DEVELOPING A GROWTH MINDSET IN ELEMENTARY SCHOOL TEACHERS: A TRAINING GUIDE TO ENHANCE DEEP LEARNING

MENGEMBANGKAN POLA PIKIR BERTUMBUH PADA GURU SEKOLAH DASAR : PANDUAN PELATIHAN UNTUK MENINGKATKAN PEMBELAJARAN MENDALAM

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Abstract

The training program "Developing a Growth Mindset Among Elementary School Teachers: A Training Guide for Enhancing Deep Learning" was organized by the Department of Education of Mandailing Natal Regency to strengthen teachers' pedagogical competence and foster a student-centered learning culture. This initiative was motivated by the 2022 PISA results, which revealed that more than 99% of Indonesian students could only solve problems at lower levels (Lower Order Thinking Skills), while less than 1% reached higher levels (Higher Order Thinking Skills). One of the underlying causes is the prevalence of a fixed mindset among teachers—the belief that intelligence is innate and difficult to change. This training aimed to cultivate a growth mindset based on Carol S. Dweck's (2006) theory, which emphasizes that abilities can be developed through effort and learning strategies. The method employed was a reflective andragogical workshop involving material presentations, microteaching simulations, and collaborative reflections. The results indicated a significant improvement in teachers' understanding of the growth mindset concept and its implementation in deep learning. Teachers began providing process praise, applying The Power of Yet strategy, and creating emotionally safe and collaborative classroom environments. Furthermore, the establishment of the Growth-Oriented Teacher Community of Mandailing Natal (KGB-Madina) emerged as a sustainable platform for sharing best teaching practices and fostering continuous professional growth.

Keywords: Growth Mindset, Elementary School Teachers, Deep Learning, Teacher Professional Development.

Abstrak

Pelatihan "Mengembangkan Pola Pikir Bertumbuh pada Guru Sekolah Dasar: Panduan Pelatihan untuk Meningkatkan Pembelajaran Mendalam" diselenggarakan oleh Dinas Pendidikan Kabupaten Mandailing Natal untuk memperkuat kompetensi pedagogik guru dan menumbuhkan budaya belajar yang berpusat pada peserta didik. Kegiatan ini dilatarbelakangi oleh hasil PISA 2022 yang

menunjukkan bahwa lebih dari 99% peserta didik Indonesia hanya mampu menjawab soal pada level rendah (Lower Order Thinking Skills), sedangkan kurang dari 1% mencapai level tinggi (Higher Order Thinking Skills). Salah satu penyebabnya adalah masih kuatnya pola pikir tetap (fixed mindset) di kalangan guru yang menilai kecerdasan bersifat bawaan dan sulit diubah. Pelatihan ini bertujuan menumbuhkan growth mindset sesuai teori Carol S. Dweck (2006), yang menekankan bahwa kemampuan dapat berkembang melalui usaha dan strategi belajar. Metode yang digunakan adalah workshop reflektif berbasis andragogi melalui paparan materi, simulasi microteaching, dan refleksi kolaboratif. Hasil pelatihan menunjukkan peningkatan pemahaman guru terhadap konsep growth mindset dan penerapannya dalam pembelajaran mendalam. Guru mulai memberi "pujian proses", menggunakan strategi The Power of Yet, serta membangun kelas yang aman dan kolaboratif. Selain itu, terbentuk Komunitas Guru Bertumbuh Mandailing Natal (KGB-Madina) sebagai wadah berbagi praktik baik.

Kata Kunci: Pola Pikir Bertumbuh, Guru Sekolah Dasar, Pembelajaran Mendalam, Growth Mindset.

1. INTRODUCTION

The paradigm shift in global education in the 21st century demands a transformation of teachers' roles—from mere transmitters of information to facilitators, collaborators, and builders of student-centered learning cultures. The traditional paradigm that emphasizes only content mastery and academic achievement is no longer sufficient to meet the demands of this century, which focus on creativity, collaboration, problem-solving, and higher-order thinking skills (HOTS) (Kemdikdasmen RI, 2023).

The 2022 *Programme for International Student Assessment* (PISA) results show that Indonesian students' higher-order thinking skills remain relatively low. More than 99% of Indonesian students can only solve problems at levels 1–3 (Lower Order Thinking Skills or LOTS), while less than 1% can answer questions at levels 4–6 (HOTS) (OECD, 2022). This condition reflects that learning processes in Indonesia are still oriented toward memorization and final outcomes rather than deep and reflective thinking, which are the hallmarks of *deep learning*.

One of the main factors influencing this condition is teachers' mindsets and teaching practices, which remain result-oriented (*performance-based mindset*) instead of process-oriented (*learning-based mindset*). Many teachers still hold a *fixed mindset*—the belief that intelligence is innate and cannot be significantly changed (Dweck, 2006). Teachers with a fixed mindset tend to avoid challenges, fear failure, and assess success only by students' final results. In contrast, teachers with a *growth mindset* view abilities as something that can be developed through effort, strategy, and continuous learning experiences (Brock & Hundley, 2016).

Dweck (2006) asserts that a growth mindset enables individuals to see failure as an opportunity to learn rather than as a personal limitation. Yeager and Walton (2020) also emphasize the importance of implementing a growth mindset in educational settings to enhance students' motivation and learning resilience. In the context of Indonesian education, shifting teachers' mindsets is a crucial step toward transforming the learning process. The Ministry of Primary and Secondary Education (2023) states that the growth mindset forms the foundation of *deep learning*—a conscious, meaningful, and joyful learning process.

Theoretically, Dweck (2006) categorizes mindsets into two types: *fixed mindset* and *growth mindset*. Individuals with a fixed mindset believe that intelligence is static and unchangeable, while those with a growth mindset believe that intelligence can be enhanced through effort and effective learning strategies. Brock and Hundley (2016) further note that

teachers with a growth mindset tend to give "process praise" rather than "person praise," since acknowledging effort is more effective in fostering students' intrinsic motivation.

Research by Rissanen et al. (2021) found that implementing mindset pedagogy in elementary schools positively influences students' engagement and learning outcomes. Mesler and Schenkel (2021) revealed that teachers' mindsets are closely related to the development of students' mindsets, while Yeager and Walton (2020) confirmed that a growth mindset strengthens students' learning resilience. Lin et al. (2022) also discovered that teachers with a growth mindset exhibit transformational leadership that contributes to professionalism and instructional innovation.

From a psychological and neuroscientific perspective, Boaler (2019) explains that learning processes can reshape the brain's structure through *neuroplasticity*—the brain's ability to form new neural connections when facing cognitive challenges. When individuals make mistakes and attempt to correct them, brain activity increases, strengthening synaptic connections and signaling that the brain is growing and learning. Research by PERTS (*Project for Education Research That Scales*) at Stanford University found that mindset interventions improve learning outcomes, particularly among students from disadvantaged backgrounds (Dweck, 2020).

Limeri et al. (2020) affirm that a person's mindset can change dynamically through reflective and supportive learning experiences. Hirt et al. (2025) even show that professional training integrating growth mindset principles enhances teachers' capacity for self-regulated learning.

The Ministry of Primary and Secondary Education (2023) identifies the growth mindset as the foundation for implementing *deep learning*. Teachers with a growth mindset encourage contextual, collaborative learning and embrace mistakes as part of the learning process. In *mindful learning*, teachers view students' difficulties as opportunities for growth; in *meaningful learning*, teachers guide students to connect concepts to real-life contexts; and in *joyful learning*, teachers create a safe and enjoyable learning environment (Kemdikdasmen RI, 2023).

Kapur (2014) introduces the concept of *productive failure*—allowing students to experience failure before conceptual explanation to foster deeper understanding. Loibl et al. (2017) and Sinha et al. (2021) demonstrate that this approach effectively enhances critical thinking and problem-solving abilities. Hmelo-Silver et al. (2013) stress the importance of scaffolding and *productive struggle* in problem-based learning to promote deep thinking, while Kovač (2025) highlights that deep learning requires reflection, meaningful connection, and integration of real experiences.

Elementary school teachers hold a strategic position in nurturing a growth mindset, as they play a crucial role in shaping students' foundational character, values, and thinking patterns. Dweck's (2006) principle of *The Power of Yet*—replacing "I can't" with "I can't yet"—creates positive affirmation that strengthens students' learning resilience. Teachers with a growth mindset create environments where students think critically, take risks, and are unafraid of making mistakes. This is a vital prerequisite for *deep learning*, which integrates cognitive, emotional, moral, and physical dimensions holistically (Kemdikdasmen RI, 2023).

Vestad et al. (2024) emphasize that teachers' support for students' mindset development is an essential aspect of social-emotional learning. Meanwhile, Yeager et al. (2019) demonstrate that large-scale growth mindset interventions can significantly increase student motivation and academic achievement. Therefore, developing a growth mindset among

elementary school teachers is a strategic step to enhance teaching quality and build an adaptive, reflective, and growth-oriented educational ecosystem.

As a concrete initiative, the Department of Education of Mandailing Natal Regency conducted a training program titled *"Developing a Growth Mindset Among Elementary School Teachers: A Training Guide for Enhancing Deep Learning."* The training aimed to raise awareness that students' academic success is not solely determined by innate intelligence but also by effort, strategy, and persistence. Through this program, teachers are expected to shift their teaching paradigm from outcome-based instruction toward process-oriented and reflective learning—aligned with the spirit of *Merdeka Belajar* (Freedom to Learn), which envisions teachers as the driving force of educational transformation in Indonesia.

2. RESEARCH METHOD

Purpose and Approach

This training program aims to enhance teachers' understanding, attitudes, and competencies in applying the principles of a growth mindset in the classroom. The approach used was andragogical (adult learning) based on a reflective workshop model, in which participants actively engaged through hands-on practice, discussion, and collaboration (Knowles, 1984).

This approach aligns with the findings of Hirt et al. (2025), who emphasized that professional development programs integrating growth mindset principles can strengthen teachers' self-regulated learning. Similarly, Rissanen et al. (2021) found that growth mindset-based training positively affects teachers' engagement and motivation in the teaching and learning process. Boaler (2019) also highlighted the importance of reflection and exploration in fostering meaningful learning experiences.

Location

The training was conducted at the Department of Education of Mandailing Natal Regency. Participant selection was based on several criteria, including active involvement in the Teacher Working Group (Kelompok Kerja Guru – KKG), willingness to serve as change agents, and commitment to implementing the outcomes of the training in their respective schools.

Training Stages

The training was implemented in five stages as follows:

1. Pre-Training Stage: Administration of a preliminary questionnaire (pre-test) to assess participants' understanding of the growth mindset concept.
2. Material Delivery: Introduction to core concepts such as the *growth mindset*, *productive failure*, *The Power of Yet*, and their relevance to *deep learning*.
3. Simulation and Microteaching Practice: Teachers practiced applying strategies such as providing *process praise* and implementing *mind mapping* techniques (Buzan, 2019).
4. Collaborative Reflection: Group discussions and the formulation of follow-up action plans.
5. Final Evaluation: Post-training assessment (post-test) and reflective journal writing by participants.

Research by Kapur (2014) and Loibl et al. (2017) demonstrated that activities allowing participants to explore, make mistakes, and reflect collaboratively can significantly enhance conceptual understanding. This productive failure approach helps teachers recognize mistakes as a constructive and meaningful part of the learning process.

Evaluation Approach

Evaluation was conducted using three dimensions:
1. Reaction Evaluation: Measuring participants' satisfaction with the training program.
2. Learning Evaluation: Comparing pre-test and post-test results to assess knowledge gains.
3. Behavioral Evaluation: Observing changes in teachers' mindsets and teaching practices after the training.

Data were analyzed descriptively to identify improvements in understanding and implementation of the growth mindset in classroom practices (Miles & Huberman, 2014). Miles and Huberman (2014) emphasize that reflective data analysis helps identify behavioral and belief patterns emerging after professional development interventions. This approach aligns with Yeager et al. (2019), who found that growth mindset interventions in educational contexts enhance teachers' and students' resilience, motivation, and performance.

3. RESULTS AND DISCUSSION

The training program *"Developing a Growth Mindset Among Elementary School Teachers"* was implemented by the Department of Education of Mandailing Natal Regency as part of an initiative to strengthen teachers' pedagogical competence and enhance the quality of *deep learning* in elementary education. The activity demonstrated a high level of enthusiasm and collaboration among participants.

These findings align with Rissanen et al. (2021), who found that growth mindset-based training increases participants' active engagement and confidence in the learning process. Similarly, Hirt et al. (2025) emphasized that mindset-oriented professional training strengthens teachers' intrinsic motivation and reflective capacity regarding their professional practices.

Overall, the results of the training revealed three major impacts:
1. Improved teachers' understanding of the growth mindset concept,
2. Changes in teachers' attitudes and classroom practices, and
3. The establishment of a Growth-Oriented Teacher Community as a sustainable platform for collaboration.

Improvement in Teachers' Understanding of the Growth Mindset Concept

The pre-test and post-test results indicated a significant improvement in teachers' conceptual understanding of the growth mindset. Before the training, most participants (approximately 75%) believed that students' intelligence was innate and unchangeable. After the training, 88% of teachers reported understanding that students' abilities can be developed through appropriate learning processes, guidance, and experiences.

This improvement emerged after in-depth sessions explaining the distinction between *fixed* and *growth mindsets* (Dweck, 2006), followed by case analysis facilitated by trainers. Teachers began to recognize the importance of providing *process praise* rather than *person praise* (Brock & Hundley, 2016). During discussions, many teachers admitted that they had previously labeled students as "smart" or "weak," but after understanding the theory, they realized that every child possesses growth potential when adequately supported.

This awareness aligns with neuroscience research showing that when individuals make mistakes, their brain activity increases as the brain works to correct and understand the error (Boaler, 2019). With this insight, teachers became more open to viewing students' mistakes as integral to a healthy and profound learning process.

These results are consistent with Yeager et al. (2019), who found that growth mindset interventions enhance students' resilience and academic achievement across educational contexts. Likewise, Limeri et al. (2020) emphasized that mindset transformation occurs

gradually through reflective and supportive learning experiences, reinforcing the belief that abilities can be developed.

Changes in Teachers' Attitudes and Teaching Practices

The most notable transformation observed after the training was the shift in teachers' attitudes toward mistakes and challenges during the teaching and learning process. Whereas teachers previously focused heavily on results, they began to value students' learning processes more after the training.

Based on classroom observations and reflective journals, teachers began implementing three key strategies learned from the program:

1. Application of "The Power of Yet", where teachers replaced negative expressions such as "I can't" with "I can't yet" (Dweck, 2006). Teachers reported that this positive framing encouraged students to take more risks and persist in learning.
2. Implementation of "Productive Failure", which gives students opportunities to attempt solving problems before receiving conceptual guidance (Kapur, 2016). This strategy fostered curiosity and improved students' learning resilience.
3. Use of Mind Mapping, helping students organize ideas and deepen their understanding of learning concepts (Buzan, 2019).

Furthermore, teachers began fostering emotionally safe and open classroom environments essential conditions for deep learning (Kemdikdasmen RI, 2023). Teachers who previously relied on lecture-based instruction now adopted collaborative discussions and student reflections to promote self-awareness in learning.

This change corresponds with Boaler's (2019) finding that teachers with a growth mindset are more open to pedagogical innovation and experimentation. Similarly, Lin et al. (2022) found that transformational leadership among teachers with a growth mindset significantly improves the quality of collaborative classroom learning.

The transformation aligns with the principles of *deep learning*, which emphasize three characteristics: mindful, meaningful, and joyful learning. In mindful learning, teachers understand that every student has unique learning paces and styles (OECD, 2022). In meaningful learning, teachers design lessons connected to students' real-life experiences. In joyful learning, teachers create a classroom atmosphere full of appreciation, free from fear, and intrinsically motivating.

Formation of the Growth-Oriented Teacher Community (KGB-Madina)

A strategic outcome of this program was the establishment of a collaborative platform among teachers known as Komunitas Guru Bertumbuh Mandailing Natal (KGB-Madina), or the *Growth-Oriented Teacher Community of Mandailing Natal*. This community emerged from a shared awareness that mindset transformation must be maintained and continuously developed through peer learning.

The KGB-Madina community aims to:
1. Share experiences of implementing growth mindset practices in respective schools,
2. Discuss challenges in applying *deep learning* principles, and
3. Develop reflective and innovative learning practices.

Community activities are conducted both online and offline through monthly meetings at the Department of Education and ongoing discussions via WhatsApp forums. The establishment of this community signifies a paradigm shift in teacher professionalism—from working in isolation toward collaborative professional learning. This is consistent with Dufour

and Fullan (2020), who emphasize that professional learning communities are the cornerstone of sustainable school transformation.

These findings are further supported by Vestad et al. (2024), who highlight the importance of social and emotional support among teachers in fostering a collaborative learning culture rooted in the growth mindset. Similarly, Zhang and He (2025) assert that a positive and supportive school climate is a key factor in successful teacher collaboration.

Impact on Deep Learning

The implementation of growth mindset principles in the classroom demonstrated a direct impact on the quality of deep learning. Teachers' reflective journals indicated increased student participation in classroom discussions and greater confidence in expressing opinions. Teachers also began incorporating project-based, real-world, and reflective learning approaches that promoted active student engagement.

This aligns with the Deep Learning Framework by Kemdikdasmen (2023), which emphasizes four key dimensions: pedagogical practices, learning partnerships, learning environments, and digital utilization. Teachers with a growth mindset demonstrated adaptability in all four areas, viewing learning as a dynamic, evolving process rather than a static outcome.

Kapur (2014) noted that well-designed *productive failure* experiences can improve students' conceptual and metacognitive skills. Loibl et al. (2017) added that such strategies enable students to discover concepts independently through exploration and reflection—the core of deep learning. Kovač (2025) also emphasized that reflective, meaning-making learning processes are fundamental to effective deep learning.

Moreover, the adoption of growth mindset practices reinforced key values within the Pancasila Student Profile, particularly in the dimensions of independence, collaboration, and critical reasoning. Teachers who adopted a growth mindset successfully cultivated students' awareness that mistakes are not failures but essential parts of the mastery journey (Brock & Hundley, 2016).

Thus, the training program not only influenced teachers' cognitive understanding but also transformed their affective and social dimensions of teaching. This supports Fullan's (2019) assertion that changing teachers' mindsets serves as the foundation for systemic educational reform.

Analysis of Results from a Theoretical Perspective

From the lens of Transformational Learning Theory (Mezirow, 1997), the training represents a transformative learning process for teachers. Initially, teachers experienced a *disorienting dilemma* upon realizing that their prior teaching methods were outcome-centered. Through reflection, dialogue, and practice, they began to reinterpret their beliefs and teaching behaviors. In the final stage, they demonstrated concrete behavioral changes in the classroom—such as providing exploratory learning opportunities and adopting constructive feedback language.

From an andragogical perspective (Knowles, 1984), the training met the characteristics of adult learning—it was relevant to professional needs, experience-based, and encouraged autonomy. Teachers were not passive recipients of information but active participants through microteaching and collaborative reflection. This transformed the training from a simple knowledge transfer into an active, meaningful learning process.

These findings reinforce Mezirow's (1997) concept of *transformative learning*, which roots professional change in critical reflection on experience. In the context of teacher

development, this approach resonates with Hirt et al. (2025) and Yeager et al. (2019), who assert that professional mindset transformation requires a balance of reflection, experiential learning, and community support.

Summary of Key Findings

The growth mindset training for elementary school teachers in Mandailing Natal Regency produced tangible outcomes summarized as follows:

1. Understanding: Increased teacher awareness of the importance of a growth mindset in learning.
2. Attitude: Strengthened willingness to face challenges and view mistakes as part of the learning process.
3. Practice: Observable changes in teaching methods emphasizing process and reflection over outcomes.
4. Collaboration: Establishment of the *Growth-Oriented Teacher Community (KGB-Madina)* as a sustainable platform for sharing best practices.

4. CONCLUSION

The training program *"Developing a Growth Mindset Among Elementary School Teachers"*, organized by the Department of Education of Mandailing Natal Regency, has made a significant contribution to enhancing teacher professionalism within the context of 21st-century education. The results indicate that mindset transformation serves as a key factor in cultivating *deep learning* within elementary school environments.

Teachers with a growth mindset no longer measure the success of learning solely by outcomes but by students' processes, strategies, and persistence in learning. They recognize that students' abilities can be developed through effort, guidance, and meaningful experiences rather than innate intelligence (Dweck, 2006). The training effectively reinforced this understanding through reflective practice, simulation, and peer collaboration, nurturing teachers' awareness as lifelong learners.

Beyond conceptual understanding, the program also generated tangible impacts on teachers' attitudes and instructional practices. Participants began implementing approaches that fostered students' self-confidence, such as The Power of Yet and Productive Failure strategies (Kapur, 2016), while also creating safe and exploratory classroom environments. These changes directly increased student participation and encouraged the formation of a positive learning culture in classrooms.

Another notable impact was the establishment of the Growth-Oriented Teacher Community of Mandailing Natal (KGB-Madina), a collaborative and reflective platform for continuous professional growth. This community illustrates that mindset transformation is not the outcome of a single training event but rather a collective, ongoing process of shared practice and experiential learning (Fullan, 2019).

In conclusion, fostering a growth mindset serves as the foundation for achieving deep learning. Teachers who adopt a growth mindset are more willing to innovate, think reflectively, and facilitate students to become active, creative, and resilient learners. Such training programs not only equip teachers with new knowledge but also reshape their paradigms about the true nature of learning and teaching in elementary education (Kemdikdasmen RI, 2023).

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