

CRITICAL THINKING DISPOSITION AND PEDAGOGICAL PRACTICES AMONG PROSPECTIVE TEACHERS: A CASE STUDY

Dr. K. Kamala Devi

Abstract

The present study investigated the critical thinking disposition and pedagogical practices among prospective teachers using Edward de Bono's Six Thinking Hats framework. The study aimed to examine the levels of thinking disposition among student teachers and analyse variations based on demographic and academic variables such as educational qualification, locality, medium of instruction, pedagogy course, and type of internship school. A case study method was adopted, and the sample consisted of 50 B.Ed. student teachers from Sri Sarada College of Education (Autonomous), Salem. Two research instruments, namely the Scale of Six Thinking Hats Pedagogical Disposition and the Pedagogical Practices Frequency Scale, were developed and validated for the study. The findings revealed that a majority of the student teachers demonstrated high levels of thinking disposition across all six thinking dimensions and balanced thinking integration. Postgraduate students, English medium students, urban students, and science pedagogy students exhibited comparatively stronger higher-order thinking abilities. The study also found that most student teachers demonstrated moderate to high engagement in pedagogical practices that promote critical thinking. The findings highlight the importance of integrating critical, creative, and reflective thinking within teacher education programmes to prepare competent educators capable of fostering higher-order thinking among learners.

Keywords: *Critical thinking disposition, pedagogical practices, prospective teachers, Six Thinking Hats, teacher education, higher-order thinking.*

INTRODUCTION

Education plays a significant role in shaping the intellectual, social, and cultural development of society. Contemporary educational systems increasingly emphasize the development of higher-order thinking skills that enable learners to analyse information, solve problems, and make informed decisions. In

the twenty-first century, the rapid expansion of knowledge and technological advancement has transformed educational priorities from mere content acquisition to the development of analytical, reflective, and creative competencies.

Critical thinking has emerged as one of the most essential competencies required for learners and professionals across

disciplines. Dewey emphasized reflective thinking as a crucial element of meaningful learning, while contemporary scholars have identified critical thinking as indispensable for effective problem-solving, reasoning, and decision-making. In teacher education, critical thinking assumes particular significance because teachers play a central role in fostering these competencies among learners.

Prospective teachers are expected not only to possess subject knowledge but also to demonstrate reflective thinking and effective pedagogical practices. Critical thinking disposition refers to the internal inclination and motivation to engage in reflective, analytical, and reasoned thinking. Such dispositions influence how teachers plan instruction, interact with students, and facilitate classroom learning.

Despite the recognized importance of critical thinking, many teacher education programmes continue to emphasize theoretical instruction over the development of reflective and analytical pedagogical practices. Consequently, there is a growing need to examine the relationship between critical thinking disposition and pedagogical practices among prospective teachers.

The present study adopts Edward de Bono's Six Thinking Hats framework as a

conceptual basis for understanding different dimensions of thinking. The framework includes Blue Hat Thinking (metacognitive control), White Hat Thinking (factual reasoning), Red Hat Thinking (emotional thinking), Black Hat Thinking (critical judgment), Yellow Hat Thinking (optimistic reasoning), and Green Hat Thinking (creative thinking). Together, these dimensions provide a comprehensive understanding of cognitive and reflective processes among prospective teachers.

REVIEW OF RELATED LITERATURE

The development of critical thinking has become a major objective of modern educational systems worldwide. Dwyer, Hogan, and Stewart (2014) emphasized that critical thinking is fundamental to information literacy, civic engagement, and professional competence. Teachers who possess strong critical thinking dispositions are more likely to foster similar abilities among learners.

Critical thinking disposition encompasses attitudinal and motivational characteristics that influence an individual's willingness to engage in reflective and analytical thinking. Facione, Facione, and Giancarlo (1995) identified dispositions such as open-mindedness, truth-seeking, inquisitiveness, systematicity, and

confidence in reasoning as important components of critical thinking.

Research studies indicate that teachers' cognitive characteristics significantly influence instructional practices and classroom interactions. Shulman (1987) and Darling-Hammond (2006) highlighted the importance of reflective thinking in teacher preparation and instructional effectiveness.

Çakit and Kurnaz (2022), in their study on pre-service teachers, found that teacher candidates generally demonstrated high levels of critical thinking disposition across dimensions such as reasoning, open-mindedness, systematicity, and truth-seeking. Similarly, Tsui (1999) emphasized that teachers with strong critical thinking dispositions tend to create intellectually stimulating classroom environments.

The literature further indicates that pedagogical practices such as inquiry-based learning, reflective teaching, collaborative learning, and problem-solving activities contribute significantly to the development of critical thinking among learners. However, several studies suggest that teacher education programmes often provide limited opportunities for prospective teachers to engage

meaningfully with such pedagogical strategies.

The review of literature thus reveals the importance of integrating critical thinking development within teacher education programmes and highlights the need for empirical studies examining the thinking dispositions and pedagogical practices of prospective teachers.

OBJECTIVES OF THE STUDY

The study aimed to:

1. Assess the level of critical thinking disposition among prospective teachers.
2. Examine the pedagogical practices adopted by prospective teachers for developing critical thinking.
3. Identify differences in critical thinking disposition based on selected demographic and academic variables.
4. Analyse the relationship between thinking disposition and pedagogical practices among prospective teachers.

METHODOLOGY

RESEARCH DESIGN

The study adopted a case study method to investigate the critical thinking disposition

and pedagogical practices among prospective teachers.

SAMPLE

The sample consisted of 50 B.Ed. student teachers from Sri Sarada College of Education (Autonomous), Salem. The sample represented various pedagogy specializations including Tamil, English, Mathematics, Physical Science, Biological Science, and History.

RESEARCH INSTRUMENTS

After analysing the available resources and previous research, the Scale of Six Thinking Hats Pedagogical Disposition and Pedagogical Practices Frequency Scale were designed with the supervision of the experts. Both are 5 point Likert scales with the options Never, Rarely, Sometimes, Often and Always. The scoring given is 1 to 5 respectively. The pilot study was conducted with 20 students to verify the validity and reliability values of the items. The dimensions of the scales are detailed in Table 1.

Table 1: Dimensions of Research Tools

Scale of Six Thinking Hats Pedagogical Disposition		
S.No.	Dimensions	Statements
1.	Blue Hat thinking	8
2.	White Hat thinking	8
3.	Red Hat thinking	8
4.	Black Hat thinking	8
5.	Yellow Hat thinking	8
6.	Green Hat thinking	8
7.	Balanced thinking Integration	8
Pedagogical Practices Frequency Scale		
1	Pedagogical Practices Frequency	10

DATA COLLECTION AND ANALYSIS

The collected data were analysed using percentage analysis and descriptive interpretation. Thinking Hat scores were examined across variables such as

educational qualification, locality, medium of instruction, pedagogy course, and type of internship school.

RESULTS AND DISCUSSION

Thinking Disposition Based on Educational Qualification

The findings revealed that both undergraduate and postgraduate student teachers predominantly demonstrated high levels of thinking disposition across all thinking dimensions. However, postgraduate student teachers exhibited comparatively stronger performance in Black Hat Thinking, Green Hat Thinking, and Balanced Thinking Integration, indicating more refined critical, creative, and integrative thinking abilities.

Thinking Disposition Based on Locality

Urban student teachers demonstrated comparatively higher scores across most thinking dimensions than rural student teachers. The differences were particularly notable in White Hat Thinking, Red Hat Thinking, and Green Hat Thinking. These findings suggest that environmental exposure, access to educational resources, and diverse learning opportunities influence the development of higher-order thinking skills.

Thinking Disposition Based on Medium of Instruction

Student teachers educated through the English medium consistently outperformed Tamil medium students across most

thinking dimensions. The differences were especially pronounced in analytical, creative, and integrative thinking. The findings imply that the medium of instruction may significantly influence exposure to diverse learning materials and cognitive strategies.

Thinking Disposition Based on Pedagogy Courses

The findings indicated considerable variation across pedagogy specializations. Student teachers specializing in Mathematics and Biological Science demonstrated comparatively higher levels of metacognitive, creative, and integrative thinking. In contrast, student teachers from Tamil and History pedagogy courses showed relatively lower representation in the very high category across several thinking domains.

The results suggest that science disciplines may provide greater opportunities for analytical reasoning, problem-solving, and cognitive flexibility.

Thinking Disposition Based on Type of Internship School

Both Government and Government-Aided school interns demonstrated high levels of thinking disposition across all dimensions. However, student teachers from Government schools showed slightly

stronger performance in critical and integrative thinking.

Pedagogical Practices for Developing Critical Thinking

The analysis of pedagogical practices revealed that a majority of student teachers demonstrated moderate levels of engagement in pedagogical practices aimed at developing critical thinking skills. A substantial proportion of student teachers fell within the high category, indicating active engagement in inquiry-based learning, reflective teaching, and analytical classroom practices.

However, only a limited number of student teachers demonstrated very high levels of pedagogical engagement. This finding indicates the need for systematic training and structured opportunities within teacher education programmes to strengthen the consistent implementation of critical thinking-oriented pedagogy.

Overall, the findings indicate that while prospective teachers possess reasonably strong thinking dispositions, greater emphasis is required to translate these dispositions into advanced pedagogical practices.

EDUCATIONAL IMPLICATIONS

The findings of the study carry important implications for teacher education,

curriculum planning, and educational policy.

First, teacher education institutions should move beyond content-oriented instruction and intentionally foster critical, reflective, and creative thinking among student teachers. Structured pedagogical interventions such as inquiry-based learning, reflective teaching, collaborative problem-solving, and experiential learning should be integrated into teacher preparation programmes.

Second, the disparities observed between urban and rural student teachers highlight the need for equitable access to educational resources, digital learning opportunities, and enriched academic environments.

Third, the influence of medium of instruction suggests the importance of strengthening higher-order thinking development in regional language contexts through multilingual and bilingual pedagogical approaches.

Fourth, the variations across pedagogy specializations indicate the need for systematic integration of critical and creative thinking activities across all subject disciplines.

Fifth, internship experiences should be strengthened through reflective mentoring,

structured observation, and exposure to diverse classroom environments.

At the policy level, regulatory bodies should prioritize higher-order thinking within teacher education curricula and establish standards for the effective integration of critical thinking pedagogy. Continuous professional development programmes for teacher educators are also essential to promote innovative and research-informed teaching practices.

CONCLUSION

The study concludes that prospective teachers generally possess strong foundations in critical and reflective thinking as conceptualized through the Six Thinking Hats framework. Nevertheless, variations across demographic and academic variables indicate that thinking dispositions are influenced by contextual and educational factors.

Urban students, English medium students, postgraduate students, and science pedagogy students demonstrated comparatively stronger higher-order thinking abilities. Furthermore, although many student teachers exhibited moderate to high levels of pedagogical engagement in developing critical thinking, there remains substantial scope for improvement in the systematic implementation of

critical thinking-oriented instructional practices.

The findings emphasize the need for teacher education institutions to integrate reflective, analytical, and creative pedagogical practices within teacher preparation programmes. Strengthening these competencies among prospective teachers is essential for nurturing future educators capable of promoting critical thinking, innovation, and holistic learning in contemporary classrooms.

REFERENCES

1. de Bono, E. (1985). *Six thinking hats*. Little, Brown and Company
2. Dewey, J. (1910). *How we think*. D. C. Heath and Company.
3. Dwyer, C. P., Hogan, M. J., & Stewart, I. (2014). An integrated critical thinking framework for the 21st century. *Thinking Skills and Creativity*, 12, 43–52. <https://doi.org/10.1016/j.tsc.2013.12.004>
4. Ennis, R. H. (1987). A taxonomy of critical thinking dispositions and abilities. In J. B. Baron & R. J. Sternberg (Eds.), *Teaching thinking skills: Theory and practice* (pp. 9–26). W. H. Freeman.
5. Facione, P. A. (1990). *Critical thinking: A statement of expert*

- consensus for purposes of educational assessment and instruction* (The Delphi Report). California Academic Press.
6. Facione, P. A., Facione, N. C., & Giancarlo, C. A. F. (1995). The disposition toward critical thinking. *The Journal of General Education*, 44(1), 1–25.
 7. Huitt, W. (1998). Critical thinking: An overview. *Educational Psychology Interactive*. Valdosta State University. <https://www.edpsycinteractive.org/topics/cognition/critthnk.html>
 8. Lederer, J. M. (2007). Disposition toward critical thinking among occupational therapy students. *American Journal of Occupational Therapy*, 61(5), 519–526. <https://doi.org/10.5014/ajot.61.5.519>
 9. Paul, R., & Elder, L. (2006). *Critical thinking: Learn the tools the best thinkers use*. Pearson Prentice Hall.
 10. Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15(2), 4–14.
 11. Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1), 1–23.

Dr. K. Kamala Devi

Associate Professor of English
Sri Sarada College of Education
(Autonomous)
Sarada College Road
Fairlands, Salem,
Tamil Nadu 636016