

A Framework for the Systemic Implementation of Differentiated Instruction: A Case Study from Madrasah Tsanawiyah Al Abror

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Abstract

This study aims to analyze the organizational model for implementing differentiated instruction to achieve student learning mastery at *Madrasah Tsanawiyah Al Abror*, an Islamic junior high school in Indonesia. A qualitative case study design was employed, involving data collection through in-depth interviews, classroom observations, and a systematic analysis of curriculum documents conducted over four months. Ten key participants took part, including the principal, vice-principal for curriculum, and eight teachers. The findings reveal four interdependent pillars: first, the institutionalization of diagnostic assessments providing a data-driven foundation for instructional planning; second, the flexible implementation of differentiation in content, process, product, and learning environment to meet diverse student needs; third, continuous teacher competence development fostered through active Professional Learning Communities (PLCs); and fourth, the establishment of a supporting infrastructure via a shared repository of teaching materials. These pillars collectively form a sustainable ecosystem that enables teachers to respond effectively to the diversity of their students. The study concludes that successful differentiated instruction requires shifting the focus from individual teacher efforts to developing organizational capacity and collaborative culture at the school level.

Keywords

Case Study; Differentiated Instruction; Learning Mastery; Merdeka Curriculum; Student Diversity

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1. INTRODUCTION

In an increasingly diverse global education landscape, the challenge of ensuring every student reaches their full potential has become a central issue. Traditional, one-size-fits-all teaching approaches have proven inadequate in responding to the wide spectrum of student needs, interests, and learning profiles (Smale-Jacobse et al., 2019). His inadequacy highlights the need for educational reforms that prioritize inclusivity and personalized learning, particularly through evidence-based approaches. In response, the educational paradigm has shifted towards more personalized and adaptive models. One of the most globally recognized frameworks for addressing this challenge is Differentiated Instruction (DI), a teaching philosophy wherein teachers proactively modify curriculum, instructional methods, resources, and assessments to meet the individual needs of students (Tomlinson et al., 2023). DI is regarded as a critical strategy to dismantle the traditional barriers that hinder equitable learning



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opportunities, fostering a more student-centered approach that values diversity as an asset. In Indonesia, this urgency is amplified by the implementation of the *Kurikulum Merdeka* (Merdeka Curriculum), which explicitly promotes student-centered teaching practices (Fauzia & Ramadan, 2023).

A substantial body of literature has confirmed the positive effects of DI. Numerous studies, including recent meta-analyses, have shown that DI can significantly enhance academic achievement, motivation, and student engagement (Subandiyah et al., 2025). Moreover, findings suggest that DI enhances critical thinking and problem-solving skills by allowing students to engage with content at their own pace and preferred style, contributing to deeper learning experiences (Mat & Jamaludin, 2024). Nevertheless, the current state of the field reveals a significant gap between these theoretical ideals and the realities of implementation. A systematic review by Farida et al. (2025) Highlights that teachers consistently report formidable obstacles, such as limited preparation time and difficulties in managing complex classroom dynamics. This implementation gap has led to diverging hypotheses: some argue that the problem lies in individual teacher competence. At the same time, a more recent perspective posits that the problem is systemic, stemming from a lack of school support. The complexity of creating assessment-informed differentiation (Valiandes & Neophytou, 2018) and the critical role of school leadership (Gibbs, 2025) Suggest that a purely teacher-focused view is insufficient. While much research has focused on classroom-level strategies, few studies have investigated how a school, as an organization, can build a sustainable ecosystem of support through structures like Professional Learning Communities (Gutman, 2021). This systemic perspective highlights how organizational culture, leadership commitment, and collaborative learning networks are essential to realizing DI's potential at scale, beyond individual teacher efforts (Chew & Mohamed Zainal, 2024).

This study addresses the existing gap by analyzing the implementation of a holistic organizational model for DI at an Indonesian junior high school. The research focuses on how assessments, instructional practices, and professional development are interconnected within the school's ecosystem to support sustainable DI practices. The primary objective is to establish a replicable conceptual framework that redirects the focus from isolated teacher efforts to institutional capacity building, ultimately promoting equitable learning mastery for diverse students.

2. METHODS

To investigate this phenomenon, this study employed a qualitative research approach utilizing an instrumental case study design. This design was selected for its strength in providing deep insight into a specific, real-world issue—in this case, the organization of DI—to understand a broader social phenomenon within its contemporary context (Ridder, 2017). Instrumental case studies enable researchers to focus on a specific issue or problem, providing rich contextual analysis that contributes to theoretical development beyond the immediate case itself (Lim, 2025). The research site, an Indonesian junior high school (*Madrasah Tsanawiyah*), was selected through purposive sampling to ensure an information-rich setting that could illuminate the research question. The study's subjects comprised 10 key participants, including school leadership and eight teachers with diverse experience levels. Purposive sampling was deemed appropriate to select participants who are directly involved and possess rich knowledge regarding differentiated instruction practices within the school environment. Ethical clearance was obtained from the institution prior to the commencement of the study. All participants were fully informed of the research objectives and voluntarily provided written informed consent, with assurances of confidentiality and anonymity.

The research was conducted over four months, employing three primary data collection methods to facilitate robust triangulation. In-depth semi-structured interviews, lasting approximately 60-90 minutes each, were conducted to explore participants' perceptions, strategies, and challenges. Semi-structured interviews facilitated flexible yet focused data collection, enabling participants to share in-depth insights while allowing the researcher to probe emergent themes. Non-participant observations

were conducted in classrooms and professional meetings, totaling over 40 hours, to witness the model in action and gain an understanding of the nuances of daily practice. Finally, a systematic analysis of institutional documents, including lesson plans, curriculum guidelines, and meeting minutes, was conducted to compare planned practices with those that were actually enacted.

The data were analyzed using a thematic analysis approach, following a recursive process of data familiarization, code generation, and theme development (Vanover et al., 2022). This involved an iterative cycle of reading transcripts and field notes, applying initial open codes, and then clustering these codes into more abstract categories. For example, a teacher's statement, "It is a struggle to find the time to prepare different materials for every group," was initially coded as "preparation time." This code, along with similar ones like "resource scarcity," was later clustered into the broader theme of "Resource and Time Constraints," which ultimately informed one of the four principal findings. To ensure the trustworthiness of the findings, data from the three methods were triangulated, and member checking was conducted by sharing preliminary interpretations with several participants to verify their accuracy (Saldana & Omasta, 2016). These methodological rigor steps aimed to enhance the credibility, transferability, and confirmability of the qualitative findings. This study, however, is subject to the limitations of a single-case study; the findings offer a deep, contextualized understanding rather than statistical generalizability, providing a theoretical framework that may be transferable to similar settings.

3. FINDINGS AND DISCUSSIONS

The analysis of the qualitative data, collected over four months in the field, reveals a coherent pattern regarding the organizational efforts for differentiated instruction at MTs Al Abror. The principal finding of this study is a systemic and integrated organizational model. This model demonstrates that effective implementation is not the result of sporadic interventions or individual teacher efforts, but rather a framework resting on four fundamental pillars that are both interdependent and mutually reinforcing (Gheysens et al., 2020). These findings align with contemporary research emphasizing the need for holistic, systems-based approaches to educational reform, particularly in diverse learning environments (Hasanah et al., 2022; Tundreng et al., 2025). These pillars do not function in isolation; instead, they create a reinforcing cycle of continuous improvement. They are: (1) institutionalizing diagnostic assessments, which serves as the data-driven foundation that initiates the cycle; (2) implementing flexible differentiation, the adaptive pedagogical response to that data; (3) developing teacher competence through professional learning communities, which function as the collaborative engine for innovation and problem-solving; and (4) constructing a supporting infrastructure, which accelerates and institutionalizes the change, ensuring its sustainability.

The significance of this integrated model extends beyond the immediate context of MTs Al Abror, offering insights into how educational institutions can systematically address the complex challenges of implementing differentiated instruction in diverse learning environments (Somantri et al., 2024). The subsequent sections will deconstruct this model by analyzing each pillar in detail. For each component, empirical evidence from the case study will be presented to illustrate its function, followed by a critical discussion that interprets its significance in the context of relevant academic literature. This analytical approach is particularly important given the growing recognition that successful differentiated instruction requires not just individual teacher expertise, but comprehensive organizational support systems (Goyibova et al., 2025; Setambah et al., 2025). The conceptual framework, which visualizes the dynamic relationship between these pillars, is presented in Figure 1.

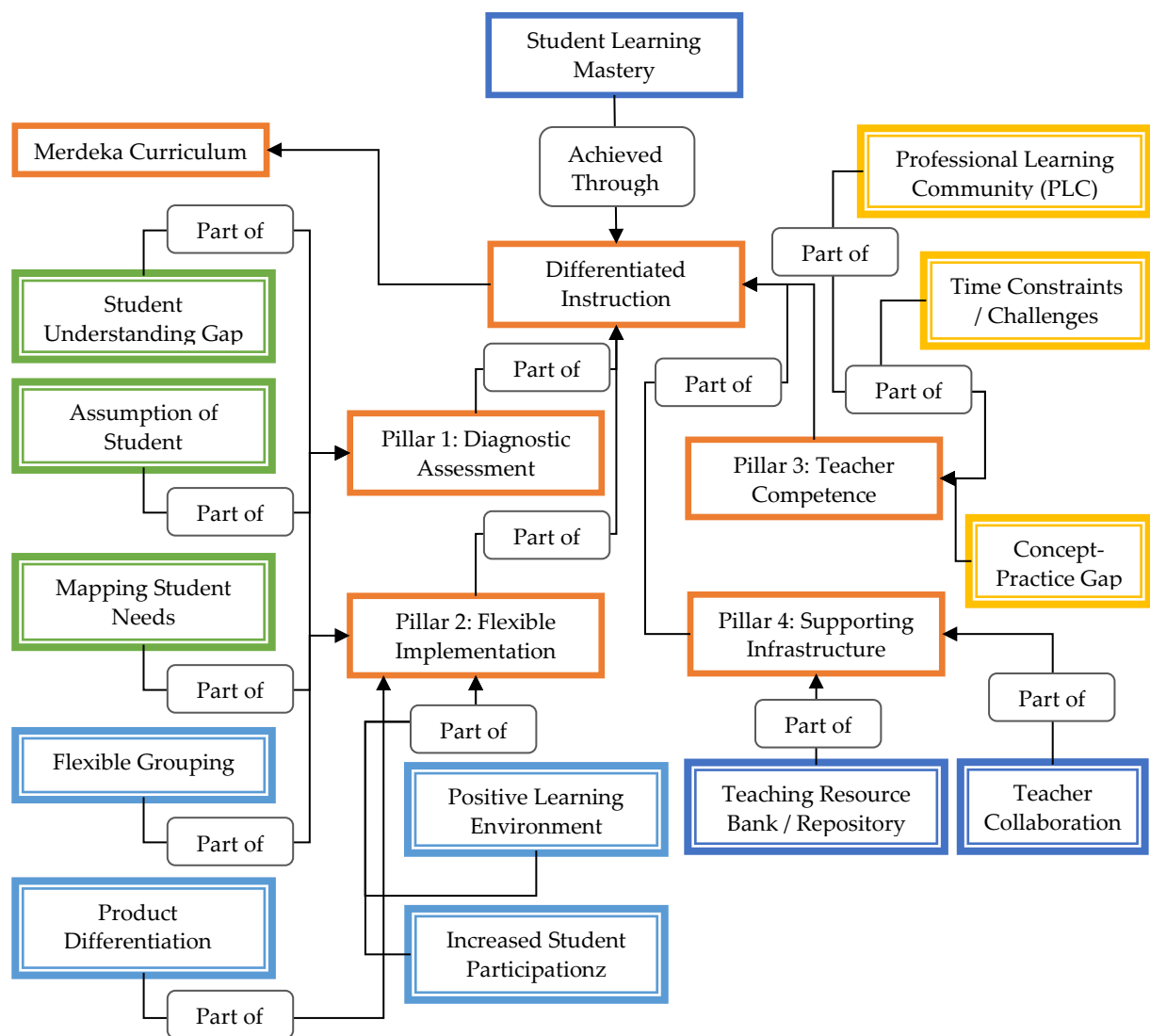


Figure 1. This is a figure, Conceptual Framework for Organizing Differentiated Learning.

Pillar 1: Diagnostic Assessment as the Foundation for a Paradigm Shift

The first and most fundamental pillar in the organizational model for differentiated instruction at MTs Al Abror is a paradigmatic shift from assumption-based to data-driven teaching. This transformation represents a critical departure from traditional pedagogical approaches that often treat student diversity as a challenge rather than an asset (D'Andrea Martínez et al., 2023; Handayani et al., 2023). The findings show that institutionalizing diagnostic assessment at the beginning of the learning process became a critical leverage point, dismantling the long-held assumption that all students start from the same point. As the Vice-Principal for Curriculum (VP1) stated, "For a long time, we often assumed all students started from the same point. The initial diagnostic assessment results revealed a very different reality; a significant understanding gap was evident. This data 'forced' us to rethink how we teach."

This shift was realized through the systematic use of diagnostic instruments before every learning unit. Teachers developed pre-tests, interest inventories, and short reflective tasks to identify readiness levels and learning profiles. Observations in a Grade 8 science class, for instance, revealed that the teacher used a 10-item pre-test on “Substance Pressure” and an online interest survey to classify students into three readiness groups: 25% below prerequisite mastery, 60% at the basic level, and 15% at the advanced level. This practice directly transformed lesson design from a uniform to a station-based

model. The finding aligns with the global call for data-informed instructional planning (Liu et al., 2023; Wilcox et al., 2021).

However, while these practices confirm the transformative role of diagnostic assessment, they also reveal tensions that complicate theoretical assumptions. Not all teachers can consistently translate assessment data into differentiated actions. Some interviewees admitted that “data was collected but often remained unused because lesson time was already full.” This nuance challenges the optimistic claim by Csapó & Molnár (2019) that diagnostic assessment naturally leads to personalization. It supports instead the critique by Mandinach & Schildkamp (2021) that the effectiveness of data-based instruction depends more on institutional support than on teacher willingness alone.

In this madrasah context, the institutionalization of diagnostic assessment also faced moral and religious constraints. Several teachers emphasized the need to avoid publicizing individual weaknesses to protect students’ dignity — an ethical sensitivity rooted in Islamic values of *hifdz al-‘ird* (preserving honor). Consequently, assessment data were used carefully and privately. This shows that implementing data-driven instruction in faith-based schools requires adaptation to cultural and moral frameworks, a dimension often overlooked in Western literature (Hikmah Nurbatra, 2022).

Despite these contextual limitations, MTs Al Abror’s consistent use of diagnostic assessment signifies a systemic culture shift. The initiative moved teachers from intuition-based to evidence-informed planning (Baskoro et al., 2023; Sulistyaningsih, 2024). However, this success is fragile. Resource constraints, limited technology, and heavy workloads restricted how deeply teachers could act on data, confirming Assey & Babyegeya (2022) Warning that the gap between assessment and instruction remains one of the hardest challenges in developing countries. Thus, the case provides both confirmation and contradiction to prior theories: diagnostic assessment indeed enables differentiation, but without structural and ethical accommodations, it risks becoming a mere procedural formality.

In summary, Pillar 1 illustrates how diagnostic assessment served as both a catalyst and a constraint for differentiated instruction. It initiated a paradigm shift but also exposed the boundaries of implementation within the social, cultural, and institutional realities of a madrasah. The case reinforces the idea that sustainable differentiation must be grounded not only in technical assessment systems but also in the ethical and organizational frameworks that define how data are interpreted and acted upon (Asyrofi & Palapa, 2025; Jannah et al., 2025; Valiandes & Neophytou, 2018).

Pillar 2: Flexible Differentiation as a Pedagogical Response

The second pillar emphasizes the implementation of flexible differentiation across four classroom dimensions—content, process, product, and learning environment. At MTs Al Abror, flexibility in designing and delivering instruction became the most visible indicator of a shift from uniformity to responsiveness. This transformation illustrates how differentiation can function not only as a pedagogical tool but as a manifestation of respect for learners’ individuality, consistent with the Islamic principle of *ikhtilāf* (diversity as a natural form of wisdom).

Empirical observations revealed various forms of differentiation. In a Grade 7 Social Studies lesson on local kingdoms, the teacher provided three levels of texts (content differentiation) and used dynamic grouping—from readiness-based homogeneous groups for initial comprehension to heterogeneous groups for synthesis. The Indonesian Language teacher (G3) described her practice as follows: “For the poetry unit, I gave students freedom. The visual learners designed infographic posters, confident ones performed video recitations, and those who preferred writing composed analytical essays. The outcomes were extraordinary because they worked according to their strengths.”

This flexibility across modes of expression (product differentiation) reflects growing teacher awareness of multiple intelligences and culturally responsive pedagogy (Rakhman et al., 2023; Suleiman et al., 2020). However, the study also revealed practical and cultural tensions. Some teachers hesitated to offer open-ended product choices, worrying that students might produce media considered

inappropriate in a religious environment—for instance, visual tasks that might conflict with local modesty norms. Such hesitation reveals the moral balancing act of adapting global models of differentiated instruction (DI) within Islamic schooling contexts.

This finding partially supports Komang Arie Suwastini (2021) and Lindner & Schwab (2020), who argue that flexible differentiation promotes inclusivity and engagement. However, it also contradicts their assumption of universal applicability. In MTs Al Abror, differentiation required reinterpretation through the lens of *adab* (ethical propriety). Teachers avoided competitive displays and prioritized cooperative projects, emphasizing humility (*tawāḍuʿ*) as a moral goal equal to academic achievement. This finding suggests that DI in faith-based contexts cannot be fully understood through secular pedagogical frameworks alone, reinforcing the need for culturally embedded theories (Hikmah Nurbatra, 2022).

The adaptive design of learning environments further illustrates this integration of pedagogy and spirituality. Teachers created “quiet corners” for reflective study and began class sessions with short prayers seeking barakah (blessings) for the learning process. These practices, while not part of conventional DI models, functioned as socio-emotional scaffolds enhancing student focus and belonging—elements empirically linked with learning motivation (Gilson & Lee, 2023). In this sense, MTs Al Abror demonstrated a hybrid model of DI that integrates cognitive flexibility with spiritual-emotional grounding.

While the approach confirmed Globio's (2024) meta-analysis, which demonstrates that DI significantly enhances engagement, it also reveals a paradox: flexibility demands extensive preparation time, often exceeding teachers' workload capacity. One teacher remarked, “It is rewarding but exhausting—differentiation triples my planning hours.” This mirrors systemic barriers identified by Ab Hajis & Othman (2024). Moreover, it highlights the need for institutional, rather than merely individual, solutions. In contrast to the optimistic framing of Tomlinson et al. (2023), the case suggests that without school-level structures (such as shared planning time or resource banks), flexible differentiation risks becoming unsustainable in real practice.

The evidence thus challenges purely teacher-centered interpretations of DI effectiveness. Real flexibility is not only about adjusting materials, but also about adjusting the conditions that enable teachers to differentiate instruction. As noted by Brooks (2022) Teachers in culturally diverse classrooms must continuously negotiate between responsiveness and curriculum mandates. This negotiation was particularly visible at MTs Al Abror, where national curriculum requirements intersected with religious identity. Teachers often recontextualized materials to ensure cultural alignment—for example, replacing Western literary texts with local Islamic stories when designing tiered reading tasks. Such practices embody what D'Andrea Martínez et al. (2023) Describe it as an equitable translation of pedagogical theory into local teaching culture.

Ultimately, the MTs Al Abror case enriches the literature by showing that flexible differentiation is both empowering and bounded. It empowers students by affirming diverse learning pathways but remains bounded by institutional culture, moral values, and limited structural support. This double-edged nature of flexibility confirms Bai & Wang (2023) The argument is that growth mindset interventions are most effective when aligned with contextual beliefs and motivational structures. Thus, differentiation in madrasah settings should be redefined not merely as individualized instruction but as ethically responsive instruction—a practice that harmonizes academic inclusivity with moral coherence.

Pillar 3: Teacher Competence Development through Professional Learning Communities (PLCs)

The third pillar addresses the enduring gap between teachers' conceptual understanding of differentiated instruction (DI) and their practical ability to apply it consistently. This gap has been repeatedly documented in the literature as one of the major barriers to educational innovation (Shuell,

2021). Data from MTs Al Abror confirm this pattern: document analysis showed that 12 out of 15 lesson plans remained traditional and content-driven. At the same time, interviews revealed that time constraints and workload were the most common obstacles to progress. Teachers frequently expressed frustration over “the lack of time to prepare tiered materials” and “insufficient collaboration to exchange ideas.” These findings correspond with the systemic issues identified by Ab Hajis & Othman (2024), emphasizing that the sustainability of DI cannot depend solely on individual teachers’ commitment.

To address this problem, MTs Al Abror established Professional Learning Communities (PLCs) as the central mechanism for continuous professional growth. The PLCs functioned as collaborative, inquiry-based forums where teachers met biweekly to share strategies, review lesson plans, and troubleshoot classroom challenges. Unlike traditional training models that are top-down and episodic, the PLCs here embodied principles of collegial reflection and shared accountability (Carr-White, 2021). One observed PLC session illustrated this well: a mathematics teacher presented a differentiated algebra module, and peers offered structured feedback, discussed student grouping logistics, and collaboratively refined the rubric. A senior teacher (G5) summarized the perceived transformation: “In the past, I solved problems alone. Now, through the PLC, I feel the burden is shared. We create tiered worksheets together and adjust them based on real feedback from classrooms. It saves a lot of time and energy.”

This testimony exemplifies how PLCs cultivate a sense of collective efficacy, the shared belief among educators that they can influence student learning through collaborative effort (Zhang & Pang, 2016). Such peer-based problem-solving echoes Hudson (2024) Conceptualization of effective PLCs as “learning organizations” rather than mere discussion groups. Moreover, the MTs Al Abror PLCs operated as faith-driven communities of practice: meetings often began with a brief reflection or prayer, linking professional goals with *Niyyah* (sincere intention) as a moral anchor. This integration of spiritual meaning with professional practice differentiates Islamic educational PLCs from their secular counterparts, aligning with Nuryana (2022) The argument is that faith-based institutions must embed moral purpose into organizational learning.

Despite these successes, challenges persisted. Some teachers hesitated to critique peers openly, citing *adab al-hiwar* (ethical discourse) as a reason for restraint. While this preserved harmony, it sometimes diluted the critical rigor necessary for pedagogical improvement. This observation adds nuance to (Zhang & Pang, 2016) Findings suggest that in religious school contexts, maintaining social cohesion can take precedence over confrontation, thereby affecting the depth of reflective inquiry. Hence, while PLCs effectively promoted mutual support, they also risked becoming too deferential unless facilitated with structured protocols encouraging constructive critique (Hudson, 2024).

From a broader theoretical lens, the MTs Al Abror PLCs offer evidence that professional learning in madrasah contexts requires a culturally congruent model of collaboration. Rather than importing the Western concept of a “learning community” wholesale, the school localized it into a hybrid form—collaborative yet infused with moral and communal values. This resonates with *ukhuwah madrasahiiyyah* (school brotherhood), a concept that harmonizes collegiality with spiritual solidarity. Such alignment demonstrates how teacher development in Islamic institutions can embody what Chew & Mohamed Zainal (2024) Term Collaborative Intelligence Mindset Theory—a synthesis of relational empathy and shared cognitive growth.

Nonetheless, the success of PLCs at MTs Al Abror was not evenly distributed. Younger teachers tended to participate more actively, whereas senior staff occasionally perceived PLCs as an “extra task.” This uneven engagement parallels the findings of Dumandan & Paglinawan (2025), who note that PLC effectiveness often correlates with generational openness to change. Thus, sustainability depends on leadership strategies that institutionalize PLCs as part of teachers’ formal workload rather than voluntary activity.

Critically, the MTs Al Abror case also challenges the assumption that professional development

alone guarantees pedagogical transformation. Even after several PLC cycles, not all participants demonstrated significant changes in their classroom practices. This contradicts the optimistic stance in Gheysens et al. (2020) That professional development reliably leads to instructional improvement. Instead, it supports Gibbs (2025a), who asserts that the principal's leadership style and institutional policy alignment are decisive factors. Observational evidence confirmed this: when the vice-principal actively attended PLC meetings, participation increased markedly; when absent, discussions tended to revert to routine updates rather than reflective learning.

In summary, the third pillar underscores that teacher competence development in DI is both a social and moral enterprise. At MTs Al Abror, PLCs served not only as technical workshops but as spaces for building collective moral commitment to inclusive education. The blending of reflective inquiry, communal ethos, and spiritual intention made the PLCs both pedagogically effective and contextually authentic. However, sustaining such communities requires structural support—regular schedules, leadership engagement, and institutional recognition—without which collaboration risks devolving into informal collegiality.

Thus, this pillar reinforces the central argument of the study: successful differentiated instruction cannot emerge from isolated professional development sessions but from an organizational culture that continually learns, critiques, and renews itself in light of shared values (Harjaya & Idawati, 2022; Meyer et al., 2023).

Pillar 4: Building a Supporting Infrastructure through a Repository of Teaching Materials

The fourth pillar represents a pragmatic yet strategic response to the structural constraints faced by teachers in implementing differentiated instruction (DI): time scarcity, uneven competence, and limited access to instructional resources. At MTs Al Abror, these challenges were addressed through the establishment of a shared digital repository of teaching materials, designed as both a knowledge management system and a sustainability mechanism for pedagogical innovation.

Empirical data reveal that this repository, developed collaboratively via Google Drive, contained categorized folders by subject, grade level, and topic. It housed a growing collection of tiered worksheets, task menus, curated video links, and differentiated rubrics. Importantly, the repository evolved not as a top-down administrative project but as a grassroots innovation, initiated by teachers themselves within the Professional Learning Community (PLC). As one teacher (G2) explained, "We started sharing files after realizing that we were all making similar materials. Now, when someone designs a new differentiated module, they upload it for others to use. It is like saving time collectively."

This testimony highlights the teachers' shift from individual ownership to communal stewardship of pedagogical resources—an embodiment of *al-ta'āwun fī al-khayr* (mutual assistance in good works), a core Islamic ethical principle encouraging cooperation for shared benefit. Such collective knowledge sharing reflects what Arimi et al. (2022) describe as the transition from tacit to explicit institutional knowledge, ensuring that innovation persists beyond individual teachers.

The repository functioned not only as an archive but also as a collaborative learning infrastructure, allowing for the continuous refinement of teaching materials. During PLC meetings, teachers collectively evaluated uploaded modules, annotated feedback, and discussed adaptation for different ability groups. This cyclical process demonstrates that the repository acted as a dynamic feedback loop, integrating reflection, experimentation, and documentation—principles central to sustainable learning organizations (Islam et al., 2022).

Nevertheless, the repository's success was not without tension. Some senior teachers viewed the use of shared digital tools as technologically demanding or time-consuming, echoing the concerns of Asyrofi & Palapa (2025) Regarding digital readiness in Islamic schools. Additionally, ethical discussions emerged over intellectual property: who "owns" a worksheet once uploaded? The principal resolved this by invoking the value of *ikhlas* (sincerity), reinforcing that resources created for students are waqf

al-‘ilm—a charitable contribution of knowledge. This moral reframing increased participation and fostered a sense of collective trust.

This contextually grounded approach aligns with Ma & Cai (2021). The argument is that educational innovations in highly institutionalized environments thrive only when anchored in shared cultural norms. However, the MTs Al Abror case adds a distinct dimension: moral collectivism as a driver of knowledge sustainability. By reframing knowledge sharing as a religiously meaningful act, the repository transcended utilitarian motivation and became a medium of spiritual professionalism.

From a theoretical standpoint, this pillar substantiates the idea that technological infrastructure in education must be embedded within organizational culture to yield enduring change (Brauckmann et al., 2023). The repository not only operationalized DI practices but also institutionalized collaboration and transparency—two elements often missing in conventional top-down reform efforts. The system transformed individualized expertise into shared institutional capital, illustrating what Arimi et al. (2022) Term collective intelligence in resource management.

Still, critical reflection reveals potential fragility. The repository’s vitality depended heavily on leadership encouragement and teacher motivation. Without periodic updating, materials risk becoming outdated, and the initial enthusiasm may fade once key innovators leave. This supports Nuryana (2022), Who Warns that educational reforms in faith-based institutions often falter when driven by personalities rather than systems. As a preventive measure, MTs Al Abror integrated repository maintenance into the school’s official supervision rubric, ensuring continuity and accountability.

The case thus offers both confirmation and extension of prior theories. It confirms Gheysens et al. (2020) That sustainable professional development requires infrastructural embedding, but extends this argument by showing that infrastructure itself can become a moral ecosystem. When designed around shared ethical commitments, a repository evolves from a technical tool into a form of organizational *‘ibādah* (devotion through work). This synthesis of professionalism, faith, and knowledge management provides a culturally grounded framework for systemic educational improvement in Islamic contexts.

In conclusion, the fourth pillar emphasizes that effective differentiated instruction cannot be sustained without a robust structural and ethical infrastructure. MTs Al Abror’s repository exemplifies how digital collaboration, guided by communal values and moral accountability, can convert pedagogical innovations into enduring institutional practices. The repository is not merely a storage system—it is a manifestation of collective agency, institutional trust, and moral purpose in educational reform.

4. CONCLUSION

This study analyzed the organizational model of differentiated instruction (DI) implemented at *Madrasah Tsanawiyah Al Abror*. It revealed that sustainable differentiation is not merely an individual pedagogical technique but a systemic transformation process. The findings indicate that effective DI is supported by four interdependent pillars, namely institutionalized diagnostic assessment as a data-driven foundation, flexible differentiation as a pedagogical response, continuous teacher competence development through Professional Learning Communities (PLCs), and the establishment of a digital repository as both structural and moral infrastructure. Together, these components create an integrated ecosystem that enables teachers to respond adaptively and ethically to student diversity within the faith-based institutional framework. Theoretically, this research contributes to the broader discourse on educational leadership and school-based innovation by shifting the analytical focus from teacher-centered differentiation to organization-centered differentiation. It also offers a novel perspective by embedding DI within the Islamic educational context, showing how spiritual and ethical values such as *ikhlaṣ*, *adab*, and *al-ta’āwun* reinforce collective professional responsibility. This culturally grounded framework challenges universalist assumptions found in DI theories developed in secular settings and

supports the development of context-responsive pedagogical models for faith-based educational systems.

Practically, the study provides concrete implications for policymakers, school leaders, and teacher educators. For policymakers, the results emphasize the importance of policy frameworks that strengthen institutional capacity rather than relying on one-off teacher training; DI implementation under the *Kurikulum Merdeka* should therefore include incentives for schools that successfully build PLCs, internal repositories, and collaborative assessment systems. For principals and supervisors, the findings emphasize the importance of implementing effective instructional leadership by fostering collaboration, allocating time for professional dialogue, and ensuring that assessment data inform pedagogical decisions. Consequently, leadership development programs should incorporate modules on data-informed supervision and the management of faith-integrated school culture. For teachers, the study affirms that differentiation must be approached collectively, as collaboration in PLCs and participation in shared resource systems can reduce workload, enhance pedagogical creativity, and support teacher retention and well-being.

From the perspective of Islamic education reform, this study demonstrates that innovation and religiosity are not mutually exclusive; instead, when grounded in shared values, technological and pedagogical reforms—such as digital repositories or diagnostic assessment systems—can function as forms of *'ibādah mu'āmalah* (social worship) that merge professionalism with spirituality. This insight encourages policymakers to design professional development models that are not only skill-based but also value-based, emphasizing moral purpose and communal benefit. Nevertheless, this study is limited by its single-case qualitative design, which offers depth and contextual richness but does not allow broad generalization. Future research should test the proposed four-pillar framework through comparative multi-case studies or mixed-methods approaches to assess its transferability across diverse school types and regions. Longitudinal studies could further investigate the impact of organizational differentiation on measurable student outcomes, including motivation and achievement. In conclusion, this research reaffirms that effective and equitable education reform—especially in faith-based schools—requires a synthesis of organizational learning, ethical leadership, and systemic support. The four-pillar model implemented at MTs Al Abror demonstrates that differentiated instruction can thrive when data, collaboration, and values converge to foster a culture of collective responsibility for every learner's success.

REFERENCES

- Ab Hajis, S., & Othman, N. (2024). Navigating challenges and strategies in implementing differentiated instruction: A conceptual overview. *International Journal of Academic Research in Business and Social Sciences*, 14(8), 1209–1226.
- Arimi, H. K., Gichohi, P. M., & Bundi, D. (2022). Knowledge Sharing ICT Tools in the Management of Explicit Knowledge in Secondary Schools in Meru Central Sub-County. *International Journal of Professional Practice*, 10(2), 55–69.
- Assey, E. S., & Babyegeya, E. (2022). The Challenges Facing Effective Teaching, Learning, and Assessment in Community-Based Secondary Schools in Tabora Region. *American Journal of Education and Practice*, 6(2), 1–17.
- Asyrofi, I., & Palapa, T. (2025). Digital Technology Integration In Differentiated Instruction For Islamic Education. *Indonesian Journal of Education and Youth Development*, 1(2), 67–74. <https://ijeyd.org/index.php/ijeyd/article/view/11>
- Bai, B., & Wang, J. (2023). The role of growth mindset, self-efficacy, and intrinsic value in self-regulated learning and English language learning achievements. *Language Teaching Research*, 27(1), 207–228.
- Baskoro, A., Nugroho, A., & Prayito, M. (2023). Implementasi Pembelajaran Berdiferensiasi Aspek Proses terhadap Minat Belajar Peserta Didik Kelas 4. *TSAQOFAH*, 3, 1209–1218.

- <https://doi.org/10.58578/tsaqofah.v3i6.1797>
- Brauckmann, S., Pashiardis, P., & Ärlestig, H. (2023). Bringing Context and Educational Leadership Together: Fostering the Professional Development of School Principals. *Professional Development in Education*, 49(1), 4–15.
- Brooks, S. R. (2022). *Teachers' experiences: Culturally responsive pedagogy, student engagement, and growth achievement*. St. John's University (New York).
- Carr-White, N. (2021). *The original Differentiated Learning Consolidation Process (DLCP) was developed in the classroom*.
- Chew, Y. C., & Mohamed Zainal, S. R. (2024). A Sustainable Collaborative Talent Management Through Collaborative Intelligence Mindset Theory: A Systematic Review. *SAGE Open*, 14(2). <https://doi.org/10.1177/21582440241261851>
- Csapó, B., & Molnár, G. (2019). Online diagnostic assessment in support of personalized teaching and learning: The eDia system. *Frontiers in Psychology*, 10(JULY), 443648. <https://doi.org/10.3389/FPSYG.2019.01522/BIBTEX>
- D'Andrea Martínez, P., Peoples, L. Q., & Martin, J. (2023). Becoming Culturally Responsive: Equitable and Inequitable Translations of CRE Theory into Teaching Practice. *The Urban Review*, 55(4), 476–504. <https://doi.org/10.1007/s11256-023-00658-5>
- Dumandan, F., & Paglinawan, J. (2025). *The Relationship of Professional Learning Communities' (PLC) Engagement towards Teachers' Competence*. <https://doi.org/10.51584/IJRIAS.2025.100500046>
- Farida, K. L., Baharudin, B., Sai'dy, S., & Hasanah, U. (2025). Effectiveness and Challenges of Differentiated Learning in Secondary School: A systematic literature review review. *International Journal of Business, Law, and Education*, 6(1), 956–967. <https://doi.org/10.56442/IJBLE.V6I1.1131>
- Fauzia, R., & Ramadan, Z. H. (2023). Implementasi pembelajaran berdiferensiasi dalam Kurikulum Merdeka. *Journal of Education, Fkip Unma*, 9(3), 1608–1617.
- Gheysens, E., Consuegra, E., Engels, N., & Struyven, K. (2020). Good Things Come to Those Who Wait: The Importance of Professional Development for the Implementation of Differentiated Instruction. *Frontiers in Education*, 5, 511861. <https://doi.org/10.3389/FEDUC.2020.00096/BIBTEX>
- Gibbs, K. (2025). School Leaders' Approaches to Supporting Differentiated Instruction. *Educational Research*, 67(3), 367–384. <https://doi.org/10.1080/00131881.2025.2530613>
- Gilson, C. M., & Lee, Lindsay E. (2023). Cultivating a Learning Environment to Support Diverse Gifted Students. *Gifted Child Today*, 46(4), 235–249. <https://doi.org/10.1177/10762175231186454>
- Globio, P. E. (2024). *A Meta-Analysis and Systematic Review of the Impact of Differentiated Instruction on Student Achievement in Mathematics*. <https://doi.org/10.2139/SSRN.4897167>
- Goyibova, N., Muslimov, N., Sabirova, G., Kadirova, N., & Samatova, B. (2025). Differentiation approach in education: Tailoring instruction for diverse learner needs. *MethodsX*, 14. <https://doi.org/10.1016/j.mex.2025.103163>
- Gutman, M. (2021). Leading a Professional Learning Community for teacher educators: inquiry into college principals' motives and challenges. *Teacher Development*, 25(3), 263–277. <https://doi.org/10.1080/13664530.2021.1901772>
- Handayani, R., Yusnida Ritonga, W., & Anas, M. H. (2023). Konsep Pembelajaran Anak Inklusif dan Strategi Pembelajaran Untuk Anak Inklusif. *Jurnal Pendidikan Tambusai*, 7(3), 31896–31903.
- Harjaya, S., & Idawati, L. (2022). Professional Learning Community (PLC) sebagai Strategi Kepemimpinan dalam Membentuk Budaya Kolaborasi Sekolah di TK Eksperimental Mangunan Yogyakarta. *JIIP - Jurnal Ilmiah Ilmu Pendidikan*, 5(8), 3179–3193. <https://doi.org/10.54371/JIIP.V5I8.821>
- Hasanah, E., Suyatno, S., Maryani, I., Badar, M. I. Al, Fitria, Y., & Patmasari, L. (2022). Conceptual model of differentiated instruction (DI) based on teachers' experiences in Indonesia. *Education Sciences*, 12(10), 650.
- Hikmah Nurbatra, L. (2022). Infusing Culturally Responsive Teaching in Higher Education: Insights for

- Multicultural Education in Indonesia. *Journal of Innovation in Educational and Cultural Research*, 3(4), 722–730. <https://doi.org/10.46843/jiecr.v3i4.321>
- Hudson, C. (2024). A conceptual framework for understanding effective professional learning community (PLC) operation in schools. *Journal of Education*, 204(3), 649–659.
- Islam, M. K., Sarker, M. F. H., & Islam, M. S. (2022). Promoting student-centred blended learning in higher education: A model. *E-Learning and Digital Media*, 19(1), 36–54.
- Jannah, M., Maryani, I., & Santosa, A. B. (2025). Kesiapan Guru Sekolah Dasar Dalam Implementasi Asesmen Diagnostik Untuk Mendukung Pembelajaran Berdiferensiasi. *Ideguru: Jurnal Karya Ilmiah Guru*, 10(1), 451–459.
- Komang Arie Suwastini, N. (2021). Differentiated Instruction For the EFL Classroom. *TELL-US Journal*, 7(1), 14–41. <https://doi.org/10.22202/tus.2021.v7i1.4719>
- Lim, W. M. (2025). What is qualitative research? An overview and guidelines. *Australasian Marketing Journal*, 33(2), 199–229.
- Lindner, K.-T., & Schwab, S. (2020). Differentiation and individualisation in inclusive education: a systematic review and narrative synthesis. *International Journal of Inclusive Education*, 29. <https://doi.org/10.1080/13603116.2020.1813450>
- Liu, G., Ding, D., Ran, J., Xie, Q., & Wang, T. (2023). *Research on Evidence-based Differentiated Instruction of NCOs* (pp. 486–492). https://doi.org/10.2991/978-94-6463-040-4_74
- Ma, J., & Cai, Y. (2021). Innovations in an institutionalised higher education system: the role of embedded agency. *Higher Education*, 82(5), 897–915.
- Mandinach, E. B., & Schildkamp, K. (2021). Misconceptions about data-based decision making in education: An exploration of the literature. *Studies in Educational Evaluation*, 69, 100842. <https://doi.org/https://doi.org/10.1016/j.stueduc.2020.100842>
- Mat, N. C., & Jamaludin, K. A. (2024). Effectiveness of practices and applications of student-centered teaching and learning in primary schools: A systematic literature review. *International Journal of Academic Research in Progressive Education and Development*, 13(3), 1025–1044.
- Meyer, A., Hartung-Beck, V., Gronostaj, A., Krüger, S., & Richter, D. (2023). How can principal leadership practices promote teacher collaboration and organizational change? A longitudinal multiple case study of three school improvement initiatives. *Journal of Educational Change*, 24(3), 425–455. <https://doi.org/10.1007/s10833-022-09451-9>
- Nuryana, Z. (2022). Academic Reform and Sustainability of Islamic Higher Education in Indonesia. *International Journal of Educational Development*, 89, 102534.
- Rakhman, F., Surur, M., Ramli, A., Noviyanti, A., Anggreini Sarumaha, Y., PGRI Situbondo, S., & Islam Negeri Sultan Aji Muhammad Idris Samarinda, U. (2023). Education Management Based On Multiple Intelligences for Developing The Potential Of Students. *Mudir: Jurnal Manajemen Pendidikan*, 5(1), 112–117. <https://doi.org/10.55352/MUDIR.V5I1.36>
- Ridder, H. G. (2017). The theory contribution of case study research designs. *Business Research*, 10(2), 281–305. <https://doi.org/10.1007/S40685-017-0045-Z>
- Saldana, J., & Omasta, M. (2016). *Qualitative Research: Analyzing Life*. SAGE Publications. https://books.google.co.id/books?id=fZi_DQAAQBAJ
- Setambah, M. A. B., Ariffin, A., Zaini, S. H., Jaafar, A. N. M., Negara, H. R. P., & Hanazono, H. (2025). Exploring the Need for Differentiated Instruction Frameworks in Enhancing 21st Century Skills in Mathematics Education. *Journal of Management World*, 2025(1), 216–222.
- Smale-Jacobse, A. E., Meijer, A., Helms-Lorenz, M., & Maulana, R. (2019). Differentiated Instruction in Secondary Education: A Systematic Review of Research Evidence. *Frontiers in Psychology*, 10, 472176. <https://doi.org/10.3389/FPSYG.2019.02366/FULL>
- Somantri, S., Mustoip, S., & Maburur, H. (2024). Implementation of Differentiated Instruction to Address the Diversity of Students' Academic Abilities in Elementary School Classrooms. *JPS: Journal of Primary School*, 1(2), 28–35. <https://journal.pusmedia.com/index.php/JPS/article/view/105>

- Subandiyah, H., Nasrullah, R., Ramadhan, R., Supratno, H., Raharjo, R. P., & Lukman, F. (2025). The impact of differentiated instruction on student engagement and achievement in Indonesian language learning. *Cogent Education*, 12(1), 2516378. <https://doi.org/10.1080/2331186X.2025.2516378>
- Suleiman, I., Magableh, I., & Abdullah, A. (2020). On the Effectiveness of Differentiated Instruction in the Enhancement of Jordanian Students' Overall Achievement. *International Journal of Instruction*, 13(2), 533–548. <https://doi.org/10.29333/iji.2020.13237a>
- Sulistyaningsih, D. A. (2024). The Effect of Differentiated Learning Strategies on Students' Learning Outcomes. *PPSDP International Journal of Education*, 3(2), 261–272. <https://doi.org/10.59175/PIJED.V3I2.281>
- Tomlinson, C. A., Brighton, C., Hertberg, H., Callahan, C. M., Moon, T. R., Brimijoin, K., Conover, L. A., & Reynolds, T. (2023). *Differentiating Instruction in Response to Student Readiness, Interest, and Learning Profile in Academically Diverse Classrooms: A Review of Literature. Introduction: A Rationale for Differentiating Instruction*.
- Tundreng, S., Yawan, H., & Marhamah, M. (2025). Implementing Differentiated Instruction In Indonesian Secondary Schools: Opportunities And Challenges From Language Teachers. *English Review: Journal of English Education*, 13(1), 93–106. <https://doi.org/10.25134/ERJEE.V13I1.10741>
- Valiandes, S., & Neophytou, L. (2018). Teachers' professional development for differentiated instruction in mixed-ability classrooms: investigating the impact of a development program on teachers' professional learning and on students' achievement. *Teacher Development*, 22(1), 123–138. <https://doi.org/10.1080/13664530.2017.1338196>
- Vanover, C., Mihas, P., & Saldaña, J. (2022). *Analyzing and Interpreting Qualitative Research: After the Interview*. SAGE Publications, Incorporated. <https://books.google.co.id/books?id=k1PzzQEACAAJ>
- Wilcox, G., Fernandez Conde, C., & Kowbel, A. (2021). Using Evidence-Based Practice and Data-Based Decision Making in Inclusive Education. *Education Sciences 2021*, Vol. 11, Page 129, 11(3), 129. <https://doi.org/10.3390/EDUCSCI11030129>
- Zhang, J., & Pang, N. S.-K. (2016). Exploring the characteristics of professional learning communities in China: A mixed-method study. *The Asia-Pacific Education Researcher*, 25(1), 11–21.

