspects but also the affective and social aspects of students, which are crucial in elementary school social studies learning. Another unique aspect of this study is its focus on prospective elementary school teachers taking social studies learning courses, enabling the research findings to serve as a basis for policy-making and curriculum improvement in elementary school teacher education programs. Thus, this study not only offers novelty in context and subject but also significantly contributes to the development of educational science, particularly in creating elementary school teachers who are more innovative, reflective, and adaptive to educational challenges in the global era. In addition to academic contributions, this study is also expected to encourage higher education institutions to optimize the implementation of MBKM in a more targeted and needs-based manner.

The research findings can serve as a reference for program leaders in formulating internal policies, developing collaborative learning models, and strengthening partnerships with elementary schools and the community. This research will open up opportunities for developing more contextual, relevant, and transformative learning models. As a country with high social and cultural diversity, Indonesia requires elementary school teachers who can transform national and humanitarian values through inspiring and applicable social studies education. This study provides empirical context on elementary school teacher education in Indonesia, offers tested instruments, and presents practical findings that can guide the design of MBKM programs to be more inclusive, adaptive, and tailored to field needs.

## 2. METHODS

This study used a cross-sectional quantitative survey design conducted in the even semester of the 2023/2024 academic year at Khairun University, Ternate, Indonesia. The research setting focused on elementary school social studies courses in the elementary school teacher education study program. A survey design was used because it is suitable for directly obtaining descriptive and inferential data regarding students' perceptions, experiences, and potential. In this case, the type of survey used is a cross-sectional survey design, a survey conducted at a specific time (single point of time). The choice of cross-sectional design is based on time efficiency, cost, and the ability to capture the factual conditions of fourth-semester students at Khairun University during a specific period without conducting longitudinal observations that require a long time (H. L. W. Pan, 2023). Additionally, this design allows researchers to comprehensively evaluate the relationships between variables within the context of elementary school social studies education and the implementation of MBKM.

The study population consisted of all fourth-semester PGSD students ( $N \approx 300$ ) who had initial exposure to the MBKM program through teaching practice, internships, or community-based projects. Two hundred fifty-eight respondents who met the eligibility criteria were obtained using a non-probability purposive approach. The response rate reached 86%. Of the total sample, 62% were female ( $n = 160$ ) and 38% were male ( $n = 98$ ), with an average age of 20.4 years ( $SD = 1.1$ ). In the context of this study, the implementation of the Merdeka Belajar–Kampus Merdeka (MBKM) program was integrated into the Elementary Teacher Education (PGSD) curriculum through several experiential learning activities. The respondents had participated in one or more MBKM-related activities formally recognized by the university and aligned with national MBKM guidelines. The MBKM activities followed by the students included: (1) teaching assistance in elementary schools, where students were involved in classroom instruction, lesson planning, and student mentoring; (2) internship or professional practice programs, conducted in educational institutions or community-based organizations relevant to basic education; and (3) community and village-based projects, which

emphasized social engagement, problem identification, and collaborative solutions in local communities. These activities were designed to provide authentic learning experiences beyond the classroom and were supervised by both university lecturers and field mentors.

Students' involvement in MBKM activities was characterized by active participation over one academic semester, with an average engagement equivalent to 20–40 credits (SKS) as stipulated in the MBKM policy. Although the present study did not differentiate respondents based on specific MBKM activity types for inferential comparison, all participants had received direct experiential exposure through at least one MBKM activity prior to completing the survey. Therefore, MBKM participation in this study was conceptualized as a shared experiential learning context that shaped students' cognitive, affective, social, creative, and adaptive potential.

To ensure consistency of experience, only students who had completed or were actively engaged in MBKM activities at the time of data collection were included in the sample. This approach allowed the study to capture students' perceived potential development within a relatively comparable MBKM implementation framework.

Student potential was measured using a 40-item questionnaire with a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The instrument covered five dimensions: cognitive potential, affective potential, social potential, pedagogical creativity, and independence/flexibility. Three experts assessed content validity, while empirical validity was tested using Pearson's correlation ( $r = 0.421-0.591$ ,  $p < .05$ ). Internal reliability was very high (Cronbach's  $\alpha = .912$ ). Respondents were recruited through class announcements with voluntary consent. The survey was conducted online in Indonesian and took approximately 25 minutes. Participant consent was obtained before completing the questionnaire. The instrument was developed based on established theoretical dimensions of student potential; therefore, construct validation in this study emphasized content validity and internal consistency, while factorial validation is proposed for future research.

**Table 1.** Questionnaire Instrument

Student Potential Dimension	Assessment Indicators	Indicators (examples)	Measurement Tools
Cognitive Potential	Mastery of elementary social studies content; ability to design instructional plans	Mastery of content; lesson planning	Bloom's Taxonomy
Affective Potential	Teaching motivation; reflective attitude; interest in self-development	Teaching motivation; reflection	Krathwohl's Affective Domain
Social Potential	Communication skills; teamwork; social empathy	Communication; teamwork; empathy	Goleman's Social Intelligence
Pedagogical Creativity	Media innovation; creative teaching methods; classroom problem solving	Media innovation; creative teaching	Torrance's Creative Teaching Model
Independence & Adaptability	Self-confidence; field adaptability; problem-solving ability	Self-confidence; adaptability; problem solving	Zimmerman's Self-Regulated Learning

Data were checked for completeness; cases with more than 10% missing responses were excluded using listwise deletion. Extreme outliers were identified using z-scores ( $> \pm 3.29$ ) and excluded before analysis. The data were analyzed using SPSS v25 with a significance level of  $\alpha = .05$  (two tails). Normality was tested using Shapiro–Wilk and Q–Q plots, showing a non-normal distribution, so the nonparametric Mann–Whitney U test was chosen. The effect size was calculated using the formula  $r = Z/\sqrt{N}$  to complement the interpretation of significance. This study obtained ethical approval from the LPPM of Khairun University. All participants provided written consent, and personal data was kept confidential per the code of ethics for social research in Indonesia.

### 3. FINDINGS AND DISCUSSION

#### 3.1. Findings

Data analysis in this study began with instrument testing to ensure that the questionnaire used—an instrument designed to measure the potential of prospective elementary school teachers—had good validity and reliability. Validity and reliability testing were conducted to ensure that each statement item could measure the intended construct and provide consistent results. After the instruments were deemed valid and reliable, the analysis continued with hypothesis testing by the research objectives. This section presents the results of the validity and reliability tests of the instruments, which form the primary basis for further data interpretation.

The validity of the instruments was tested using Pearson Product Moment correlation analysis. A total of 40 questions were analyzed, and the results showed that all items had correlation coefficients above the minimum  $r_{table}$  value of 0.123 ( $N = 258, \alpha = 0.05$ ), indicating construct validity.

**Table 2.** Summary of Questionnaire Item Validity Test Results

Student Potential Dimension	Item Count	$r_{calculated}$ (Range)	$r_{table}$ ( $N = 258, \alpha = 0.05$ )	p-value	Validity Status
Cognitive Potential	8	0.421 – 0.578	0.123	p < .001	Valid
Affective Potential	8	0.435 – 0.562	0.123		Valid
Social Potential	8	0.447 – 0.591	0.123		Valid
Pedagogical Creativity	8	0.456 – 0.567	0.123		Valid
Independence & Adaptability	8	0.439 – 0.576	0.123		Valid
Total	40	0.421 – 0.591	0.123		Valid

Based on the validity test results using Pearson Product Moment correlation, all items in the five dimensions had  $r_{calculated}$  values greater than  $r_{table}$  of 0.123 ( $N = 258, \alpha = 0.05$ ). The range of  $r_{hitung}$  values is between 0.421 and 0.591, indicating a significant contribution of each item to the total score of each dimension. This confirms that all questionnaire items are constructed and valid and can be used to measure students' potential by the research objectives accurately. This high validity also supports the quality of the data obtained so that the interpretations and conclusions drawn from the research can be trusted. Furthermore, the instrument's reliability was tested using Cronbach's Alpha coefficient to measure the internal consistency between items in each dimension. The test results showed that the overall Cronbach's Alpha value was 0.912, well above the minimum threshold of 0.7.

**Table 3.** Reliability Test Results (Cronbach's Alpha)

Student Potential Dimension	Number of Items	Cronbach's Alpha	95% CI	Reliability Status
Cognitive Potential	8	0.874	[.84–.90]	Reliable
Affective Potential	8	0.882	[.85–.91]	Reliable
Social Potential	8	0.861	[.82–.89]	Reliable
Pedagogical Creativity	8	0.868	[.83–.90]	Reliable
Independence & Adaptability	8	0.884	[.85–.91]	Reliable
Total	40	0.912	[.89–.93]	Reliable

Based on the reliability test results using Cronbach's Alpha coefficient, all dimensions of student potential have an alpha value above 0.85. This value exceeds the minimum limit of 0.70, indicating an excellent internal consistency level. The total Cronbach's Alpha value of 0.912 indicates that the entire questionnaire has high reliability, making it reliable for generating stable and consistent data when repeated under similar conditions. These findings reinforce the belief that the items in each dimension have been formulated appropriately and are mutually supportive in measuring the construct of student

potential. Thus, the instrument used is highly suitable for supporting further analysis and accurate interpretation of research results.

**Table 4.** Descriptive Results of Student Potential Questionnaire

Student Potential Dimension	Number of Items	Maximum Score	Scale Range	SD	Mean Score	Category
Cognitive Potential	8	40	8–40	3.9	33.85	High
Affective Potential	8	40	8–40	4.0	34.12	High
Social Potential	8	40	8–40	4.2	33.47	High
Pedagogical Creativity	8	40	8–40	3.8	33.90	High
Independence & Adaptability	8	40	8–40	3.9	34.25	High
Total	40	200	40–200	12.4	169.59	High

Based on the table above, all dimensions of prospective elementary school teachers' potential are in the high category, with an average total score of 169.59 out of a maximum score of 200. The Independence & Adaptability dimension received the highest average score (34.25), indicating that students have a high level of independence, self-confidence, and adaptability in facing the learning context in the field. The Affective dimension also shows a relatively high average score (34.12), reflecting teaching motivation, reflective attitudes, and interest in continuing self-development. This aligns with the MBKM principles emphasizing experience-based learning and the enhancement of soft skills. Overall, the survey results indicate that implementing MBKM positively contributes to developing students' potential across all measured aspects, from cognitive potential to adaptability. These findings support the initial assumption that MBKM can be an effective strategy in facilitating students to develop more contextual, innovative, and relevant competencies to field needs.

**Table 5.** Mann-Whitney U Test Results on Student Potential Based on Gender

Student Potential Dimension	Male (n = 98) Median [IQR]	Female (n = 160) Median [IQR]	U Value	Z Value	p-value	Effect size r	Decision
Cognitive Potential	32 [30–35]	34 [32–36]	2,681.5	-2.115	0.034	.13	Significant difference
Affective Potential	33 [31–35]	35 [33–37]	2,594.0	-2.451	0.014	.15	Significant difference
Social Potential	33 [31–35]	34 [32–36]	2,712.0	-1.988	0.047	.12	Significant difference
Pedagogical Creativity	33 [31–35]	34 [32–36]	2,658.0	-2.278	0.023	.14	Significant difference
Independence & Adaptability	33 [31–36]	35 [33–37]	2,633.0	-2.367	0.018	.15	Significant difference
Total Potential	165 [160–170]	172 [168–176]	2,579.0	-2.485	0.013	.15	Significant difference

Although the Mann–Whitney U tests revealed statistically significant differences between male and female students across all dimensions, the corresponding effect sizes ( $r = 0.12–0.15$ ) indicate small effects according to conventional benchmarks. This suggests that gender-related differences in student potential, while statistically detectable, are modest in magnitude and should not be overstated. From a practical perspective, small effect sizes in educational research may still carry meaningful implications when interpreted within broader learning contexts, particularly in large-scale or policy-driven programs such as MBKM. Rather than indicating substantial performance gaps, the findings highlight subtle yet consistent patterns of variation in how male and female students engage with and benefit from experiential learning opportunities.

Additionally, regarding cognitive potential and pedagogical creativity, female students scored higher on average than male students. This indicates that the MBKM approach supports the enhancement of multidimensional potential in both groups, though there are gender-based differences in contribution. The total p-value (0.013) indicates significant differences in students' potential based on gender. These results support the initial assumption that gender background can influence how students respond to MBKM-based learning experiences and develop their respective potentials.

### 3.2. Discussion

This study shows that implementing the *Merdeka Belajar–Kampus Merdeka* (MBKM) policy contributes positively to the multidimensional potential development of PGSD students, including cognitive, affective, social, pedagogical creativity, independence, and flexibility aspects. However, these findings should be interpreted as correlational evidence, as the study does not employ an experimental or longitudinal design. In addition, there are significant differences based on gender, with female students consistently scoring higher than male students, although the effect size is relatively small.

The finding that female students scored higher across all dimensions can be further interpreted through established theories of gender differences in learning and professional socialization. Previous research suggests that female learners tend to demonstrate greater reflective engagement, relational orientation, and responsiveness to social learning environments, which are core elements of experiential and field-based education (Kennedy & Stevenson, 2023; Sandilos et al., 2023). From a learning styles perspective, studies in teacher education indicate that female students are more likely to adopt collaborative and reflective learning approaches, while male students more often prefer task-oriented or instrumental strategies (Lubicz-Nawrocka & Bovill, 2023). These tendencies may provide female students with relative advantages in MBKM activities that emphasize continuous reflection, social interaction, and adaptive teaching practices, such as teaching assistance and community-based projects. Furthermore, experiential learning theory emphasizes the role of active participation and reflective cycles in transforming experience into professional competence (Kolb, 2007). Empirical studies have shown that female students tend to participate more actively in reflective discussions and mentoring interactions during field-based programs, which may enhance their perceived learning outcomes (Sanz et al., 2023). In this sense, the gender differences identified in this study should be understood as contextual patterns of engagement within MBKM-based learning environments, rather than inherent or fixed capability differences.

From a cognitive potential perspective, students demonstrated a more profound mastery of the material and the ability to design innovative learning. This was indicated by high average scores in the cognitive dimension (33.85), which indicated the students' success in understanding basic social studies concepts and transforming them into contextual lesson plans. This finding is consistent with the research by (Jennings & Min, 2023), which states that experience-based programs can improve analytical skills and deep conceptual understanding in prospective teachers.

In the affective aspect, the high average score (34.12) indicates strong teaching motivation, positive reflective attitudes, and a high desire to continue developing themselves. This is important because elementary social studies learning requires teachers with social sensitivity and high motivation to instill national values, tolerance, and empathy in students. (Curriculares, 2022) research supports this finding by stating that student involvement in service learning increases social responsibility and builds higher critical awareness.

Students' social potential was also high (33.47), indicating their ability to communicate, cooperate, and develop social empathy. This reinforces (Niu et al., 2022) idea about the importance of social intelligence in education, especially for prospective teachers who must be role models in interacting with students, colleagues, and the community. In the context of MBKM, students can interact with various levels of society, broaden their horizons, and build professional networks that support the development of their social potential. In addition, theories of social and emotional learning highlight

that female students often exhibit higher levels of social empathy, emotional awareness, and interpersonal sensitivity, which are essential competencies in elementary education and social studies pedagogy (Niu et al., 2022; Jennings & Min, 2023). Given that MBKM activities require sustained engagement with pupils, mentors, and community members, these socio-emotional dispositions may partially explain the consistently higher scores observed among female respondents.

These results can be understood through constructivist theory, which emphasises the importance of authentic learning experiences in building knowledge, and experiential learning theory (Kolb, 2007), which places the cycle of concrete experience, reflection, and application at the core of learning. MBKM provides space for students to learn outside the classroom through internships, teaching assistance, and community projects, which align with the self-regulated learning framework. Thus, these findings support the objectives of the MBKM policy, which aims to bridge the gap between theory and practice in elementary school teacher education, particularly in social studies learning.

The dimension of pedagogical creativity among students was also high (33.90), reflecting their ability to innovate, use creative learning media, and solve classroom problems. This supports (Sanz et al., 2023) statement that creativity in the context of education is not only related to products but also to adaptive and solution-oriented learning processes. MBKM provides space for students to try various innovative approaches, thereby fostering confidence in exploring learning methods that are appropriate for the characteristics of elementary school social studies.

In the dimensions of independence and adaptability, students obtained the highest average score (34.25), indicating their readiness to face real situations in the field, including overcoming problems and making decisions. This aligns with (Maussumbayev et al., 2022) theory of self-regulated learning, which emphasizes the importance of students' ability to control, motivate, and evaluate themselves in the learning process. MBKM-based experiential learning appears to be linked with higher levels of independence and adaptability among students.

These findings are consistent with international research showing that experience-based programs can improve problem-solving skills, creativity, and confidence in teaching. However, the gender differences found in all dimensions are a relatively new contribution, as most previous studies have only highlighted differences in social or affective aspects. Female students' more consistent excellence indicates a dynamic that needs to be further explored in the context of teacher education in Indonesia. These differences can be explained through several mechanisms. Female students tend to participate more actively in MBKM activities that focus on social interaction, such as teaching at partner schools or community-based projects, giving them greater opportunities to develop empathy, reflection, and communication skills. In addition, the quality of guidance from lecturers or mentors during the MBKM program may also have a different impact, depending on student involvement in seeking and utilising guidance. Students' perception of MBKM as an opportunity for self-development, rather than merely an administrative obligation, may also be a factor driving better achievement.

This study's contribution to theory can be seen in the expanded understanding of how experience-based programs such as MBKM can integrate cognitive, affective, social, creativity, and independence aspects simultaneously. The results of this study also support the strengthening of the constructivist and experiential learning paradigms in teacher education, which have often been applied only at the theoretical level in higher education.

From a practical perspective, this research implies that PGSD study programs need to review their curriculum and learning strategies to provide more space for students to participate in field experiences from the early semesters actively. This is important so that students not only understand the subject matter theoretically but also have practical skills relevant to the demands of elementary schools today. Additionally, these findings emphasize the importance of strengthening partnerships between universities, elementary schools, community organizations, and government institutions as implementing partners for MBKM. While the findings demonstrate consistently high levels of student potential, these results should be interpreted within the institutional context of Universitas Khairun, where MBKM implementation is relatively structured and supported. Therefore, the present study

does not claim nationwide causal effects but rather highlights the potential contribution of MBKM-based experiential learning to the development of prospective elementary teachers.

Despite the satisfactory results of item-total correlations and high internal consistency, this study acknowledges a methodological limitation related to construct validation. The instrument validation process was limited to content validity assessment by experts, item-total correlation analysis, and internal reliability testing using Cronbach's alpha. Exploratory Factor Analysis (EFA) or Confirmatory Factor Analysis (CFA) was not conducted in the present study. This decision was primarily due to the study's cross-sectional survey design and its primary focus on examining overall student potential rather than testing or refining a new measurement model. Moreover, the instrument dimensions were theoretically grounded in well-established frameworks—such as Bloom's cognitive taxonomy, Krathwohl's affective domain, Torrance's model of creativity, social intelligence theory, and Zimmerman's self-regulated learning—which guided the construction of each dimension a priori. Another important limitation of this study concerns the scope of generalizability. The data were collected from a single public university, which limits the extent to which the findings can be generalized to other higher education institutions in Indonesia. Variations in institutional readiness, resource availability, and MBKM implementation models across universities may lead to different student learning experiences and outcomes. Consequently, the results should be interpreted as context-specific evidence rather than representative of the national impact of MBKM. Due to the cross-sectional survey design, this study does not allow for causal inference. The observed relationships represent associative patterns between MBKM participation and student potential, rather than direct cause-and-effect relationships.

Nevertheless, the absence of factor analysis limits the ability to empirically confirm the underlying factorial structure and discriminant validity among dimensions. Therefore, future studies are strongly encouraged to employ EFA or CFA with larger and more diverse samples to further validate the measurement model and strengthen the generalizability of the findings. Longitudinal or multi-institutional designs may also enable more robust construct validation and model testing of student potential development within MBKM-based learning contexts

Programmatically, MBKM activities should be aligned with social studies learning outcomes in PGSD through community projects, service-based learning models supplemented with critical reflection, and microteaching at partner schools. Regarding assessment, it is essential to supplement surveys with performance-based assignments and reflective journals to measure student development in the five dimensions more comprehensively. In terms of equity, universities must ensure inclusive access to MBKM through scholarships, schedule flexibility, and adequate supervision so that all students can reap the benefits without socio-economic barriers.

Overall, this study's results confirm that MBKM has great potential as a transformational strategy in elementary school teacher education, particularly in elementary school social studies courses. With appropriate policy support, an adaptive curriculum, and strengthened collaboration between universities, schools, and the community, MBKM can be the key to producing professional, reflective, and future-ready elementary school teachers. This study is expected to serve as an important reference for policymakers, program administrators, and education practitioners in formulating strategic steps to enhance the quality of basic education in Indonesia. Importantly, these interpretations do not suggest that gender alone determines student potential. Instead, they point to the need for MBKM implementation strategies that are sensitive to diverse learning preferences and engagement styles, ensuring that all students can benefit equitably from experiential learning opportunities.

#### 4. CONCLUSION

This study examined the relationship between participation in MBKM-related activities and the multidimensional potential of prospective elementary school teachers in social studies education. The findings indicate that students who engaged in MBKM experiences reported high levels of cognitive, affective, social, creative, and adaptive potential, with gender-based differences observed across

dimensions. However, the small effect sizes suggest that these differences are limited in practical magnitude and should be interpreted cautiously. Importantly, the results do not imply causal effects or national generalizations, as the study was conducted within a single institutional context using a cross-sectional design. Instead, the findings provide context-specific evidence suggesting that MBKM may offer a supportive experiential learning environment for developing future teachers' professional potential. Future research employing longitudinal or experimental designs across multiple institutions is needed to further examine causal mechanisms and strengthen the generalizability of these findings.

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