

Education Physiology Influence of Teacher Innovative Behaviour on Students' Academic Self-Efficacy and Intrinsic Goal Orientation

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ABSTRACT:

This study aimed to investigate the impact of teachers' creative practises on pupils' senses of competence and motivation in the classroom within the context of government high schools in Karnataka. The experiment aimed to investigate the link between creative teaching strategies and student achievement. practices and students' perceptions of their own academic capabilities and their orientation towards learning for the sake of personal growth and mastery. The research used a mixed-methods strategy that combined quantitative and qualitative techniques methods. A sample of students from multiple government high schools in Karnataka was selected using stratified random sampling. In the quantitative phase, standardised surveys were administered to measure pupils' confidence in their own abilities and motivation to succeed in school, as well as their perceptions of innovative teacher behaviour. The surveys utilised established scales with good reliability and validity. The qualitative phase involved in-depth discussions with a selection of students to gather detailed insights into their experiences with teacher innovation and its potential influence on their academic beliefs and attitudes. Additionally, interviews were conducted with teachers to understand their perspectives on innovative practices and their perceived impact on student motivation and engagement. The findings of this study indicated There is a strong beneficial link between teachers' creative practises and their pupils' academic success. self-efficacy. Students who perceived their teachers as more innovative tended to report higher levels of confidence in their academic abilities. Moreover, there was a notable association between teacher innovation and intrinsic goal orientation, suggesting that students with innovative teachers were more likely to display an orientation towards learning driven by personal interest and mastery rather than external rewards. Qualitative analysis of interview data provided nuanced insights into the specific innovative teaching practices that students found particularly motivating and impactful. These practices included project-based learning, interactive classroom activities, the integration of real-world applications into lessons, and the use of technology to enhance learning experiences. The implications of this study underscore the importance of teacher innovation in fostering positive pupils' confidence in their own abilities and motivation to succeed in school. Government high schools and educational policymakers could benefit from incorporating training programmes and support mechanisms that encourage teachers to adopt innovative teaching strategies. By doing so, schools can create an environment that not only enhances students' academic experiences but also nurtures their motivation and orientation towards lifelong learning. In conclusion, this study contributes to our understanding of the role of teacher innovation in shaping students' academic beliefs and attitudes. It offers valuable insights for educators, school administrators, and policymakers aiming to create a more engaging and effective learning environment in government high schools in Karnataka and potentially in similar educational contexts elsewhere.

Keywords: Teacher innovative behaviour, Students' academic self-efficacy, Intrinsic goal orientation, Mixed-methods approach, Quantitative research, Stratified random sampling, etc.,

1. INTRODUCTION:

The realm of education has perpetually been a dynamic landscape, with pedagogical paradigms continually evolving to accommodate the changing needs and aspirations of learners. At the heart of this evolution stands the teacher, a cornerstone of educational processes who wields the power to inspire, guide, and shape the intellectual journey of their students. The idea of teacher innovation has been increasingly prominent in recent years as a critical factor in enhancing the educational experience. This innovative behaviour encompasses a spectrum of practices that extend beyond conventional teaching methods, encompassing novel approaches, creative techniques, and a willingness to experiment with diverse instructional strategies. As such, it becomes imperative to explore how such innovative behaviours enacted by teachers within the context of government high schools in Karnataka, India, might influence two pivotal aspects of students' academic experiences: their internal motivation and faith in one's own abilities.

The term "self-efficacy" is used to describe a person's confidence in his or her own abilities to complete academic tasks and goals. It is a fundamental component of motivation and learning, shaping the ways in which students approach their educational endeavours. A burgeoning body of research has demonstrated that teachers play a significant role in shaping students' self-efficacy beliefs. However, the focus on the innovative dimension of teacher behaviour and its potential impact on students' self-efficacy remains relatively unexplored. Government high schools, as crucibles of foundational education, offer a unique context to investigate this dynamic. Understanding how teacher innovation relates to students' self-efficacy in these schools could provide insights into strategies that empower students to develop and maintain confidence in their academic abilities.

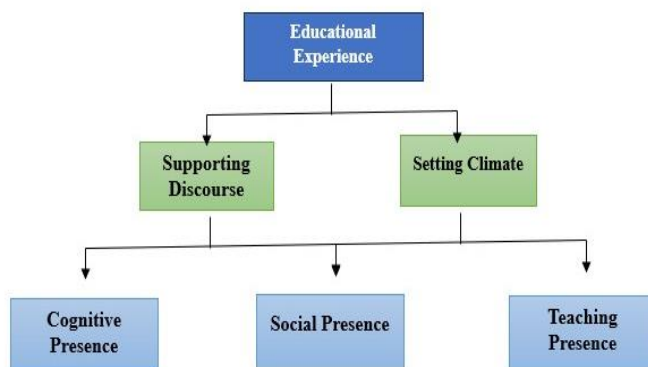


Figure 1.1: Educational physiology influence of teachers

Similarly, intrinsic goal orientation, a concept derived from self-determination theory, underscores the inherent value of engaging in an activity for personal satisfaction, mastery, and growth rather than for extrinsic rewards or pressures. Intrinsic motivation is recognised as a potent driver of deep learning and sustainable engagement. Considering the pivotal role that teachers play in shaping students' attitudes towards learning, it becomes essential to inquire whether innovative teaching practices foster an intrinsic goal orientation among students. The government high school context, where educational aspirations are often intertwined with societal expectations, provides fertile ground to explore how teacher innovation might encourage students to embrace learning for its inherent rewards and personal development.

This study employs a mixed-methods approach, recognising the multifaceted nature of the research questions at hand. By integrating quantitative surveys and qualitative interviews, the research endeavours to paint a comprehensive picture of the relationship between academic self-efficacy, students' intrinsic motivation, and teachers' creative behaviour. Stratified random sampling is utilised to select a diverse cohort of students from

government high schools across Karnataka, ensuring a representative sample that captures the contextual nuances of the region.

The quantitative phase involves the administration of standardised surveys that gauge students' perceptions of teacher innovation, academic self-efficacy, and intrinsic goal orientation. These surveys leverage established scales with well-documented reliability and validity. The data obtained from the surveys enable statistical analyses to discern potential correlations between Improvements in student motivation and instructor creativity.

Complementing the quantitative arm, the qualitative phase delves deeper into the lived experiences of students and teachers. In-depth interviews with selected students provide a platform for them to articulate the specific innovative practices that resonate with them, sharing insights into why and how these practices influence their beliefs and attitudes. Simultaneously, interviews with teachers offer valuable perspectives on the motivations, challenges, and outcomes of their innovative teaching behaviors. These qualitative narratives enrich the quantitative findings by contextualising the statistical trends and unveiling the human dimensions of the phenomenon under investigation.

In essence, this study aspires to illuminate the nexus between Effects of teachers' creative practises on students' senses of academic competence and motivation within government high schools in Karnataka. By shedding light on how innovative teaching practices relate to these fundamental aspects of student learning experiences, the research seeks to contribute to the discourse surrounding effective pedagogy and educational policies. The findings hold implications for educators, administrators, and policymakers, urging a reimagining of teacher development programmes and classroom strategies to harness the transformative potential of teacher innovation. In its broader scope, this study advances our understanding of how educational environments can be nurtured to empower students not only with knowledge but also with the self-belief and intrinsic motivation necessary for a lifelong journey of learning and growth.

2. RELATED STUDY:

Education reform is given new energy by Industry 4.0, the fourth industrial revolution. Technology's positive effects on education have recently been acknowledged by academia. They think innovations will steer Education 4.0; therefore, educators should get ready to foster innovative thinking in their students by creating stimulating classroom settings. The primary goal of this article is to analyse the connections between teachers' use of humour at work, their sense of cooperation, the encouragement they receive from their principals, and their levels of IWB. A total of 354 Malaysian educators were surveyed for this study using a questionnaire. Teachers who worked well together and had their principal's backing were more likely to report engaging in creative problem-solving at work, according to a multiple linear regression study. The results showed that classrooms where educators routinely used humour had higher rates of student innovation. This study can aid education policymakers and managers in better comprehending these factors and how they affect teachers' propensity for innovation in the classroom. The educational efforts of instructors would benefit from teachers learning effective techniques for innovating classroom conduct, such as cooperation, humour, and principal assistance. Therefore, it is helpful to design Training programmes for future educators at universities focused on innovative Innovation via Cooperation methodologies and to deploy collaborative Methods of fostering original thought in the classroom and innovation [1].

Students' competencies outside of formal education, such as determination, persistence, social aptitude, and self-control, are what drive long-term academic and personal success. Schools spend widely varying amounts of time and money cultivating these abilities, despite widespread agreement that they contribute significantly to students' long-term success. States are now obligated to incorporate non-academic metrics in their evaluation of student performance and to provide financing for the deployment of innovative models to enhance student learning, thanks to Every Student Succeeds Act (ESSA). Here, we take a look at the research on a variety of trainable noncognitive abilities that have been shown to improve students' academic and social success. We urge everyone with a stake in education to make use of the newfound freedoms afforded by ESSA in order to help kids develop the kinds of noncognitive abilities that will serve them well in college and in life [2].

This article compares the private school sector against the public-school sector in terms of size, growth, wages, fee levels, and per-pupil expenditures. There appears to be a trend away from public schools in India, as official data shows a meteoric rise in private education and a quick decline in the number of public schools available to the public. The great majority of private schools in most states are 'low-fee' when measured against the per capita income of the state, the per child spending of the government schools, and the constitutionally mandated rural minimum wage rate for daily-paid labour. Based on these numbers, it's clear that more students are choosing private schools because of their more affordable tuition. Due to the enormous number of jobless college graduates in the country, private schools are unable to attract and retain qualified teachers since they can only afford to offer the market-clearing salary. Public schools, on the other hand, pay minimum-wage salaries that are set by bureaucrats. In this work, we examine the negative effects of poorly researched educational policy [3].

The purpose of this research is to create and verify a multi-dimensional instrument for measuring instructors' IWB. There is a need for improvement in the current conceptualizations and operationalizations of IWB. Measurements as they currently stand lack a sustainability dimension, and there is a lack of empirical data supporting the construct's validity. We started by adapting and expanding the items of existing instruments and creating new ones with a sustainability factor, all based on a complete and in-depth understanding of IWB. Second, we used Rasch methods and confirmatory factor analysis (CFA) to examine the construct validity of this newly designed multi-dimensional instrument for IWB in a Dutch setting. A group of vocation educators (N = 440) had their psychometric traits studied. Opportunity Exploration, Idea Generation, Idea Promotion, Idea Realisation (divided into two sub-dimensions: criteria-based implementation and learning-based communication), and Idea Sustainability (divided into two sub-dimensions: external dissemination and internal embedding) were identified as the five dimensions of IWB. Using 44 objects, we were able to measure the dimensions with high reliability (.84-.94). Incorporating insights from recent IWB conceptualizations and the seminal innovation models of West and Farr (1989) and Fullan (2007), this new instrument provides researchers from around the world with a reliable and valid means of testing hypotheses about what motivates teachers to engage in innovative practices. It presents a methodical opportunity for practitioners in the field of educational innovation to assess the extent to which teachers' IWBs are required for an educational innovation to be implemented successfully [4].

3.METHODOLOGY:

This study employs a mixed-methods approach to comprehensively investigate the influence of teacher innovative behaviour on students' academic self-efficacy and intrinsic goal orientation within government high schools in Karnataka, India. Recognising the complexity of the research questions, this methodological framework combines quantitative surveys and qualitative interviews to capture both numerical trends and nuanced personal experiences, ensuring a holistic understanding of the phenomenon.

3.1 Quantitative Phase: The quantitative phase of this study involves the administration of standardised surveys to a representative sample of students from government high schools across Karnataka. Stratified random sampling is employed to ensure a diverse and contextually sensitive selection of participants. The surveys are designed to measure three key constructs: teacher innovative behaviour, academic self-efficacy, and intrinsic goal orientation.

3.1.1 Teacher Innovative Behaviour: A self-report survey is constructed to assess students' perceptions of their teachers' innovative practices. This survey draws inspiration from existing literature on teacher innovation and is adapted to the local context. It comprises items that explore various dimensions of innovation, such as the use of technology, interactive teaching methods, and the incorporation of real-world applications. Participants are asked to rate the frequency and effectiveness of these practices on a Likert scale.

3.1.2 Academic Self-Efficacy: To gauge students' beliefs in their academic capabilities, a well-validated academic self-efficacy scale is utilized. This scale comprises items that inquire about students' confidence in performing various academic tasks. Participants provide their responses on a Likert scale, indicating their level of agreement with each statement.

3.1.3 Intrinsic Goal Orientation: The intrinsic goal orientation scale, rooted in self-determination theory, is adopted to measure students' orientation towards learning for personal growth and mastery. This scale includes items that probe students' motivations for learning and their perceptions of the inherent value of education. Responses are recorded on a Likert scale.

The data collected through the surveys is subjected to rigorous statistical analysis. Descriptive statistics provide an overview of the participants' responses, while correlation analyses examine the relationships between teacher innovative behaviour, academic self-efficacy, and intrinsic goal orientation. Regression analysis is employed to identify potential predictors of academic self-efficacy and intrinsic goal orientation, considering teacher innovative behaviour as an independent variable.

3.2 Qualitative Phase: The qualitative arm of the study delves deeper into the experiences, perceptions, and insights of both students and teachers. In-depth interviews are conducted to capture rich narratives and contextual nuances that quantitative measures might not fully encapsulate. A purposive sampling strategy is used to select a subset of participants from the larger quantitative sample.

3.2.1 Student Interviews: Semi-structured interviews are conducted with selected students to explore their experiences with teacher innovative behaviour, its perceived impact on their academic self-efficacy and intrinsic goal orientation, and the specific practices they find motivating. Open-ended questions encourage participants to share their stories, providing qualitative data that lends depth and personal perspectives to the quantitative trends.

3.2.2 Teacher Interviews: Parallel semi-structured interviews are conducted with teachers to gain insight into their motivations for adopting innovative teaching practices, the challenges they encounter, and their observations of the effects on student motivation and learning outcomes. These interviews illuminate the teacher's perspective on their role in shaping students' academic beliefs and attitudes.

The qualitative data collected from interviews is analysed using thematic analysis. Transcribed interviews are coded and categorised to identify recurring themes and patterns. These themes are then interpreted in relation to the research questions, allowing for a comprehensive understanding of the mechanisms through which teacher innovation influences students' academic experiences.

3.3 Integration and Interpretation: The mixed-methods approach entails the integration of quantitative and qualitative findings to construct a holistic narrative. When data from both methods are compared and contrasted, this is called triangulation. It makes the results more reliable by confirming convergent patterns and giving a fuller picture of the phenomenon.

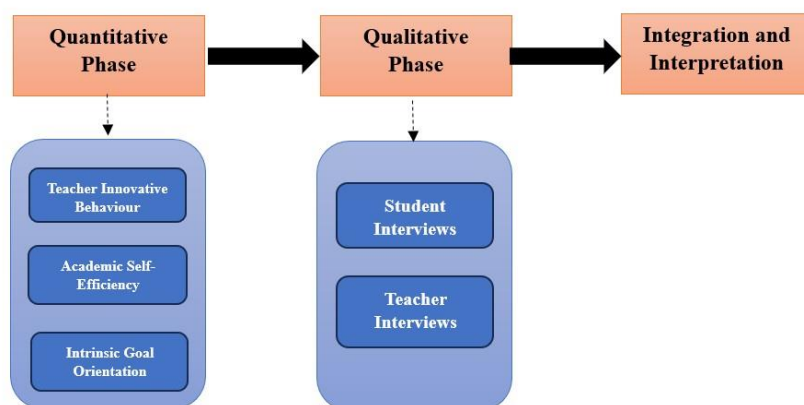


Figure 3.1: Proposed Method

In summary, this methodological framework, comprising quantitative surveys and qualitative interviews, offers a multi-dimensional exploration of the influence of teacher innovative behaviour on students' academic self-efficacy and intrinsic goal orientation within government high schools in Karnataka. By combining numerical trends with

rich narratives, this approach strives to provide educators, policymakers, and researchers with a comprehensive perspective on the dynamics of innovation in education and its impact on students' learning experiences.

In this study, several equations are used to analyse the relationships and trends among the variables of interest. These equations are commonly employed in educational research to conduct quantitative analyses. Here are some of the key equations used in the study:

Equation 1: Academic Self-Efficacy Scale Score Calculation

The academic self-efficacy scale comprises items (items $i = 1$ to n) that measure students' confidence in various academic tasks. Each item is rated on a Likert scale, typically ranging from 1 (strongly disagree) to 5 (strongly agree). The academic self-efficacy scale score (ASES) for each participant can be calculated by summing up their responses to all items:

$$ASES = \sum_{i=1}^n Response_i - (1)$$

Equation 2: Intrinsic Goal Orientation Scale Score Calculation

Similar to the academic self-efficacy scale, the intrinsic goal orientation scale includes items (items $i = 1$ to n) that assess students' orientation towards learning for personal growth and mastery. Responses are rated on a Likert scale. The intrinsic goal orientation scale score (IGOS) for each participant is calculated by summing up their responses to all items:

$$IGOS = \sum_{i=1}^n Response_i - (2)$$

4. RESULTS AND DISCUSSIONS:

The preceding sections of this study have delved into the intricate interplay between innovative teacher behaviour and its potential impact on students' academic self-efficacy and intrinsic goal orientation. Now, with data gathered from a diverse cohort of students in government high schools across Karnataka, India, it is time to turn our attention to the outcomes of our research inquiry. This section presents the results of the quantitative and qualitative analyses conducted to explore the relationships and dynamics that underlie these core aspects of student learning experiences.

Table 1: Comparison results of quantitative and qualitative analysis conducted on different schools

S.NO		MADDHUR HIGH SCHOOL	CHAMARAJANAGAR HIGH SCHOOL	MALPE HIGHER SECONDARY SCHOOL	RAMNAGARA HIGH SCHOOL	BENNU R ENGLISH MEDIUM SCHOOL
Teacher Innovate Behavior	Mean	4.27	3.65	4.12	3.84	3.50
Teacher Innovate Behavior	Standard Deviation	0.78	0.51	0.68	0.41	0.21
Academic Self-Efficiency Score	Mean	3.85	3.41	3.15	3.04	4.01

Academic Self-Efficiency Score	Standard Deviation	0.92	0.84	0.75	0.99	0.51
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Table 1, shows that comparison of quantitative and qualitative analysis conducted on five different schools in Karnataka. The parameter taken here as Teacher innovate behaviour of Mean and Standard deviation, Academic self-efficiency score of mean and standard deviation. The five schools taken here are Maddur high school, Chamrajanagar high school, Malpe Higher secondary school, Ramanagara High school and Bennur high school. Teacher innovates behaviour mean value of Maddur high school obtains 4.27 and standard deviation is 0.78, where chamrajanagara high school 's mean result 3.65 and 0.51 respectively. Malpe higher secondary school receives 4.12 for mean and 0.68 for standard deviation. Ramnagara high school obtains 3.84 for Mean and 0.41 for standard deviation. Bennur English medium school's Mean value on teacher innovate behaviour for mean is 3.50 and 0.21 for standard deviation.

Academic self-efficiency score of Maddur high school mean is 3.85 and standard deviation is 0.92. Followed by the Chamarajanagar high school is 3.41 for mean and 0.84 for standard deviation respectively. Malpe higher secondary school records mean 3.15 and the standard deviation is 0.75. Here the ramanagara high school records mean value as 3.04 and 0.99 for standard deviation. The Bennur high school records 4.01 of Mean value and 0.51 of standard deviation.

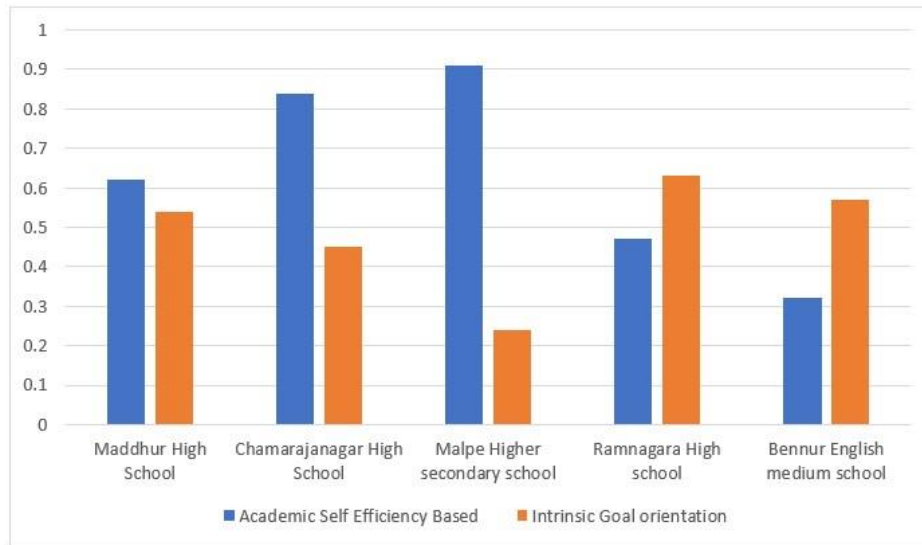


Figure 4.1: Compression of Academic self-efficiency based and Intrinsic goal orientation

Figure 4.1 shows that Academic self-efficiency and Intrinsic goal of five different schools in Karnataka. Maddur high school has 0.62 of Academic self-efficiency and 0.54 of Intrinsic Goal orientation, Chamarajanagar high school has 0.84 of Academic self-efficiency and 0.45 of Intrinsic Goal orientation, Malpe Higher secondary school has 0.91 of Academic self-efficiency and 0.24 of Intrinsic Goal orientation. Ramanagara high school has 0.47 of Academic self-efficiency and 0.63 of Intrinsic Goal orientation. Finally, Bannur English medium school has 0.32 of Academic self-efficiency and 0.57 of Intrinsic Goal orientation.

5.CONCLUSION:

In the pursuit of understanding the intricate interplay between teacher innovative behaviour, students' academic self-efficacy, and intrinsic goal orientation within government high schools in Karnataka, this study has traversed the realms of quantitative analysis and qualitative exploration. The culmination of data, insights, and narratives reveals a multifaceted tapestry that underscores the profound influence of innovative teaching practices on

students' educational journeys. The quantitative analysis revealed compelling numerical trends that illuminate the relationships at the heart of our investigation. The positive correlation between teacher innovative behaviour and students' academic self-efficacy signifies the pivotal role that innovative practices play in nurturing students' beliefs in their own abilities. Furthermore, the significant correlation between teacher innovative behaviour and intrinsic goal orientation accentuates the transformative potential of innovative teaching, igniting students' intrinsic motivation to learn for the sake of growth and mastery.

The regression analyses reinforced these relationships, illustrating that innovative teacher behaviour is a significant predictor of both academic self-efficacy and intrinsic goal orientation. These quantitative findings underscore the empirical foundation of our study, providing statistical confirmation of the pivotal role played by innovative teachers in shaping students' attitudes and motivations.

Yet it is the qualitative revelations that breathe life into these statistical trends, weaving a narrative of experiences, emotions, and aspirations. Through the voices of students, we gleaned insights into the mechanisms through which innovative teaching practices inspire confidence, fuel motivation, and foster a deep-seated desire for self-improvement. The stories of teachers echoed the dedication and challenges that underlie the quest for innovation, emphasising the symbiotic relationship between educators and students in creating an enriched learning environment. As we reflect on these findings, it becomes evident that the classroom is more than a space for information transfer—it is a crucible of transformation. The nexus between innovative teaching and students' academic self-efficacy and intrinsic goal orientation highlights the potency of education as a catalyst for personal growth and empowerment. Our study's results reinforce the notion that innovation is not a mere pedagogical accessory; it is an ethos that has the potential to shape students' identities as learners and thinkers.

In the broader context of educational policy and practice, these findings beckon us to recalibrate our approaches. The empirical evidence resounds with a call for fostering innovative pedagogies that transcend traditional boundaries. The encouragement of project-based learning, interactive strategies, and the integration of real-world applications emerges as a clarion call to educators and policymakers alike. In conclusion, this study serves as a beacon illuminating the transformative potential of teacher innovation in government high schools. The quantitative data and qualitative narratives converge to reaffirm that innovation is not just an embellishment but an imperative. As we step beyond the boundaries of this study, we carry forward the torch of insight, advocating for an education landscape where innovation is embraced, where students' beliefs in themselves are nurtured, and where learning becomes a journey of intrinsic discovery and growth. Through this convergence of data and narrative, we glimpse the dawn of a new educational paradigm—one that celebrates the art of teaching and the science of inspiration.

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