

Administrators' Innovative Leadership Practices and Teachers' 21st Century Skills

John Paul L. Morales

Cavite State University - Don Severino Delas Alas Campus

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ABSTRACT

The study was conducted from January to July 2024 to determine the relationship between the administrators' innovative leadership practices and teachers' 21st century skills. A total enumeration involving 36 Administrators and 130 Teachers from the four school campuses was used in the study. A quantitative approach was employed in the study, using an adapted survey as a data gathering method. The collection of data was done through a survey using Microsoft Forms to determine the innovative leadership practices of administrators in the aspects of strategic thinking, innovative thinking, action patterns, and interpersonal skills, and the aspects of learning and innovation skills, information, media, and technology skills, and life and career skills. The descriptive and inferential statistical tools utilized were the Median, Mann-Whitney U Test, Friedman Two-Way ANOVA, and Spearman Rank Correlation Analysis.

Results revealed that the extent of innovative leadership practices of administrators as perceived by the teachers is less practiced. However, to administrators' perception, the extent of innovative leadership practices of administrators is always practiced. This implies a perception gap that reflects a broader organizational culture that is resistant to or slow in adopting innovative leadership practices and a lack of alignment in their understanding and appreciation of innovative leadership practices.

On the other hand, the level of teachers' 21st century skills is ver high as perceived by the teacher participants. Yet, the administrators' perception of 21st century skills of teachers is on a low level. The divergent perceptions between teachers and administrators suggest a fundamental lack of alignment in their understanding and assessment of the teachers' 21st century skill levels and with the actual skill levels and needs of the teaching staff.

It was statistically determined that there is a significant difference between the perception of the administrators and teachers in the extent of innovative leadership practices of administrators and the level of 21st century skills of teachers. This suggests a lack of shared understanding between administrators and teachers regarding these critical aspects of leadership and teaching competencies and a lack of cohesion and coordination between the two stakeholders on priorities and approaches.

Meanwhile, there is a significant difference among the aspects of the extent of innovative leadership practices of administrators and the aspects of the level of 21st century skills to administrators and teachers. The highest measure of the innovative leadership practices of the administrators is interpersonal skills, and the lowest is strategic thinking. Meanwhile, for teachers, the highest measure of 21st century skills is life and career skills, and the lowest is learning and innovation skills.

Though there is significant difference on the perception of teachers and administrators, these two groups of participants consistently consider interpersonal skill as the most dominant aspect of innovative leadership practices, while strategic thinking is the least dominant for both groups of participants.

The administrators and teachers revealed that there is a significant relationship between the extent of innovative leadership practices of administrators and the level of 21st century skills of teachers. This study encourages that to enhance teachers' 21st-century skills and infuse innovative leadership practices, there is a

need to concentrate on upskilling and reskilling of teachers. Moreover, the study also encourages further qualitative research to delve deeper into the specific aspects contributing to innovative leadership practices and 21st century skills to investigate the root causes, which will help in providing interventions more effectively.

INTRODUCTION

Modern education is characterized by two vital things: innovative leadership practices and teachers' 21st-century skills. These make it possible for educators to be prepared for the challenges and possibilities of our rapidly changing world. Nevertheless, the advent of technology, globalization, and societal changes have made traditional teaching methods and leadership approaches ineffective in equipping educators with the competencies needed to survive in the 21st century.

In this circumstance, to attain long-term success and growth, leaders need to be innovative thinkers who put ideas into action. Thus leading to a culture of innovation and creativity that fosters continuous enhancement. It has to be linked to teachers' 21st century skills as innovative leaders articulate a vision for the school that emphasizes its importance, which then sets expectations for teachers to incorporate these skills into their teaching methods.

Innovative leadership is crucial for organizations in today's fast-paced business environment. An important predictor of organizational image was the innovation competencies of school administrators. As mentioned by Şen & Eren (2021), successful innovative leadership practices depend mainly, on the depth and breadth of leadership knowledge, a variety of creative skills, strong shared values, and extraordinary talents of innovative leaders. These leadership qualities help innovative leaders to understand the sources of current and future problems and solve them successfully.

Understanding then the varied effects of leadership on promoting innovation is critical as institutions of learning navigate an era marked by rapid change and developing educational paradigms (Abbas, Raza, & Hisham-Ul-Hassan, 2024). For this reason, innovation in education should primarily aim to raise standards, teach educators and leaders to solve problems as they arise, and foster their capacity for creative thought. Teachers and school leaders need to create an environment that encourages innovation as lack of innovation raises the likelihood of an organization becoming unsustainability. This is the reason why the development of new procedures and approaches for achieving exception-making innovation has to be given top importance in schools.

With all being said, it has been observed that the different forms of leadership styles in both the public and private sectors, either positive or negative, will have a huge effect on teachers, considering that there is a strong need for teachers' skills that aligns to the 21st century in the contemporary society. Also, the necessity for innovation in leadership is very crucial as it will influence the teachers' skills. However, this observation cannot warrant a conclusive statement on the relationship between administrators' innovative leadership practices and teachers' 21st century skills.

The study is also developed using UNESCO's Sustainable Development Goal (SDG) 4 on Quality Education. It is necessary to have school administrators and teacher leaders who will think and act differently as they encourage others to do so if the global education community is to achieve the goals of the 2030 Agenda, which include ensuring inclusive and equitable quality education for all and promoting lifelong learning opportunities.

Administrators are key players in the effective functioning of educational institutions. Therefore, if innovative leadership practices and teachers' 21st-century skills are to be developed by educational institutions and policymakers, there is a need to provide professional development opportunities, resources, and support for this endeavor. By having continuous training and collaborative efforts, educators can improve instructional strategies while embracing new technologies and incorporating innovative approaches that address the changing needs of learners. Moreover, creating a culture that appreciates invention, teamwork, and lifelong learning gives room for creativity in teaching methodologies, ultimately benefiting students.

METHODOLOGY

The study aimed to determine the relationship between the administrators' innovative leadership practices and teachers' 21st century skills. The design employed to carry out the purpose of the study was descriptive correlational design. The participants of this study were the four School Principals, four Assistant School Principals, 28 Subject Area Coordinators, and 130 tenured teachers in the four campuses of a school. This study employed total enumeration. Statistical tools used were Median, Mann-Whitney U Test, Friedman Two-Way ANOVA, Spearman Rank Correlation Analysis.

RESULTS AND DISCUSSION

Extent of Innovative Leadership Practices of Administrators

It is shown that most of the items described on strategic thinking, innovative thinking, action patterns, and interpersonal skills of administrators are less practiced based on teachers' perceptions, with an overall median of 2.00. However, three items are practiced: one in strategic thinking and two in interpersonal skills. While all items under innovative thinking and action patterns are less practiced. Regarding strategic thinking, creating a long-term strategy for school activities is being practiced. Innovative thinking and action patterns have all items less practiced. For interpersonal skills, establishing a relationship based on mutual respect and trust, and sharing relevant information, knowledge, and skills with the subordinates are practiced.

Extent of innovative leadership practices of administrators as perceived by the administrator participants.

It can be analyzed that based on administrators' perceptions, innovative thinking, action patterns, and interpersonal skills are always practiced with a median of 4.00, while strategic thinking is practiced with a median of 3.00. This then manifests the extent to which innovative leadership practices of administrators, as perceived by the administrators, are highly practiced based on the overall median. All items aligned to strategic thinking are being practiced. In a similar event, all items related to interpersonal skills are always practiced. In terms of innovative thinking, all are always practiced except to consider rigorous evaluation to open up opportunities for innovation which is practiced. The overall median is 4.00, meaning all the preceding items are highly practiced.

Level of 21st Century Skill of Teachers

The study shows that the perception of teachers in terms of their learning and innovation skills is high. Whereas for information, media, and technology skills, as well as life and career skills, teachers' perceptions are very high. This then provides an overall median of 4.00, which manifests that the level of 21st century skills of teachers as perceived by teacher participants is very high.

Notice that two items have been interpreted as very high in learning and innovation skills. They are hone, examine, and assess concepts to enhance innovative endeavors, and proficiently assess arguments, proof, assertions, and convictions of varying ideas is interpreted as very high. All items aligned to information, media, technology skills are very high.

The level of life and career skills of teachers as perceived by teacher participants is also interpreted as very high.

Level of 21st century skill of teachers as perceived by the administrator participants

The data shows that learning and innovation skills and information, media, and technology skills are low, with all items described as low. Regarding the level of life and career skills, verbal interpretation is high. Furthermore, it can be analyzed that the level of 21st century skill of teachers as perceived by administrators is low.

The low level of learning and innovation skills of teachers as perceived by the administrators in the different items has been associated with technology use limitations, motivation and knowledge transfer challenges, and a preference for traditional teaching methods.

In terms of the low level of information, media, and technology skills, all items were found to have low verbal interpretation.

While learning and innovation skills have low verbal interpretation, life and career skills was analyzed to have high verbal interpretation. The low overall level of 21st century skill of teachers as perceived by the administrators has been due to low learning and innovation skills and information, media, and technology skills. Further, technology use limitations, motivation and knowledge transfer challenges, and a preference for traditional teaching methods are seen to be the reasons for this concern.

Difference Between the Perception of the Administrators and Teachers In Extent of Innovative Leadership Practices of Administrators

The study found that administrators' and teachers' perceptions of strategic thinking, innovative thinking, action patterns, and interpersonal skills differ significantly; thus, the null hypothesis is rejected.

In terms of strategic thinking, the teacher participants obtained a mean rank of 69.75, while the administrator participants got a mean rank of 133.17 on their perception of the extent of innovative leadership practices of administrators. The computed Mann-Whitney U statistics of 552.000 with a p-value of 0.000 is significant

Thus, the null hypothesis stating that there is no significant difference in the perception of administrators and teachers on the extent of the extent of innovative leadership practices in terms of strategic thinking is rejected. This implies that the extent of innovative leadership practices of administrators significantly varies between the perception of teacher and administrator participants.

For innovative thinking, teacher participants have a mean rank of 68.48, and administrator participants have a mean rank of 137.74. This generated 387.500 Mann-Whitney U statistics with a p-value of 0.000, which was not significant at the 0.05 level. The null hypothesis stating that there is no significant difference in the perception of administrators and teachers on the extent of the extent of innovative leadership practices of administrators in terms of innovative thinking is rejected. Teachers' and Administrators' perceptions have significantly varying extent of innovative leadership practices of administrators.

Moreover, the difference in the extent of innovative leadership practices of administrators as perceived by the teacher and administrator participants in terms of action patterns is also shown in Table 6. The teacher participants have a mean rank of 67.60 and the administrators obtained 140.93 mean rank. A significant difference at 0.05 level has been found as evident of the computed Mann-Whitney U statistics at 272.500 with a p-value of 0.709. The study rejects the null hypothesis that there is no significant difference in the perception of administrators and teachers on the extent of innovative leadership practices of administrators in terms of action patterns. This implies that the perception of administrators and teachers on the extent of innovative leadership practices of administrators in terms of action patterns significantly differs.

The last aspect of the extent of innovative leadership practices of administrators is interpersonal skills. Results showed that teacher participants obtained a mean rank of 67.01 and administrators had a mean rank of 139.75. the computed Mann-Whitney U statistics of 315.000 with a p-value of 0.000 is significant at 0.05 level. The null hypothesis which states that that there is no significant difference in the perception of administrators and teachers on the extent of the extent of innovative leadership practices of administrators in terms of interpersonal skills is rejected. Therefore, the extent of innovative leadership practices of administrators in terms of interpersonal skills significantly varies on the perception of teacher and administrator participants.

Overall, the teacher participants obtained a mean rank of 67.01 and the administrators had a mean rank of 143.06 on the extent of the four innovative leadership practices of administrators. The computed Mann-Whitney U statistics of 196.000 with a p-value of 0.000 have been found significant at 0.05 level. Therefore,

the study rejects the null hypothesis that there is no significant difference in the perception of administrators and teachers on the extent of innovative leadership practices of administrators. This means that the teachers and administrators have significantly varying perceptions of the extent of innovative leadership practices of administrators. Findings revealed that innovative thinking, action patterns, interpersonal skills, and interpersonal skills play a significant role in the overall innovative leadership practices of administrators. \

Difference Between the Perception of the Administrators and Teachers in the Level of 21st Century Skill of Teachers

The level of 21st century skill of teachers as perceived by the administrator and teacher participants in terms of learning and innovation skills shows that teacher participants have a mean rank of 100.85 and administrator participants have a mean rank of 20.86. The computed Mann-Whitney U statistics of 85.000 with a p-value of 0.000 is significant at a 0.05 level. This means that the null hypothesis that there is no significant difference in the level of 21st century skills of teachers as perceived by the administrator and teacher participants in terms of learning and innovation skills is rejected. This implies that the perception of administrators and teachers on the level of 21st century skills of teachers in terms of learning and innovation skills significantly differs.

In terms of information, media, and technology skills, teacher participants have obtained a 100.76 mean rank, and administrators have a mean rank of 21.17. The computed statistics of Mann-Whitney U is 96.000 with a p-value of 0.000 is significant at 0.05 level therefore rejecting the null hypothesis that there is no significant difference in the level of 21st century skills of teachers as perceived by the administrator and teacher participants in terms of information, media, and technology skills. Therefore, there is a difference in the perception of administrators and teachers on the level of 21st century skills of teachers in information, media, and technology skills.

For life and career skills, teacher participants have a mean rank of 100.18 and the administrator participants have a 23.26 mean rank. This generated a 1582.500 result on Mann-Whitney U statistics with a p-value of 0.000, which was not significant at the 0.05 level. Thus, rejecting the null hypothesis that there is no significant difference in the level of 21st century skills of teachers as perceived by the administrator and teacher participants in terms of life and career skills. This means that there is a difference in the perception of administrators and teachers on the level of 21st century skills of teachers in life and career skills.

Overall, the teacher participants obtained a mean rank of 100.18 and the administrators had 23.26 mean rank on the level of 21st century skills of teachers. The computed Mann-Whitney U statistics of 171.500 with a p-value of 0.000 has been found significant at 0.05 level. Therefore, the study rejects the null hypothesis that there is no significant difference in the level of 21st century skills of teachers as perceived by the administrator and teacher participants. This means that the learning and innovation skills, information, media, and technology skills, and life and career skills of teachers have been significantly varying based on the perception of administrator and teacher participants.

Comparison among the Aspects of the Extent of Innovative Leadership Practices of Administrators

Findings revealed that the null hypothesis has been rejected, thus there is a significant difference between the teacher participants and administrator participants among the aspects of the extent of innovative leadership practices of administrators. This implies that the aspects of the extent of innovative leadership practices of administrators vary to teachers and administrators.

In terms of teacher participants, the mean ranks of the participants are 2.40 for strategic thinking, 2.43 for innovative thinking, 2.47 for action patterns, and 2.70 for interpersonal skills. The computed Friedman Two-Way ANOVA of 9.229 of 0.026 p-value is significant at 0.05 level. The null hypothesis that there is no significant difference in teacher participants on the aspects of the extent of innovative leadership practices of administrators is therefore rejected. Results show that interpersonal skills demonstrated the highest extent of innovative leadership practices of administrators, followed by action patterns, then innovative thinking, and finally strategic thinking.

The difference in the administrator participants is also significant in the extent of innovative leadership practices of the administrators as shown in Table 8. The mean ranks obtained are 2.08 for strategic thinking, 2.69 for innovative thinking, 2.43 for action patterns, and 2.79 for interpersonal skills. The computed Friedman Two-Way ANOVA which is 14.924 with a p-value of 0.002 is significant at 0.05 level, thus rejecting the null hypothesis. This implies that there is a significant difference in administrator participants' extent of innovative leadership practices. Administrator participants have the highest mean in interpersonal skills, followed by innovative thinking, then action patterns, and finally strategic thinking.

It also shows that there is a significant difference between the teacher participants and administrator participants on the overall extent of innovative leadership practices of administrators. The highest extent of innovative leadership was interpersonal skills with a mean rank of 2.72, followed by innovative thinking with a mean rank of 2.48, next is action patterns with a mean rank of 2.46, and lowest at strategic thinking with a mean rank of 2.33. The result is significant at 0.05 level as evident on the computed Friedman Two-Way ANOVA of 16.624 and p-value of 0.001. The study therefore rejected the null hypothesis that there is no significant difference in the teacher participants and administrator participants on the extent of innovative leadership practices of administrators.

Comparison among the Aspects of Level of 21st Century Skills of Teachers

Results show that the aspects of level of 21st century skills of teachers differs to administrator participant and teacher participant participants. The study rejected the null hypothesis that there is no significant difference in teacher participants and administrator participants to the aspects of 21st century skills of teachers.

In terms of teacher participants, learning and innovation skills have a mean rank of 1.59, information, media, and technology skills have a 2.20 mean rank, and life and career skills have a 2.21 mean rank. The computed Friedman Two-Way ANOVA value of 67.365 with a p-value of 0.000 is significant at the 0.05 level. The null hypothesis that there is no significant difference in the teacher participants among the aspects of the level of 21st century skills of teachers is rejected. This means that the teacher participants' level of 21st century skills significantly differs.

In terms of administrator participants, the mean ranks of the participants are 1.47 for learning and innovation skills, 1.60 for information, media, and technology skills, and 2.93 for life and career skills. The Friedman Two-Way ANOVA which is 63.308 with a p-value of 0.000 is significant at 0.05 level. Therefore, the study rejects the null hypothesis that there is no significant difference in administrator participants among the level of 21st century skills of teachers. This implies that the level of 21st century skills of teachers is statistically significant to administrators.

It also shows the comparison of the overall participants among the aspects of the level of 21st century skills of teachers. As shown, learning and innovation skills have a mean rank of 1.56, information, media, and technology skills have a mean rank of 2.07, and life and career skills have a mean rank of 2.37. The computed value of Friedman Two-Way ANOVA, which is 100.657, is significant at 0.05 level. Therefore, the null hypothesis that there is no significant difference in the overall participants among the level of 21st century skills is rejected. This indicates that there is sufficient evidence to conclude that a significant difference exists in teachers' and administrators' level of 21st-century skills, such as learning and innovation skills, information, media, and technology skills, and life and career skills.

Relationship between Extent of Innovative Leadership Practices of Administrators and Level of 21st Century Skill of Teachers

LEVEL OF 21 ST CENTURY SKILL	EXTENT OF INNOVATIVE LEADERSHIP PRACTICES	SPEARMAN RANK CORRELATION COEFFICIENT	P-VALUE	REMARKS
Learning and	Strategic Thinking	-0.471	0.000	Reject Ho

Innovation Skills	Innovative Thinking	-0.571	0.000	Reject Ho
	Actions Patterns	-0.573	0.000	Reject Ho
	Interpersonal Skills	-0.424	0.000	Reject Ho
	Overall	-0.551	0.000	Reject Ho
Information, Media, Technology Skills	Strategic Thinking	-0.488	0.000	Reject Ho
	Innovative Thinking	-0.451	0.000	Reject Ho
	Actions Patterns	-0.607	0.000	Reject Ho
	Interpersonal Skills	-0.599	0.000	Reject Ho
	Overall	-0.537	0.000	Reject Ho
Life and Career Skills	Strategic Thinking	-0.456	0.000	Reject Ho
	Innovative Thinking	-0.368	0.000	Reject Ho
	Actions Patterns	-0.224	0.004	Reject Ho
	Interpersonal Skills	-0.246	0.001	Reject Ho
	Overall	-0.376	0.000	Reject Ho
Overall	Strategic Thinking	-0.599	0.000	Reject Ho
	Innovative Thinking	-0.541	0.000	Reject Ho
	Actions Patterns	-0.528	0.000	Reject Ho
	Interpersonal Skills	-0.442	0.000	Reject Ho
	OVERALL	-0.562	0.000	REJECT HO

Results of data analysis between the level of 21st century skills such as learning and innovation skills, information, media, and technology skills, and life and career skills, and the extent of innovative leadership practices such as strategic thinking, innovative thinking, action patterns, and interpersonal skills reveal that there is a significant relationship between the combined level of 21st century skills and innovative leadership practices of teachers and administrators.

The result indicates that the extent of innovative leadership practices of administrators is significantly related to the learning and innovation skills of teachers. This implies that the competencies and attributes that educators should possess to effectively foster a dynamic and innovative learning environment significantly determine the extent of innovative leadership practices of administrators.

Moreover data presented reveals that there is a significant relationship between information, media, and technology skills of teachers and all the aspects of the extent of innovative leadership practices. This indicates that the ability of teachers to effectively utilize, manage, and leverage information, media, and technology in the context of their roles and responsibilities within schools is statistically significant in determining the extent of innovative leadership practices of administrators.

Table 10 also shows a significant relationship between the life and career skills of teachers and the overall extent of innovative leadership practices and its aspects. The abilities that educators should possess to effectively navigate their personal and professional lives have a statistically significant relationship to the extent of innovative leadership practices.

The overall level of 21st century skills of teachers has been found to have a significant relationship with the extent of innovative leadership practices and its components, thus rejecting the nul hypothesis. This implies that key competencies and abilities that educators need to possess to effectively teach and prepare students for success in the rapidly evolving and technologically advanced 21st century have a significant relationship to the extent of innovative leadership practices of administrators.

CONCLUSION

Based on the findings of the study, the following conclusions are drawn:

- The extent of innovative leadership practices of administrators as perceived by the teachers is less practiced. In contrast, administrators believe that they are always practiced. This implies a perception gap that reflects a broader organizational culture that is resistant to or slow in adopting innovative leadership practices and a lack of alignment in their understanding and appreciation of innovative leadership practices.
- There is a clear discrepancy between how teachers and administrators view the teachers' 21st century skills. Teachers perceive their 21st century skills to be very high. In contrast, administrators view teachers' 21st century skills as low. The divergent perceptions between teachers and administrators suggest a fundamental lack of alignment in their understanding and assessment of the teachers' 21st century skill levels and with the actual skill levels and needs of the teaching staff.
- A significant difference between the perception of the administrators and teachers in the extent of innovative leadership practices of administrators was observed. In the same manner, the level of 21st century skills of teachers differs significantly among teachers and administrators. This suggests a lack of shared understanding between administrators and teachers regarding these critical aspects of leadership and teaching competencies and a lack of cohesion and coordination between the two stakeholders on priorities and approaches.
- Though there is significant difference on the perception of teachers and administrators, these two groups of participants consistently consider interpersonal skill as the most dominant aspect of innovative leadership practices, while strategic thinking is the least dominant for both groups of participants. This implies that the school places prominence on interpersonal skills which suggests that both administrators and teachers place a high value on the relational aspects of leadership. On the other hand, the potential neglect of strategic thinking lack of organization's resilience and its capacity to stay ahead of the curve in the rapidly evolving education landscape
- The combined administrators and teachers revealed that there is a significant relationship between the extent of innovative leadership practices of administrators and the level of 21st century skills of teachers. This interdependence highlights the critical role of administrators in shaping and supporting the 21st century skill development of teachers.
- To enhance the research on "Administrators' Innovative Leadership Practices and Teachers' 21st Century Skills," it would be beneficial to incorporate a longitudinal approach. This would allow for a deeper understanding of how leadership practices evolve over time and their sustained impact on teachers' skill development.
- Additionally, broadening the scope of the study to include diverse educational settings, such as urban, rural, and international schools, could provide a more comprehensive view of the relationship between leadership and teaching outcomes. It would also be valuable to explore the specific leadership styles

and strategies that are most effective in promoting 21st-century skills among teachers, considering factors like school culture, teacher motivation, and community involvement. Furthermore, incorporating both qualitative and quantitative methods could help capture a more holistic view of the issue, offering richer insights into the personal experiences of teachers and administrators. Finally, focusing on teacher feedback and professional development needs would refine the approach to leadership practices.

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