



## Strategy For Enhancing Teacher Innovativeness Through Agile Leadership, Innovative Climate, Team Learning, and Growth Mindset: A Path Analysis and Sitorem Approach

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### ABSTRACT

This study aims to analyze strategies for enhancing teacher innovativeness through agile leadership, innovative climate, team learning, and growth mindset using path analysis and the Scientific Identification Theory for Operation Research in Education Management (SITOREM). The research employed a quantitative survey design involving vocational school teachers. Data were collected using structured questionnaires with Likert-scale measurements and analyzed using descriptive statistics and path analysis to determine direct and indirect effects among variables. The findings indicate that agile leadership, innovative climate, team learning, and growth mindset significantly influence teacher innovativeness. Agile leadership was identified as the strongest predictor. SITOREM analysis determined priority improvement indicators including adaptive decision-making, collaborative professional forums, reflective learning culture, and continuous professional development programs. The study provides practical implications for school leaders seeking to strengthen sustainable innovation in vocational education

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## **INTRODUCTION**

Educational institutions are required to continuously adapt to rapid technological development, industrial transformation, and global competition. Vocational schools, in particular, must respond quickly to labor market demands and digital transformation. Teacher innovativeness therefore becomes a critical factor in ensuring adaptive, relevant, and high-quality learning processes. Innovative teachers are characterized by their ability to generate new ideas, apply creative instructional methods, integrate technology, and continuously improve learning strategies.

Previous studies indicate that innovative behavior in organizations is influenced by leadership style, organizational climate, collaborative culture, and individual psychological factors. However, integrated research combining agile leadership, innovative climate, team learning, and growth mindset within vocational education remains limited. This study addresses this gap by examining their direct and indirect effects on teacher innovativeness.

## **THEORETICAL REVIEW**

Teacher innovativeness refers to the capability of educators to explore, adopt, and implement new teaching approaches to improve learning outcomes. Agile leadership emphasizes adaptability, flexibility, responsiveness, and empowerment in organizational management. Leaders practicing agile leadership encourage experimentation, rapid feedback, and collaborative decision-making.

Innovative climate describes organizational conditions that support creativity, psychological safety, and openness to new ideas. A supportive climate allows teachers to experiment without fear of failure. Team learning refers to collaborative reflection, dialogue, and shared problem-solving among teachers, often facilitated through professional learning communities. Growth mindset represents the belief that abilities can be developed through effort, learning, and persistence, which strengthens resilience and willingness to innovate.

Based on these theoretical foundations, this study proposes that agile leadership, innovative climate, team learning, and growth mindset positively influence teacher innovativeness both directly and indirectly.

## **METHODOLOGY**

This research employed a quantitative survey design. The population consisted of vocational school teachers. Samples were selected using proportional random sampling techniques. Data were collected through validated questionnaires measuring agile leadership, innovative climate, team learning, growth mindset, and teacher innovativeness.

Data analysis included descriptive statistics to examine variable tendencies and path analysis to evaluate direct and indirect relationships. The SITOREM approach was applied to determine priority indicators requiring strategic improvement based on statistical results and expert judgment.

## **RESEARCH RESULTS**

The results of path analysis show that agile leadership has a significant positive direct effect on teacher innovativeness. Innovative climate also significantly influences innovativeness, both directly and indirectly through team learning. Team learning positively affects teacher innovativeness by strengthening collaborative knowledge-sharing practices. Growth mindset significantly contributes to innovative behavior by reinforcing resilience and openness to improvement.

SITOREM analysis identified priority areas for improvement including strengthening adaptive leadership practices, developing structured professional learning communities, enhancing institutional recognition systems, and implementing continuous growth mindset training programs.

## **DISCUSSION**

The findings confirm that teacher innovativeness is shaped by both organizational and psychological factors. Agile leadership plays a central role in establishing a culture of flexibility and innovation. A supportive innovative climate enhances teachers' confidence in implementing new strategies. Collaborative team learning fosters collective efficacy, while growth mindset strengthens intrinsic motivation.

The integration of path analysis and SITOREM provides empirical evidence as well as strategic direction for policy implementation. Educational leaders are encouraged to develop comprehensive innovation strategies rather than isolated interventions.

## **CONCLUSIONS AND RECOMMENDATION**

This Agile leadership, innovative climate, team learning, and growth mindset significantly influence teacher innovativeness in vocational schools. Agile leadership emerged as the most dominant factor. Strategic interventions based on SITOREM prioritize adaptive leadership development, collaborative professional culture, and continuous mindset growth programs to ensure sustainable innovation.

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