Contents lists available at ojs.aeducia.org
Indonesian Journal of Guidance and Counseling Studies
Volume 3, Issue 1 (2026), 10.64420/ijgcs.v3i1
Journal homepage: https://ojs.aeducia.org/index.php/ijgcs

IJGCS
E-ISSN 3063-038X
P-ISSN 3063-0363

Read Online: https://doi.org/10.64420/ijgcs.v3i1.385

Open Access

The Effect of Classical Guidance Using the Jigsaw Method on Elementary School Students' Self Control over Mobile Phone Use

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ABSTRACT

Background: Uncontrolled mobile phone use among adolescents can lead to behavioral problems and reduced learning quality by disrupting concentration, academic engagement, and social interaction. Therefore, structured guidance interventions are needed to strengthen students' self-control in managing digital technology use at school. **Objective:** This study aimed to examine the effect of classical guidance using the jigsaw method on students' self-control in mobile phone use. **Method:** A quantitative approach was employed, using a quasi-experimental nonequivalent control group design. The participants were ninth-grade students of SMP Negeri 7 Pemalang. Data were collected using a self-control scale regarding mobile phone use. Statistical analysis was conducted using an independent samples t-test to determine differences between the experimental and control groups. **Result:** The findings revealed a significant difference in self-control between students who received classical guidance using the jigsaw method and those who did not. The experimental group showed greater improvement in self-control after the intervention than the control group. **Conclusion:** Classical guidance implemented through the jigsaw method is practical in enhancing students' self-control in mobile phone use. **Contribution:** This study enriches the field of guidance and counselling by extending the application of the jigsaw method as an innovative strategy to develop students' self-control, particularly in addressing challenges related to digital technology use among adolescents.

ARTICLE HISTORY

Received: November 6, 2025
Revised: February 18, 2026
Accepted: February 23, 2026
Published: February 27, 2026

KEYWORDS

Classical Guidance;
Jigsaw Method;
Self Control;
Elementary School Students

1. INTRODUCTION

The development of information technology in the era of globalisation has brought significant changes to various aspects of life, including education. Advances in digital technology enable students to access learning information quickly, broadly, and flexibly (Sari & Munir, 2024). Mobile phones have become one of the most widely used devices among students due to their ease of operation and the availability of various applications that support learning (Fadillah et al., 2021). In the educational context, this technology has the potential to serve as an effective tool to support the learning process, enrich learning resources, and enhance students' independence in acquiring knowledge (Hajar et al., 2024).

However, the ease of access to digital technology has also introduced new challenges in education (Hakim et al., 2024). Excessive and uncontrolled mobile phone use can disrupt students' concentration during the learning process (Fauziddin & Adha, 2024). Students tend to be more attracted to entertainment activities and social media than to

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How to Cite (APA 7th Edition):

Himawan, A., Fitriana, S., & Lestari, F. W. (2026). The Effect of Classical Guidance Using the Jigsaw Method on Elementary School Students' Self Control over Mobile Phone Use. *Indonesian Journal of Guidance and Counseling Studies, 3*(1), 25-31. https://doi.org/10.64420/ijgcs.v3i1.385

academic tasks, resulting in reduced study time and decreased engagement in learning (Noor et al., 2025). This condition may lower the overall quality of the learning process and negatively affect students' academic achievement.

Issues related to mobile phone use among students are closely linked to individual self-control. Self-control refers to an individual's ability to regulate impulses, emotions, and behaviours to remain aligned with intended goals (Ahmad, 2021). In education, self-control plays a crucial role in helping students manage study time, prioritise academic tasks, and restrain behaviours that may hinder the learning process (Chisan & Jannah, 2021). Students with strong self-control are more likely to use mobile phones wisely, whereas those with low self-control are more vulnerable to digital distractions (Hurriyati & Della, 2026).

Students' levels of self-control are influenced by various internal and external factors (Marsela & Supriatna, 2019). Internal factors include psychological maturity, emotional regulation skills, and awareness of academic responsibilities. External factors involve family environment, parenting styles, school environment, peer influence, and broader social surroundings. As a formal educational institution, the school plays a strategic role in fostering students' self-control through the implementation of rules, the creation of a conducive learning climate, and the provision of structured guidance and counselling services (Izzah & Magfiroh, 2025).

Previous studies have shown that uncontrolled digital technology use is associated with decreased concentration during learning, low academic discipline, and the emergence of less adaptive learning behaviours among adolescents (Rahmawati et al., 2025; Yunita & Masriadi, 2025; Al-Saysar & Anirah, 2025). Other findings indicate that self-control is a key factor in positive learning behaviour and academic success (Nugroho & Jaryanto, 2024; Chisan & Jannah, 2021; Puteri & Dewi, 2021). In addition, school guidance services have been reported to help students develop self-awareness, decision-making skills, and behavioural regulation through structured and participatory activities.

Nevertheless, most previous studies have focused either on the relationship between mobile phone use and student behaviour or on self-control levels in general. Research specifically integrating classical guidance services with interactive cooperative learning methods to enhance students' self-control remains limited. Furthermore, the use of the jigsaw method within classical guidance to help students manage mobile phone use has not been extensively examined, particularly at the secondary education level.

Based on this gap, the present study is considered essential. It aims to examine the implementation of classical guidance using the jigsaw method as a strategy to help students improve self-control in mobile phone use. Specifically, this study seeks to understand how students' active involvement through the jigsaw method can enhance awareness, responsibility, and self-regulation skills in managing mobile phone use, both at school and in daily life. The findings are expected to make theoretical contributions to the development of guidance and counselling studies and to provide practical contributions to schools in the design of more innovative and contextually relevant guidance services.

2. METHOD

2.1 Research Design

This study employed a quantitative, quasi-experimental design. Specifically, a nonequivalent control group design was applied, involving two non-randomly assigned groups: an experimental group and a control group. Both groups were administered a pretest to determine students' initial level of self-control regarding mobile phone use. The experimental group then received treatment through classical guidance using the jigsaw method, while the control group did not receive the same intervention. After the treatment was completed, both groups were given a posttest to identify differences and improvements in students' self-control.

2.2 Research Object

The study population consisted of all ninth-grade students at SMP Negeri 7 Pemalang, totalling 210 students. The sample comprised 30 students, divided into two groups: the experimental and the control. The sampling technique used was cluster random sampling, in which intact classes were selected as research samples. Using a class lottery, two classes were selected as the experimental and control groups, with relatively homogeneous characteristics.

2.3 Data Collection

Data were collected using a psychological scale measuring self-control in mobile phone use. The instrument consisted of 32 Likert-scale items designed to assess students' understanding and ability to regulate their mobile

phone use before and after the intervention. Before use, the instrument underwent feasibility testing to ensure its consistency and appropriateness for measuring the research variable.

2.4 Data Analysis

Data were analysed quantitatively by comparing pretest and posttest results between the experimental and control groups. Descriptive analysis was conducted to provide an overview of students' levels of self-control in mobile phone use, presented in tables and percentages for each category. In addition, inferential analysis was used to determine differences and improvements in students' self-control after receiving classical guidance using the jigsaw method. The analysis results were used to conclude the intervention's effectiveness.

3. RESULT AND DISCUSSION

3.1 Result

1. Description of Pretest Results on Students' Self-Control in Mobile Phone Use

The pretest results indicated that students' levels of self-control regarding mobile phone use in both the control and experimental groups were generally low. In the control group, 2 students (7%) were in the very low category, 13 students (43%) in the low category, and 15 students (50%) in the high category, with a mean score of 76.03, which fell into the low category. In the experimental group, 4 students (15%) were in the very low category, 10 students (48%) in the low category, and 13 students (37%) in the high category, with a mean score of 73.62, also categorised as low. These findings indicate that prior to the intervention, both groups had relatively comparable levels of self-control.

2. Description of Posttest Results on Students' Self-Control in Mobile Phone Use

After the experimental group received classical guidance using the jigsaw method, the posttest results showed an improvement in students' self-control, particularly in the experimental group. In the control group, 16 students (53%) were in the high category, 13 students (43%) in the low category, and 1 student (3%) in the very low category, with a mean score of 77.20. In the experimental group, 21 students (78%) were in the high category, while 6 (22%) were in the low category. No students were in the very low category. The mean score in the experimental group increased to 83.67, which was classified as high. These results indicate that the treatment had a positive impact on improving students' self-control.

3. Comparison of the Distribution of Students' Self-Control Categories (Posttest)

Table 1. Distribution of Students' Self-Control Categories in the Experimental and Control Groups (Posttest)

Score Interval	Category	Experimental Group (f)	(%)	Control Group (f)	(%)
104–128	Very High	0	0	0	0
80–103	High	21	78	16	53
56–79	Low	6	22	13	43
32–55	Very Low	0	0	1	3
Total		27	100	30	100

The table shows that the majority of students in the experimental group were in the high self-control category (78%), compared to 53% in the control group. No students in the experimental group were categorized as very low, whereas one student (3%) in the control group remained in the very low category. These findings further indicate that classical guidance using the jigsaw method contributed to a higher improvement in students' self-control in mobile phone use compared to the control condition.

4. Hypothesis Testing Results (t-Test)

Hypothesis testing was conducted using an independent samples t-test to determine differences in students' self-control between the experimental and control groups after the intervention. The calculation results showed that the obtained t-value was 3.113, while the critical t-value was 2.000 at a 5% significance level with 55 degrees of freedom (df = 55). Since the obtained t-value was greater than the critical t-value (3.113 > 2.000), the null hypothesis (H_0) was rejected, and the alternative hypothesis (H_a) was accepted.

Thus, it can be concluded that classical guidance using the jigsaw method had a statistically significant effect on students' self-control in mobile phone use among ninth-grade students of SMP Negeri 7 Pemalang.

3.2. Discussion

The findings of this study indicate that classical guidance using the jigsaw method significantly improved students' self-control in mobile phone use. These results reinforce the theoretical perspective that views self-control as a form of behavioural regulation that can be developed through social and reflective learning processes. Self-control is shaped not only by internal individual factors but also by learning experiences that foster self-awareness, impulse management, and the ability to adjust behaviour according to environmental demands (Bozkuş & Canoğulları, 2025).

Theoretically, the jigsaw method is rooted in constructivist and social learning approaches, positioning students as active participants in constructing knowledge and attitudes (Yimer & Feza, 2019). In the context of classical guidance, this method enables students to develop an understanding of responsible mobile phone use through discussion, perspective exchange, and reflection on personal experiences (Chou & Chan, 2016). This interactive process strengthens both the cognitive and affective dimensions of self-control, particularly by fostering awareness of behavioural consequences and the ability to regulate impulses.

Conceptually, these findings align with previous studies demonstrating that cooperative and participatory learning approaches positively contribute to the development of self-regulation, discipline, and adaptive behaviour among students (Lai, 2021; Sharma et al., 2024; Rasheed et al., 2021). Earlier research has consistently emphasised that active engagement in peer groups enhances self-awareness and behavioural regulation (Carro et al., 2022; Campbell et al., 2022; Rachmah et al., 2022). However, most of these studies have focused primarily on academic learning contexts and achievement outcomes rather than on guidance and counselling services specifically targeting self-control in digital behaviour.

The significant difference between the experimental and control groups in this study supports the view that improving self-control requires structured and intentional intervention. Without targeted treatment, changes in self-control tend to occur slowly and inconsistently. These findings reinforce the theoretical assumption that the development of self-control depends on supportive learning environments that encourage reflection, practice in behavioural regulation, and consistent social feedback.

The strength and novelty of this study lie in integrating the jigsaw method into classical guidance services to enhance students' self-control over mobile phone use. Unlike previous research, which primarily applied the jigsaw method as an academic instructional strategy, this study extends its application to the domains of behavioural development and self-regulation. Furthermore, the use of a quasi-experimental design with a control group provides a stronger analytical basis for assessing intervention effectiveness, thereby enriching theoretical discussions on the role of classical guidance in fostering students' self-control in the digital era.

Overall, the findings affirm that students' self-control development can be understood as the outcome of interactions among cognitive processes, social engagement, and meaningful learning experiences. This study, therefore, contributes to theory by broadening the understanding of cooperative approaches within guidance and counselling services, particularly in addressing challenges related to adolescents' use of digital technology.

4. IMPLICATIONS AND CONTRIBUTIONS

4.1 Research Implications

The findings of this study indicate that developing students' self-control in mobile phone use can be achieved more effectively through classical guidance services that employ active, cooperative approaches. These results imply that guidance strategies that involve student participation, group interaction, and reflective experiences have strong potential to foster behavioural regulation, particularly in addressing challenges related to digital technology use. Therefore, school guidance and counselling services should not be viewed merely as platforms for delivering information, but as structured learning processes capable of cultivating sustainable self-regulation skills.

4.1 Research Contributions

This study contributes to the development of guidance and counselling scholarship by extending the application of the jigsaw method into the context of classical guidance services aimed at enhancing students' self-control. Unlike previous studies that primarily focused on the jigsaw method in academic instruction, this research highlights its relevance to behavioural development and self-regulation. Furthermore, the findings enrich the theoretical understanding of self-control as a skill that can be developed through social interaction and structured learning experiences, thereby providing a conceptual foundation for future research in school guidance and counselling.

5. LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

5.1 Research Limitations

This study has several limitations that should be considered when interpreting the findings. First, the quasi-experimental design with non-random group assignment limits the generalizability of the results to broader populations. Second, the relatively small sample, drawn from a single school, limits the representation of diverse student characteristics. Third, self-control was measured using a self-report instrument, which may be influenced by respondent subjectivity and social desirability bias. Additionally, this study did not account for other external factors, such as parenting styles or the intensity of mobile phone use outside school, which may also affect students' self-control.

5.1 Recommendation for Future Research Directions

Based on these limitations, future studies are recommended to employ stronger experimental designs with random subject selection and larger, more diverse samples across different school contexts. Subsequent research may also combine multiple data collection methods, such as behavioural observations or interviews, to obtain a more comprehensive understanding of students' self-control. In addition, future studies could explore the long-term effectiveness of the jigsaw method and examine the influence of external factors, including family support and digital environments, to deepen insights into the development of students' self-control in technology use.

6. CONCLUSION

This study demonstrates that classical guidance using the jigsaw method significantly improves students' self-control in mobile phone use. Students who participated in guidance services using the jigsaw approach showed greater improvement in self-control than those who did not receive the same intervention. These findings confirm that students' self-control can be developed through structured, systematic guidance interventions that actively engage learners.

Theoretically, the results reinforce the view that self-control is a form of behavioural regulation that can be shaped through social and reflective learning processes. The jigsaw method, which emphasises cooperation, individual responsibility, and group interaction, is relevant to classical guidance services because it integrates cognitive, affective, and social dimensions to foster self-control. Thus, this study strengthens theoretical perspectives that position cooperative learning experiences as essential factors in the development of adaptive student behaviour.

Moreover, this research expands the scope of guidance and counselling studies by demonstrating that cooperative learning methods are not only effective in academic contexts but also in non-academic domains, particularly in enhancing self-control in digital technology use. The strength of this study lies in applying the jigsaw method within classical guidance services through a quasi-experimental design, thereby providing empirical support for the development of more innovative and contextually relevant guidance strategies to address student behavioural challenges in the digital era.

Acknowledgments

The authors express their sincere appreciation to the teachers and students of SMP Negeri 7 Pemalang for their active participation, cooperation, and openness throughout the research process. Their support in both the implementation of activities and data collection greatly contributed to the successful completion of this study.

Author Contribution Statement

All authors discussed the results, contributed to the final manuscript, and approved the final version for publication. Alvin Himawan: Conceptualization and Design; Writing - Original Draft; Methodology, Performed data collection and Analysis; formal. Siti Fitriana: Conceptualization, Writing - Review & Editing. Farikha Wahyu Lestari: Conceptualization, Writing - Review & Editing.

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The authors declare that generative artificial intelligence (AI) technology was used solely as a supporting tool for language editing, clarity enhancement, and correction of typographical errors. All ideas, analyses, data interpretations, and scientific content are the full responsibility of the authors. A thorough verification process was

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Conflict of Interest Statement

The authors declare that there are no conflicts of interest in the conduct or reporting of this research. The entire research process was carried out independently, without financial, institutional, or personal influences that could affect the objectivity, analysis, or presentation of the findings.

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Article Information

Article info:
DOI: https://doi.org/10.64420/ijgcs.v3i1.385

Word Count: 3902