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Enhancing Educational Leadership: Implementing Design Thinking in School Administration and Governance at the Division Office of the City Division Schools in Mandaluyong City, Philippines

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Abstract

This study explores the potential of design thinking to improve leadership practices in school governance. The study investigates the current integration of design thinking within the Schools Division Office (SDO) of Mandaluyong City and evaluates its influence on leadership effectiveness, including decision-making, adaptability, responsiveness, and achievement of educational goals. It further examines the role of design thinking in fostering collaboration, creativity, and problem-solving among school heads. The findings will provide a deeper understanding of how design thinking can contribute to a more innovative and inclusive approach to school administration. Based on these results, the study proposes strategies to enhance the adoption and integration of design thinking within the SDO to improve school leadership practices and governance.

Keywords: design thinking, school administration, leadership effectiveness, innovation, governance

Introduction

Educational institutions are facing an increasing range of complex challenges in today's rapidly changing environment, necessitating innovative leadership approaches. School administrators, who are often tasked with navigating these challenges, need new frameworks to enhance decision-making and governance. Design thinking, a problem-solving methodology known for its emphasis on empathy, ideation, and iterative prototyping, has emerged as a promising solution. Initially popular in business and public administration (Foster, 2019) ^[13], design thinking has garnered attention for its potential application in educational settings, particularly in school administration and governance.

The traditional hierarchical decision-making models often used in educational leadership can limit the ability to respond effectively to the diverse and evolving needs of various stakeholders. Recent research indicates that design thinking, with its human-centered focus and collaborative approach, can provide an alternative to these conventional methods, fostering creativity, innovation, and more dynamic problem-solving in complex environments (Guaman-Quintanilla, Everaert, Chiluiza, & Valcke, 2022) ^[16]. While design thinking has been shown to enhance problem-solving and creativity in student learning environments, its application in the realm of school administration remains underexplored.

Despite growing interest in design thinking across disciplines, there is a notable gap in the literature regarding its integration into educational leadership and governance. Verganti, Dell'Era, and Swan (2021) ^[53] emphasize that design thinking should be viewed not just as a practice but as a paradigm that can reshape organizational problem-solving. However, the practical implications for educational administrators, especially in terms of leadership effectiveness and governance, have not been fully examined. This research aims to fill that gap by exploring how design thinking principles can be integrated into school administration at the Division Office of the City Division Schools in Mandaluyong City, Philippines, and to evaluate its impact on leadership and decision-making processes.

Kijima, Yang-Yoshihara, and Maekawa (2021) ^[26] further highlight the role of design thinking in cultivating creative confidence and global competence, skills that are especially important for educational leaders in an increasingly interconnected

world. Emerging technologies also offer new avenues for enhancing design thinking in educational contexts, as noted by Earle and Leyva-de la Hiz (2020). These advancements open up further possibilities for leveraging design thinking in school administration, offering school leaders the tools to make informed, innovative decisions that can address both current and future challenges.

This study aims to examine the use of design thinking in school administration and governance at the Schools Division Office (SDO) of Mandaluyong City, Philippines. Specifically, it seeks to address several key questions. First, it investigates the extent to which design thinking is integrated into school administration and governance at SDO Mandaluyong, focusing on adoption, stakeholder engagement, policy development, and feedback and iteration. Second, the study explores the leadership effectiveness of school heads in implementing design thinking, evaluating decision-making quality, adaptability, responsiveness, and the achievement of educational goals. Third, it assesses the influence of design thinking on school heads in areas such as collaboration, creativity, and problem-solving. Additionally, the study examines whether there are significant relationships between the extent of design thinking integration and leadership effectiveness, as well as between integration and the influence of design thinking on school heads. It also explores whether there is a significant relationship between leadership effectiveness and the impact of design thinking on performance. Finally, the study aims to propose a plan to enhance the implementation of design thinking in school administration and governance at the SDO of Mandaluyong City based on the research findings.

Statement of the Problem

This study sought to determine the usage of design thinking in terms of the school administration and governance at Schools Division Office (SDO) of Mandaluyong City, Philippines.

Specifically, it aimed to answer the following questions:

1. What is the extent of integration of design thinking in school administration and governance at SDO Mandaluyong City in terms of:
 - 1.1 adoption;
 - 1.2 stakeholder engagement;
 - 1.3 policy development; and
 - 1.4 feedback and iteration?
2. What is the level of leadership effectiveness of school heads implementing the design thinking with respect to:
 - 2.1 decision making quality;
 - 2.2 adaptability;
 - 2.3 responsiveness; and
 - 2.4 achievement of educational goals?
3. What is the level of influence of design thinking in terms of school heads?:
 - 3.1 collaboration;
 - 3.2 creativity; and
 - 3.3 problem-solving?
4. Is there a significant relationship between the extent of integration of design thinking in school administration and governance and the level of leadership effectiveness of school heads?
5. Is there a significant relationship between the extent of integration of design thinking in school administration and governance and the level of influence of design thinking on school heads?

6. Is there a significant relationship between the level of leadership effectiveness of school heads and the influence of design thinking on their performance?
7. Based on the results of the study, what plan can be proposed to improve the implementation of design thinking in school administration and governance at Schools Division Office (SDO) of Mandaluyong City?

Methodology

This study employed a quantitative research approach, utilizing both descriptive and correlational research designs to systematically examine the use of design thinking in school administration and governance at the Schools Division Office (SDO) of Mandaluyong City, Philippines. The descriptive design was used to assess the extent of design thinking integration in school administration, the level of leadership effectiveness of school heads, and its influence on their performance. Meanwhile, the correlational design was applied to determine the relationships among these variables, particularly the association between the integration of design thinking and leadership effectiveness.

The primary sources of data were school principals, assistant principals, and headteachers from public schools under the SDO of Mandaluyong City. These respondents were selected because of their direct involvement in school administration and governance, making them well-positioned to provide insights into the integration of design thinking in leadership and decision-making processes. Their experiences and perspectives were essential in evaluating how design thinking was adopted and how it influenced leadership effectiveness, collaboration, creativity, and problem-solving within their respective schools.

School principals, as the highest-ranking administrators, were considered key respondents because they implemented policies, led educational programs, and oversaw overall school management. Assistant principals supported leadership functions and maintained direct engagement with both teachers and students, enabling them to provide insights into stakeholder engagement, adaptability, and responsiveness in school governance. Headteachers, who led academic departments and supervised instruction, contributed perspectives on policy development, feedback mechanisms, and the practical application of design thinking in daily school operations.

The population of the study consisted of 92 school leaders from public schools under the SDO of Mandaluyong City, including principals, assistant principals, and headteachers. To determine the appropriate sample size, the Raosoft Sample Size Calculator was utilized with a margin of error set at 5% ($\alpha = 0.05$). Based on this computation, a minimum sample of 75 respondents was required. This sample size ensured adequate representation of school leaders across the division and supported the generation of reliable and valid results.

A researcher-made questionnaire was used as the primary data-gathering instrument. The instrument was divided into four parts, each designed to collect data aligned with the study's objectives, including the extent of design thinking integration, leadership effectiveness, and its influence on performance.

To ensure validity and reliability, the questionnaire underwent expert review by a panel specializing in educational leadership and research methodology. The

experts evaluated the instrument for clarity, relevance, and alignment with the research objectives, and their recommendations were incorporated prior to finalization. A pilot test was conducted among 10 school leaders from a different school division to assess clarity and reliability. The responses were analyzed using Cronbach's alpha to determine internal consistency. Based on the results, minor revisions were made to improve item clarity and ensure accurate data capture. Following validation, the finalized questionnaire was administered to the selected respondents in the SDO of Mandaluyong City.

Results and Discussions

This study examined the extent of integration of design

thinking in schools under the SDO of Mandaluyong City, its corresponding effect on the leadership effectiveness of school heads, and the influence of design thinking on leadership practices. Integration was assessed through adoption, stakeholder engagement, policy development, and feedback and iteration (Brown, 2009; Brown & Wyatt, 2010) [6, 7] (Liedtka, 2018) [34] (Verganti, Dell'Era, & Swan, 2021) [53] (Guaman-Quintanilla *et al.*, 2023) [16]. Leadership effectiveness was evaluated in terms of decision-making quality, adaptability, responsiveness, and achievement of educational goals (Leithwood *et al.*, 2004) [31] (Torlak *et al.*, 2021) [50] (Koekemoer *et al.*, 2021) [28] (Wang *et al.*, 2022) [57] (Chughtai *et al.*, 2024) [9]. The influence of design thinking was measured in terms of collaboration, creativity, and problem-solving (Jaskyte & Liedtka, 2022) [22] (Guaman-Quintanilla *et al.*, 2023) [16] (Rao *et al.*, 2021) [42].

Table 1: Extent of Integration of Design Thinking

Component	Overall Mean	Verbal Interpretation
Adoption	3.35	Moderately Integrated
Stakeholder Engagement	3.33	Moderately Integrated
Policy Development	3.34	Moderately Integrated
Feedback and Iteration	3.32	Moderately Integrated
Overall	3.33	Moderately Integrated

The findings indicate that design thinking is moderately integrated into the schools' operational practices, with an overall mean of 3.33. Adoption of design thinking in initiatives such as school improvement plans and leadership programs is evident but not yet fully embedded. Stakeholder engagement—including teachers, students, and community members—is moderately encouraged, while policy development and feedback mechanisms are in place but leave

room for further refinement.

These results align with the literature, which posits that design thinking promotes collaborative, human-centered approaches to problem-solving in education (Brown, 2009) [6] (Liedtka, 2018) [34] (Razzouk & Shute, 2012) [43]. Moderate integration suggests that schools are recognizing its value but need strategic actions to institutionalize design thinking principles fully.

Table 2: Level of Leadership Effectiveness of School Heads

Component	Overall Mean	Verbal Interpretation
Decision-Making Quality	3.32	Moderately Effective
Adaptability	3.31	Moderately Effective
Responsiveness	3.33	Moderately Effective
Achievement of Educational Goals	3.32	Moderately Effective
Overall	3.32	Moderately Effective

School heads demonstrate a moderately effective level of leadership in implementing design thinking, with weighted mean scores ranging from 3.26 to 3.38. Decision-making reflects evidence-based, inclusive, and goal-aligned practices (Leithwood *et al.*, 2004) [31], although the integration of creativity and innovation in decisions is slightly lower. Adaptability scores suggest leaders respond effectively to changes but need to enhance proactive learning strategies (Yukl, 2010; Day *et al.*, 2009). Responsiveness to stakeholder needs is present and consistent, reflecting the human-centered approach advocated in design thinking

(Brown, 2009; Liedtka, 2018) [6, 34]. Achievement of educational goals shows that school heads align decisions with objectives, monitor progress, and make data-driven adjustments, yet celebrating milestones and successes is comparatively lower.

Overall, these results underscore the positive impact of design thinking on leadership effectiveness, highlighting strengths in structured decision-making, adaptability, and responsiveness, while indicating opportunities to strengthen creative and celebratory practices.

Table 3: Level of Influence of Design Thinking on School Heads

Component	Overall Mean	Verbal Interpretation
Collaboration	3.29	Moderately Influential
Creativity	3.30	Moderately Influential
Problem-Solving	3.26	Moderately Influential
Overall	3.28	Moderately Influential

The influence of design thinking on school heads is moderately influential, with an overall mean of 3.28. Design thinking positively affects collaboration by fostering teamwork, promoting professional dialogue, and engaging staff in collective problem-solving, although shared leadership initiatives are less consistently implemented. Creativity is moderately enhanced, as school heads encourage innovative solutions, supportive environments, and experimentation, yet some aspects, such as fully structured creative practices and applying novel ideas to initiatives, are less evident. In terms of problem-solving, design thinking improves structured approaches, enables

multi-perspective analysis, and encourages stakeholder involvement, but the application of innovative solutions and continuous evaluation is limited.

These findings are consistent with the literature, which emphasizes that design thinking strengthens leadership by encouraging collaborative, creative, and human-centered problem-solving (Brown, 2009) ^[6]; (Liedtka, 2015) ^[33]; (Johansson-Sköldberg *et al.*, 2013) ^[23]. While the influence is moderate, it highlights areas for further strengthening, such as embedding shared leadership, fostering creativity systematically, and ensuring iterative evaluation in problem-solving processes.

Table 4: Relationship Between Extent of Integration of Design Thinking and Level of Leadership Effectiveness

Extent of Integration of Design Thinking	Sub-dimension	Decision-Making Quality	Adaptability	Responsiveness	Achievement of Educational Goals
	Adoption	r = 0.45	r = 0.60	r = 0.55	r = 0.50
Stakeholder Engagement	r = 0.53	r = 0.62	r = 0.58	r = 0.56	
Policy Development	r = 0.48	r = 0.52	r = 0.57	r = 0.51	
Feedback and Iteration	r = 0.49	r = 0.61	r = 0.59	r = 0.55	

Tested at 0.05 alpha level of significance

Table 4 explores the relationship between the extent of integration of design thinking in school administration and governance and the level of leadership effectiveness across various domains, including decision-making quality, adaptability, responsiveness, and achievement of educational goals. The data reveals several noteworthy correlations that emphasize the significant impact of design thinking on leadership effectiveness.

The relationship between design thinking integration and decision-making quality shows moderate positive correlations across all areas, with the highest value in stakeholder engagement ($r = 0.53$) and the lowest in adoption ($r = 0.45$). This suggests that as design thinking becomes more integrated, school leaders are better equipped to make informed and effective decisions, particularly when involving stakeholders in the process.

In terms of adaptability, the relationship is even stronger, particularly for stakeholder engagement ($r = 0.62$) and feedback and iteration ($r = 0.61$), indicating that these aspects of design thinking play a crucial role in fostering flexible leadership. School heads who engage in iterative processes and actively involve stakeholders in decision-making seem more capable of adjusting their strategies to meet evolving challenges.

The responsiveness factor also shows strong correlations, with feedback and iteration ($r = 0.59$) and stakeholder engagement ($r = 0.58$) being the most influential. This reflects the role of ongoing feedback loops in enhancing the responsiveness of school leadership, allowing them to quickly adapt to the concerns and needs of various stakeholders.

Finally, the relationship between design thinking integration and achievement of educational goals also demonstrates moderate positive correlations across the board, with the highest correlation seen in stakeholder engagement ($r = 0.56$) and feedback and iteration ($r = 0.55$). This suggests that involving stakeholders and using feedback mechanisms help school leaders set and achieve educational objectives more effectively.

The results of this analysis align with the findings of Brown and Wyatt (2010) ^[7], who emphasized that the application of design thinking principles enhances leadership qualities, particularly in terms of decision-making, adaptability, and responsiveness. These findings are further supported by the work of Liedtka (2015) ^[33], who argued that design thinking facilitates a more collaborative, flexible, and outcome-oriented approach to leadership, contributing to the overall success of educational institutions.

Table 5: Relationship Between Extent of Integration of Design Thinking and Level of Influence of Design Thinking on School Heads

Extent of Integration of Design Thinking	Collaboration (r)	Creativity (r)	Problem-Solving (r)
Adoption	0.55	0.50	0.60
Stakeholder Engagement	0.63	0.58	0.65
Policy Development	0.52	0.54	0.57
Feedback and Iteration	0.59	0.61	0.62

Tested at 0.05 alpha level of significance

Table 5 examines the relationship between the extent of integration of design thinking and its level of influence on school heads in terms of collaboration, creativity, and problem-solving. The data highlights significant correlations, underscoring the role of design thinking in shaping leadership dynamics and fostering innovation within educational settings.

The correlations between the extent of integration and collaboration show that the strongest influence comes from stakeholder engagement ($r = 0.63$), followed by feedback and

iteration ($r = 0.59$). These findings suggest that the more integrated design thinking becomes in school administration, the more it fosters a collaborative approach among school leaders and stakeholders, encouraging shared problem-solving and decision-making. Adoption and policy development also have moderate positive relationships with collaboration ($r = 0.55$ and $r = 0.52$, respectively), indicating that even initial steps toward adopting design thinking principles can enhance teamwork among school heads and their communities.

When examining creativity, feedback and iteration ($r = 0.61$) and stakeholder engagement ($r = 0.58$) emerge as the most influential factors, signaling that design thinking encourages a culture of creative thinking and idea generation. Stakeholder engagement, in particular, plays a key role in nurturing creativity by promoting diverse perspectives and inputs from various school community members. Adoption and policy development, while moderately correlated with creativity ($r = 0.50$ and $r = 0.54$, respectively), demonstrate that design thinking's potential to foster creativity grows stronger as it becomes more embedded in school policies and practices.

In terms of problem-solving, the correlations are strongest with stakeholder engagement ($r = 0.65$) and feedback and iteration ($r = 0.62$). These results indicate that design thinking's iterative nature and the involvement of various

stakeholders significantly enhance problem-solving abilities among school leaders. Adoption and policy development also show moderate positive relationships with problem-solving ($r = 0.60$ and $r = 0.57$, respectively), further emphasizing the beneficial role of design thinking in enabling school heads to address challenges in a structured and innovative manner.

These findings align with the work of Tim Brown (2009) [6], who argued that design thinking facilitates collaboration, creativity, and problem-solving in organizations by emphasizing a human-centered approach. The influence of design thinking on leadership is also consistent with the perspectives of Liedtka (2015) [33], who highlighted that a design thinking mindset equips leaders with the tools to address complex problems through creative and collaborative solutions, benefiting both the leadership process and overall organizational outcomes.

Table 6: Relationship Between Level of Leadership Effectiveness and Level of Influence of Design Thinking on School Heads

Level of Leadership Effectiveness	Collaboration (r)	Creativity (r)	Problem-Solving (r)
Adoption	0.56	0.59	0.61
Stakeholder Engagement	0.64	0.62	0.67
Policy Development	0.58	0.60	0.65
Feedback and Iteration	0.62	0.63	0.66

Tested at 0.05 alpha level of significance

Table 6 explores the relationship between the level of leadership effectiveness and the level of influence of design thinking on school heads in the areas of collaboration, creativity, and problem-solving. The analysis reveals strong positive correlations between the two variables, indicating that effective leadership practices are significantly enhanced by the principles of design thinking, especially in fostering teamwork, creativity, and innovative problem-solving approaches.

The correlation between leadership effectiveness and collaboration shows that feedback and iteration ($r = 0.62$) and stakeholder engagement ($r = 0.64$) have the highest influence on school heads' collaborative efforts. These results highlight the crucial role of continuous feedback and engagement with stakeholders in promoting effective leadership that thrives on collaborative decision-making. Additionally, adoption and policy development show moderate positive relationships with collaboration ($r = 0.56$ and $r = 0.58$, respectively), suggesting that even initial adoption of design thinking frameworks can positively influence school leadership's collaborative capacity.

For creativity, the strongest correlations are also observed with feedback and iteration ($r = 0.63$) and stakeholder engagement ($r = 0.62$). These findings indicate that design thinking's iterative process and the involvement of diverse stakeholders are key drivers of creativity among school heads. These factors encourage leaders to adopt innovative approaches and cultivate a culture of creativity. Adoption and policy development, while still influential, have slightly lower correlations with creativity ($r = 0.59$ and $r = 0.60$), reflecting the gradual impact of design thinking on fostering creativity in leadership practices.

In terms of problem-solving, stakeholder engagement ($r = 0.67$) and feedback and iteration ($r = 0.66$) emerge as the most influential factors in enhancing school heads' problem-solving abilities. This underscores the importance of involving stakeholders and refining strategies through feedback loops in order to resolve complex issues effectively. Adoption and policy development continue to show moderate

positive correlations with problem-solving ($r = 0.61$ and $r = 0.65$), indicating that as design thinking is integrated into leadership practices, it enhances the problem-solving capabilities of school heads.

These findings are consistent with those of Brown and Wyatt (2010) [7], who argued that design thinking advances leadership effectiveness by encouraging collaboration, creativity, and innovation. Likewise, the work of Dorst (2011) [12] supports the notion that design thinking's emphasis on iterative processes and stakeholder engagement enhances leaders' ability to solve complex problems in dynamic educational environments.

Proposed Plan

ANGAT: Advancing New Governance and Administration through Transformation

Executive Summary

The ANGAT: Advancing New Governance and Administration through Transformation plan is designed to improve the integration of design thinking in the Schools Division Office (SDO) of Mandaluyong City. Based on the findings of the study, which showed that design thinking is moderately integrated across various areas of school governance, this plan proposes targeted actions to enhance its adoption and full integration.

The study painted that while design thinking has positively influenced leadership effectiveness, collaboration, creativity, and problem-solving, there remains significant potential to strengthen its impact. The ANGAT plan aims to address these gaps by focusing on four key areas:

- 1. Adoption and Integration:** Strengthening the application of design thinking in decision-making processes, school policies, and daily operations.
- 2. Leadership Development:** Enhancing the leadership capabilities of school heads to encourage creative problem-solving, adaptability, and responsiveness.
- 3. Stakeholder Engagement:** Improving communication and collaboration with teachers, staff, parents, and external partners.

4. **Feedback and Iteration:** Establishing mechanisms for continuous feedback to refine and iterate school policies and leadership strategies.

Through emphasizing these key areas, the ANGAT plan seeks to foster a more innovative, collaborative, and effective school governance model, ensuring that design thinking principles are not only adopted but deeply embedded in the culture and practices of the SDO. This transformation is intended to improve educational outcomes and drive sustainable change within the Schools Division Office of Mandaluyong City.

Purpose of the Plan

The purpose of the ANGAT: Advancing New Governance and Administration through Transformation plan is to enhance the implementation of design thinking within the Schools Division Office (SDO) of Mandaluyong City. This plan aims to build on the existing moderate integration of design thinking and further embed its principles into school administration and governance. The objective is to optimize leadership effectiveness, foster innovative problem-solving, and facilitate inclusive decision-making across all levels of the division, ensuring a more agile, responsive, and forward-thinking educational environment.

Relevance

Design thinking is a vital approach for the SDO of Mandaluyong City as it provides a structured yet flexible framework for addressing complex challenges in education. By focusing on human-centered solutions, design thinking fosters innovation, creativity, and effective problem-solving. It encourages collaboration among diverse stakeholders—teachers, staff, parents, students, and external partners—enabling the SDO to create policies and strategies that are not only practical but also forward-thinking and inclusive. Through iterative processes, school heads and administrators can continuously adapt and refine strategies to meet the evolving needs of the educational community, ultimately enhancing both student outcomes and school management.

Context

The current status of design thinking integration within the SDO of Mandaluyong City, as revealed by the study, indicates a "moderately integrated" approach. While there are notable efforts in incorporating design thinking, especially in leadership effectiveness, collaboration, and policy development, there is still considerable room for improvement. The study's findings highlight areas such as decision-making quality, adaptability, and responsiveness, where design thinking can further elevate leadership and operational practices. As a result, the ANGAT plan is proposed to strategically enhance the adoption of design thinking in key areas, creating a more innovative, inclusive, and effective governance structure within the SDO.

Key Findings and Analysis of Current Situation

Extent of Integration of Design Thinking

The study revealed that design thinking is moderately integrated within the SDO, especially in areas like stakeholder engagement, policy development, and feedback iteration. However, the integration is not yet fully realized, with certain barriers such as insufficient stakeholder involvement, lack of training resources, and challenges in

aligning design thinking with existing policies. To address these challenges, the ANGAT plan will propose strategies to promote a deeper adoption of design thinking, emphasizing continuous engagement with stakeholders, policy revisions, and the development of dedicated resources to support training and implementation.

Leadership Effectiveness

Based on the study's findings, the leadership effectiveness of school heads in the SDO is currently at a moderate level, with strengths in decision-making, adaptability, and responsiveness. However, areas such as timely decision-making, transparency, and the ability to manage risks need further development. Design thinking has the potential to improve these aspects of leadership by fostering a more structured, collaborative, and iterative approach to decision-making.

The ANGAT plan will emphasize capacity-building programs for school leaders, integrating design thinking principles into leadership training to enhance their problem-solving abilities and decision-making quality.

Influence of Design Thinking on School Heads

The study also stressed the influence of design thinking on school heads, particularly in areas of collaboration, creativity, and problem-solving. Design thinking has positively impacted teamwork, creative solutions, and inclusive decision-making. However, more work is needed to encourage school heads to fully embrace the iterative and feedback-driven aspects of design thinking. The ANGAT plan will focus on fostering a culture of continuous improvement and learning among school leaders, encouraging them to embrace creative problem-solving and promote collaboration at all levels of school governance.

Proposed Plan to Improve the Implementation of Design Thinking

This section outlines a comprehensive 12-month plan divided into 3-month phases for each of the key areas necessary to improve the implementation of design thinking in school administration and governance at the Schools Division Office (SDO) of Mandaluyong City. The action steps below will focus on leadership development, stakeholder engagement, policy development, and feedback mechanisms.

A. Leadership Development

Month 1-3: Training and Professional Development for School Heads (AKAY)

Design Thinking Workshops

Organize a series of workshops introducing school heads to design thinking methodologies, focusing on practical applications in leadership and school management. These workshops will cover the core principles of empathy, ideation, and prototyping, demonstrating how these concepts can improve decision-making and problem-solving in an educational setting.

Peer-Learning Groups

Establish peer-learning groups where school heads can meet regularly to share their experiences, challenges, and successes with design thinking. These groups will provide a safe space for collaboration and foster a culture of shared learning and continuous improvement.

Mentoring Program

Pair experienced school heads who have successfully applied design thinking with less experienced leaders. The mentors will guide their mentees through the implementation of design thinking in their schools, offering support and advice on overcoming challenges.

Month 4-6: Decision-Making Frameworks (TULAY)

Develop Design Thinking-Based Decision-Making Frameworks

Design and introduce decision-making frameworks based on the design thinking process, emphasizing empathy, ideation, prototyping, and testing. These frameworks will guide school leaders in addressing complex administrative challenges and decision-making regarding educational goals.

Inclusive Goal Setting and Evaluation

Encourage school leaders to integrate design thinking principles in setting educational goals. Involve stakeholders (teachers, students, parents) in planning and evaluating school objectives. This approach will help ensure that decisions reflect the needs of all involved parties and lead to more effective outcomes.

B. Stakeholder Engagement and Collaboration

Month 1-3: Enhance Stakeholder Involvement

Structured Design Thinking Sessions:

Introduce structured opportunities for teachers, students, parents, and community members to engage in decision-making through design thinking sessions, such as workshops, focus groups, and brainstorming sessions. These activities will facilitate collaboration and give stakeholders a direct role in shaping school policies and practices.

Digital Collaboration Tools

Implement digital platforms (such as Slack, Google Workspace, or collaborative project management tools) that allow SDO leaders and school stakeholders to communicate, share ideas, and collaborate effectively. These tools will support real-time feedback and foster continuous engagement from all parties.

Month 4-6: Building Collaborative Networks Strengthen External Partnerships

Form partnerships with external organizations, such as local businesses, universities, and non-governmental organizations, to collaborate on innovative educational solutions. These partnerships will leverage external expertise and resources to address common educational challenges.

Cross-School and Cross-Sectoral Collaborations

Promote cross-school and cross-sector collaborations where school heads, teachers, and external stakeholders work together to solve problems using design thinking. Encourage creative, interdisciplinary approaches to developing sustainable solutions that can be scaled across multiple schools.

C. Policy Development and Innovation

Month 1-3: Design Thinking-Driven Policy Formulation Revise Existing Policies

Begin revising current school policies to incorporate design thinking principles, ensuring that decision-making processes are more inclusive and flexible. Policies should encourage

empathy, iterative prototyping, and stakeholder feedback, leading to more responsive governance.

Implement Feedback Loops

Set up feedback mechanisms for policy review, allowing stakeholders to contribute to the evaluation and refinement of existing policies. This iterative process will ensure policies remain relevant and effective.

Month 4-6: Supportive Policies for Creativity and Innovation

Flexible Curriculum and Leadership Policies

Advocate for policies that allow for greater flexibility in curriculum design and teaching methods. Policies should encourage creativity and innovation, enabling educators to experiment with new approaches and adapt to students' evolving needs.

Continuous Learning and Adaptation Policies

Develop policies that support continuous learning and professional development for school leaders and staff, with an emphasis on innovation and the application of design thinking. Ensure that these policies are aligned with the goals of fostering creativity, problem-solving, and adaptability within the school system.

D. Feedback and Iteration Mechanisms

Month 1-3: Regular Feedback and Iteration Cycles

Establish Regular Feedback Collection Systems:

Set up systems to collect regular feedback from all stakeholders (teachers, students, parents, and staff) on leadership effectiveness, school policies, and educational programs. Feedback can be gathered through surveys, suggestion boxes, or focus group discussions.

Promote a Feedback Culture

Encourage a culture where feedback is valued and treated as a tool for improvement. Train school leaders to incorporate feedback into their decision-making processes and emphasize the importance of iterative changes to school management practices.

Month 4-6: Data-Driven Decision-Making

Implement Data Analytics Tools

Develop dashboards or other visualization tools that allow school leaders to track progress in integrating design thinking into governance and school operations. These tools will enable leaders to monitor key performance indicators (KPIs) and identify areas for improvement.

Utilize Feedback for Continuous Improvement

Use the data collected from feedback cycles to inform ongoing decision-making. Regularly review and analyze this data to make adjustments and improvements in leadership practices, stakeholder engagement, and overall governance.

Overall

The ANGAT plan is designed to be a phased, actionable framework for improving the implementation of design thinking in SDO Mandaluyong City over a 12-month period. Each of the four key areas—leadership development, stakeholder engagement, policy development, and feedback mechanisms—will be addressed through structured activities and initiatives to create a more innovative, adaptable, and

inclusive school governance system. By embedding design thinking into the daily practices of school administration, the SDO will be better equipped to respond to challenges and achieve its educational goals in a collaborative and effective manner.

Conclusions and Recommendations

Based on the findings of the study, it can be concluded that the integration of design thinking within the Schools Division Office of Mandaluyong City is moderately achieved, particularly in stakeholder engagement, policy development, and feedback mechanisms. School heads demonstrate moderate leadership effectiveness, showing strengths in decision-making, adaptability, and responsiveness, yet opportunities remain to fully embed design thinking principles into daily practices. Design thinking has a moderate positive influence on collaboration, creativity, and problem-solving among school heads, with more pronounced effects observed when its application is consistent and strategic. The study further highlights significant relationships between design thinking integration, leadership effectiveness, and its influence on school heads, suggesting that deeper adoption of design thinking contributes to improved leadership performance and better engagement with school challenges.

To strengthen the integration and impact of design thinking, it is recommended that the SDO Mandaluyong City enhance leadership development programs through workshops, mentoring, and peer-learning initiatives that focus on practical application of design thinking principles. Stakeholder engagement should be expanded through participatory decision-making, structured discussions, and digital collaboration tools to ensure diverse perspectives are incorporated. Policies should be revised to support creativity, innovation, and inclusivity, with feedback loops for continuous improvement. Feedback and iteration mechanisms should be strengthened through data-driven monitoring, while a culture of collaboration, problem-solving, and experimentation should be promoted, including cross-school and external partnerships. Finally, regular monitoring and evaluation using key performance indicators will help assess progress, refine practices, and foster an inclusive environment that supports innovation and sustainable leadership development.

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