



## The Effectiveness of Mindful Teaching and Cognitive Training

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### ABSTRACT

This article aims to describe the improvement of the cognitive strategy skills of elementary and junior high school teachers in Bandung City with the concept of teachers learning independently and becoming learning facilitators. This research method uses quantitative descriptive analysis involving 121 teacher participants consisting of 61 elementary school level teachers and 60 junior high school level teachers in Bandung City. The results of the research show variations in increasing teacher competence regarding information processing, differences in information processing competence based on the teacher's teaching level and differences in information processing competence based on teacher gender.

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## **INTRODUCTION**

Teaching is recognized as a profession with high demands, both academic and non-academic, from various parties, including demands from superiors, parents, students and the community to carry out their profession professionally, competently and at the same time be a role model (Demirkasimoglu, 2010). Effective teachers are required to master subject matter and teaching skills, be able to use teaching strategies and manage the class appropriately, understand how to motivate students and communicate effectively with students, and be skilled at using the appropriate level of technology in the classroom (Duckworth et al., 2009).

Meanwhile, the prolonged Covid-19 pandemic situation has caused education to be carried out using the "Learning From Home" (BDR) method. Through Circular Letter of the Minister of Education and Culture (Mendikbud) Number 4 of 2020 concerning the Implementation of Education in the Emergency Period of Coronavirus Disease (Covid-19) and Circular Letter Number 15 of 2020 concerning Guidelines for Organizing Learning from Home in the Emergency Period of the Spread of Covid-19, the government instructed the implementation of learning is not carried out face to face, but in a distant learning manner with the aim of ensuring the fulfillment of students' rights to receive educational services during the Covid-19 emergency, protecting education unit residents from the negative impacts of Covid-19, preventing the spread and transmission of Covid-19 in educational units and ensuring the fulfillment of psychosocial support for educators, students and parents, however, BDR is still felt to be difficult for all parties (Zuo et al., 2020).

Remembering that the characteristics of an effective teacher are those who are skilled in using technology and master various learning methods and media (Labone & Long, 2016), so in the Covid-19 pandemic situation, these skills are very important for the continuity of education amidst limitations. However, we find that many teachers are less skilled in using technology and lack mastery of varied and interesting learning methods to carry out effective BDR activities, and we even find teachers who may have never been familiar with online learning applications before (Pribowo, 2017). Apart from that, teachers can also face physical fatigue due to constantly being in front of the monitor screen, face a decrease in students' motivation and involvement in learning, or face complaints from parents, and their role as family members results in them being faced with situations of multitasking and underpressure (Chen et al., 2020).

These demands can result in high pressure as well as boredom and exhaustion in teachers (Lie et al., 2020). Burnout is another impact of this demand which according to the study of Rubilar dan Oros (2021) contributing in the development of negative attitudes about pupils along with sentiments of low competence and accomplishment at work. Teacher burnout and exhaustion can result in reduced teacher effort and involvement in lesson planning and social interaction with students which can then have an impact on the classroom atmosphere, learning effectiveness, and ultimately on student

performance (Sumaryanta et al., 2018). Likewise, the study of Panisoara et al. (2020) found that teachers' burnout lead to the decrease of teachers' intrinsic motivation of teaching. This finding considered noteworthy since intrinsic motivation of teachers predicted the motivation of students' during learning process (Zou et al., 2024).

Unfortunately at that time there were no concrete efforts made by the relevant policy makers. Teachers must struggle and adapt autodidactically to be able to carry out effective learning. In fact, in this situation teachers really need insight to carry out their profession professionally and competently. Therefore, the community service team of the Educational Psychology Study Program at the Postgraduate School of the Indonesian Education University carried out Mindful Teaching and Cognitive Strategy Training for Elementary School and Junior High School Teachers in Bandung City. This research aims to describe the implementation of improving the competency of Bandung City teachers through information processing training with mindful teaching and cognitive strategies for elementary and junior high school teachers.

## **IMPLEMENTATION AND METHODS**

This research is a descriptive quantitative research with a study conducted in Bandung from 13 to 16 September 2021. The data for this research were collected from the participants of Mindful Teaching and Cognitive Strategy training for Teachers Elementary School and Middle School which involving teachers of private and public school in the Bandung city. The participants include participants with recommendations and general participants. The registered teacher participants with recommendations and assignments from the Bandung City Education Office totaled 106 teachers and the general registrant participants totaled 15 teachers. The total number of participants involved in this research was 121 teachers consisting of 6 elementary school level teachers and 60 middle school level teachers. This research data was collected via Google form in the form of 10 multiple choice questions and 7 essay questions. The data obtained was analyzed using descriptive statistics, which included quantitative analysis of the question instruments and also feedback from the training.

## RESULTS AND DISCUSSION

From the Mindful Teaching and Cognitive Strategy training activities for Elementary School and Junior High School Teachers, the teacher evaluation results for the four materials presented are in Table 1.

Table 1. Teacher Evaluation Results Based on Material

Day	Training materials	Multiple choice				Essay			
		Min	Max	Average	Sd. Deviation	Min	Max	Average	Sd. Deviation
1	Student Teacher Relationships Overview of Cognitive Learning,	20	100	43.9	4.995	80	100	73.3	4.578
2	Mindful Teaching, and Reflective Teaching Attention,	20	100	59	5.471	80	100	83	5.341
3	Perception, and Memory Problem	30	100	68	5.639	80	100	80.8	5.093
4	Solving and Decision Making	20	100	70	5.706	50	100	91.3	6.138
<b>Total number</b>		<b>20</b>	<b>100</b>	<b>59.4</b>	<b>5.587</b>	<b>50</b>	<b>100</b>	<b>81.7</b>	<b>5.846</b>

From data in table 1, it is known that there are variations in teacher evaluation scores in four days of training activities with four different materials. First day with Student Teacher Relationship material; The average teacher scores for multiple choice questions and essays were 43.9 and 73.3 respectively with standard deviations of 4.995 and 4.578. The highest score is 100 and the smallest score is 20 for multiple choice questions and 80 for essays. The second day with overview material on Cognitive Learning, Mindful Teaching, and Reflective Teaching; The average teacher scores for multiple choice questions and essays were 59 and 83 respectively with standard deviations of 5.471 and 5.341. The highest score is 100 and the smallest score is 59 for multiple choice questions and 80 for essays. The third day with material on Attention, Perception and Memory; The average teacher scores for multiple choice questions and essays were 68 and 80.8 respectively with standard deviations of 5.639 and 5.093. The highest score is 100 and the smallest score is 68 for multiple choice questions and 80 for essays. Fourth day with material on Problem Solving and Decision Making; The average teacher scores for multiple choice questions and essays were 70 and 91.3 respectively with standard deviations of

5.706 and 6.138. The highest score is 100 and the smallest score is 70 for multiple choice questions and 50 for essays.

The data shows that there was a constant increase in average scores from the first day to the fourth day both in multiple choice questions and essays. This shows that there is positive progress in the training process carried out. This explains the increase in teachers' ability to understand the material presented in the training, and indicates an increase in the teacher's own information processing competence. This tendency indicates a deeper understanding of the training content among the teachers, demonstrating a significant improvement in their ability to comprehend and assimilate the knowledge delivered. As the average scores increased over time, it became clear that the teachers improved their ability to assimilate training content, change their understanding, and effectively integrate new knowledge. Furthermore, the steady increase in average scores indicates a significant improvement in the educators' information processing skills throughout the program. It emphasizes not just their ability to absorb the offered material, but also their ability to analyze, synthesize, and apply that knowledge in real situations. Finally, these findings demonstrate the effectiveness of the training program in promoting meaningful gains in information processing skills.

Analyzing the many contents taught in the training program reveals that, while there is an overall trend of increased teacher scores, differences appear when studying specific subject areas. Notably, in the domain of Student-Teacher Relationship subject, teachers tend to get lower average scores than the other themes. The disparity in results among the Student-Teacher Relationship materials may indicate underlying difficulties or obstacles faced by educators in this domain. It means that developing good relationships with students and managing interpersonal dynamics in the classroom may provide distinct challenges that necessitate particular attention and assistance during the training process.

Conversely, the results show a contrary tendency in the Problem Solving and Decision Making topic, where teachers tend to get greater average scores than in previous topics. This discovery implies that educators have a higher level of skill in situations involving problem-solving and making rational choices, especially when these tasks are more closely related to their own expertise and experiences. Overall, these findings highlight the variations found from this training, where different topic areas may present higher challenges or complications for educators. By recognizing these disparities, training programs can be adapted to address specific areas of need, offering targeted assistance to improve teachers' abilities and effectiveness in all aspects of their professional practice.

Meanwhile, it was found that there were differences in the evaluation scores of female teacher participants and male teacher participants as follows:

Table 2. Comparison of Teacher Evaluations Based on Gender

Gender	Multiple choice				Essay			
	Min	Max	Average	Sd. Deviation	Min	Max	Average	Sd. Deviation
Female	30	100	62	5.718	30	100	62	5.789
Male	20	100	49.2	4.889	20	100	49.2	6.433

From these data it is known that female teachers received a general evaluation score with an average score of 62 for plural choice and essay with standard deviations of 5.718 and 5.789 respectively. On the other hand, male teachers received a general evaluation score with an average score of 49.2 for plural choice and essay with standard deviations of 4.889 and 6.433 respectively. The highest score obtained by each of them was 100 with the smallest score obtained by female teachers, namely 30, male teachers, namely 20.

The data shows that there are differences in the increase in teachers' information processing competence based on gender. Female teachers are shown to have higher average scores than male teachers. Likewise, the minimum score obtained by female teachers is still higher than male teachers. Although, the significant standard deviation shows this only in the essay questions. The dataset demonstrates significant differences in the enhancement of teacher information processing capacity based on gender. Female instructors have consistently higher average scores than their male counterparts. Furthermore, even at the lowest limits, female instructors' minimum scores exceed those of male teachers. However, it is worth noting that this disparity is particularly pronounced in the area of essay questions, as indicated by the large standard deviation. This implies that, while female teachers overall outperform male teachers, there is a greater range of performance outcomes among female educators, particularly in assignments that need essay-based assessments.

Thus, it was also found that there were differences in the evaluation scores of participant teachers at primary school level and junior high school level as presented in Table 3.

Table 3. Teacher Evaluation Results Based on Education Unit Level

Gender	Multiple choice				Essay			
	Min	Max	Average	Sd. Deviation	Min	Max	Average	Sd. Deviation
Elementary School	20	100	57.3	5.709	60	100	79.6	6.080
Junior High School	20	100	61.6	5.386	50	100	85.2	5.677

From this data, it is known that elementary school teachers received general evaluation scores with an average score of 57.3 for multiple choices and 79.6 for essays, with standard deviations of 5.709 and 6.080 respectively, with the smallest scores being 20 and 60. Meanwhile, junior high school level teachers received general evaluation scores with an average score of 61.6 for multiple choices and 85.2 for essays, with standard deviations of 5.386 and 5.677 respectively, with the smallest scores being 20 and 50. The highest scores 100 are found in every teacher at any level of education.

The data shows that there are differences in the increase in teacher information processing competence based on teaching level. Middle school level teachers have a higher average score and a more significant standard deviation than elementary school level teachers, both on multiple choice questions and essay questions. This is similar to research findings Habibullah (2012) which examines the comparison of teachers' abilities in understanding knowledge about teaching. It was found that the order of teacher ability when viewed from the level of teaching was elementary, middle school and high school teachers where high school teachers had the highest scores compared to teachers who taught at other levels of education.

Basically, this research can prove that elementary and middle school teachers have fulfilled one aspect of andragogy because overall they are ready to take part in training and learn independently from various materials and problems from the questions given (Hartree, 1984). Because the principle of andragogy is dedicated to someone, in this case the teacher productively carries out his role in carrying out his responsibilities as a learner and applying his knowledge to his life and profession (Forrest & Peterson, 2006). Teachers as adult learners have the potential to be able to direct their own abilities, especially when life experience and practice are applied to their competence as teachers (Gitterman, 2004).

In this case, teacher competence is a multidimensional construct because the competence that must be possessed is not only pedagogical competence but also professional competence (Sumaryanta et al., 2018). Teacher competency must be integrated and seen as the entire repertoire of a teacher, as in this research where the teacher studied information processing systems in the cognitive domain because in the learning process teachers need to have this competency (Tigelaar et al., 2004). Professional teachers must be able to master various competencies to meet academic qualification standards (Ningrum, 2018).

The content of Mindful Teaching Training and Cognitive Training provided materials that contribute to develop teachers' competencies. Each material presented in this training gave benefit for teachers. The topic about student-teacher relationship is helpful for teachers notably because there is changing possibility of STR pattern from primary to secondary education (Prewett et al., 2019). Furthermore, according to Kurbanoglu et al. (2023), the relationship between teachers and students is better during face-to-face learning compared to online learning. Thus, cultivating awareness about STR helps teachers maintaining learning quality during distant learning process. The topic

about student-teacher relationship also found to be beneficial for teachers' well-being (Farhah et al., 2021) which considered important to be preserved during pandemic era.

The other topic from the training which is mindful teaching also found promotes well-being both for students and teachers. Ragoonaden (2015) underlines the importance of mindful teaching in improving well-being for both students and teachers. As Butnaru et al. (2021) point out, increasing mindfulness can assist offset the obstacles during distant learning. Mindful teaching entails cultivating mindfulness, attention, and compassion during the teaching process, so improving students' overall learning experiences while also developing instructor resilience and self-care. Furthermore, (Pollard, 2014) advocates for reflective teaching, which allows teachers to develop a better knowledge of their students' needs and the learning process. Reflection enables educators to critically analyze their teaching techniques, find areas for improvement, and change their ways to better meet their students' different needs. This reflective practice promotes ongoing professional development and increases the effectiveness of instructional interventions, resulting in better student outcomes and a more supportive learning environment.

## **CONCLUSIONS AND RECOMMENDATIONS**

This study's findings and accompanying discussion lead to a number notable conclusions. There is conclusive proof that mindful teaching and cognitive training interventions improve teachers information processing competence. This improvement is apparent in teachers' increased ability to comprehend and successfully engage with the training material presented. Such findings highlight the efficiency of tailored training approaches in promoting cognitive development in educators, thereby enhancing their professional knowledge.

Furthermore, the study sheds insight on how teachers' information processing capacities vary depending on their teaching level within educational institutions. Notably, instructors at higher teaching levels are more likely to have advanced information processing capabilities. This noticeable gap emphasizes the significance of considering specialized training programs designed to meet the unique demands and skill levels of educators at various levels of the educational hierarchy.

Given these findings, it is recommended that proactive actions be taken to develop comprehensive training programs focused at improving teacher competency. Mindful teaching training and cognitive enhancement initiatives appear to be particularly promising avenues for strengthening educators' skill sets, providing them with the tools needed to navigate the complexities of educational delivery in the face of the ongoing pandemic and its aftermath. Educational stakeholders can create an atmosphere conducive to the effective implementation of learning strategies by offering focused training interventions to teachers, facilitating the realization of high-quality education standards.

In a broader sense the findings of this study emphasize the importance of investing in teacher training efforts aimed at improving information processing competency, with the goal of developing resilience and adaptability in the face

of changing educational environments. Through concerted efforts to develop instructor competency, stakeholders can work together to achieve excellence in educational delivery and promote equitable learning outcomes for all students.

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## REFERENCES

- Butnaru, G. I., Haller, A. P., Dragolea, L. L., Anichiti, A., & Hârșan, G. D. T. (2021). Students' wellbeing during transition from onsite to online education: Are there risks arising from social isolation? *International Journal of Environmental Research and Public Health*, 18(18). <https://doi.org/10.3390/ijerph18189665>
- Chen, H., Liu, F., Pang, L., Liu, F., Fang, T., Wen, Y., Chen, S., Xie, Z., Zhang, X., Zhao, Y., & Gu, X. (2020). Are you tired of working amid the pandemic? The role of professional identity and job satisfaction against job burnout. *International Journal of Environmental Research and Public Health*, 17(24), 1–14. <https://doi.org/10.3390/ijerph17249188>
- Demirkasimoglu, N. (2010). Defining “teacher professionalism” from different perspectives. *Procedia - Social and Behavioral Sciences*, 9, 2047–2051. <https://doi.org/10.1016/j.sbspro.2010.12.444>
- Duckworth, A. L., Quinn, P. D., & Seligman, M. E. P. (2009). Positive predictors of teacher effectiveness. *Journal of Positive Psychology*, 4(6), 540–547. <https://doi.org/10.1080/17439760903157232>
- Farhah, I., Saleh, A. Y., & Safitri, S. (2021). The role of student-teacher relationship to teacher subjective well-being as moderated by teaching experience. *Journal of Education and Learning (EduLearn)*, 15(2), 267–274. <https://doi.org/10.11591/edulearn.v15i2.18330>
- Habibullah, A. (2012). Kompetensi Pedagogik Guru. *Edukasi*, 10(3). <https://doi.org/10.32729/edukasi.v10i3.169>
- Kurbanoglu, N. İ., Demirtaş, Z., & Batur, A. (2023). The Role of Student-Teacher Relation on Science Self-Efficacy and Science Anxiety in Face-to-Face and Distance Education. *SAGE Open*, 13(3), 1–9. <https://doi.org/10.1177/21582440231194408>
- Labone, E., & Long, J. (2016). Features of effective professional learning: a case study of the implementation of a system-based professional learning model. *Professional Development in Education*, 42(1), 54–77. <https://doi.org/10.1080/19415257.2014.948689>
- Lie, A., Tamah, S. M., Gozali, I., Triwidayati, K. R., Utami, T. S. D., & Jemadi, F. (2020). Secondary School Language Teachers' Online Learning Engagement during The Covid-19 Pandemic in Indonesia. *Journal of Information Technology Education Research*, 19, 803–832. <https://doi.org/https://doi.org/10.28945/4626>

- Panisoara, I. O., Lazar, I., Panisoara, G., Chirca, R., & Ursu, A. S. (2020). Motivation and continuance intention towards online instruction among teachers during the COVID-19 pandemic: The mediating effect of burnout and technostress. *International Journal of Environmental Research and Public Health*, 17(21), 1–29. <https://doi.org/10.3390/ijerph17218002>
- Pollard, A. (2014). Reflective Teaching. In *Reflective Teaching*. Bloomsbury Academic. <https://doi.org/10.4324/9780203822289>
- Prewett, S. L., Bergin, D. A., & Huang, F. L. (2019). Student and teacher perceptions on student-teacher relationship quality: A middle school perspective. *School Psychology International*, 40(1), 66–87. <https://doi.org/10.1177/0143034318807743>
- Pribowo, fitroh setyo putro. (2017). Analisis Kemampuan Guru Sd Terhadap Teknologi Informasi Dan Komunikasi. *Elementary School Education Journal*, 1(1), 1–7.
- Ragoonaden, K. (2015). *Mindful Teaching and Learning*. Lexington Books.
- Sumaryanta, Mardapi, D., Sugiman, & Herawan, T. (2018). Assessing Teacher Competence and Its Follow-up to Support Professional Development Sustainability. *Journal of Teacher Education for Sustainability*, 20(1), 106–123. <https://doi.org/10.2478/jtes-2018-0007>
- Vargas Rubilar, N., & Oros, L. B. (2021). Stress and Burnout in Teachers During Times of Pandemic. *Frontiers in Psychology*, 12(November), 1–12. <https://doi.org/10.3389/fpsyg.2021.756007>
- Zou, H., Yao, J., Zhang, Y., & Huang, X. (2024). The influence of teachers' intrinsic motivation on students' intrinsic motivation: The mediating role of teachers' motivating style and teacher-student relationships. *Psychology in the Schools*, 61(1), 272–286. <https://doi.org/https://doi.org/10.1002/pits.23050>
- Zuo, L., Dillman, D., & Miller Juvé, A. (2020). Learning at home during COVID-19: A multi-institutional virtual learning collaboration. *Medical Education*, 54(7), 664–665. <https://doi.org/10.1111/medu.14194>