Chapter-V

Summary, Findings and Conclusion

5.1 Introduction

This chapter presents a summary and interpretation of the key results obtained from the data analysis described in Chapter IV. The findings are organized in accordance with the research objectives and Research Questions outlined in Chapter I. Based on the data collected from 121 pre-service teachers of IASE, Bhopal, this chapter highlights the patterns in awareness, attitudes, preparedness, and perspectives regarding the use of Artificial Intelligence (AI) in education.

5.2 Statement of the Problem

"A Study of the Awareness about Artificial Intelligence (AI) among Pre-service Teachers"

5.3 Delimitations of the Study

- The study is confined to a **single institution**: IASE, Bhopal.
- Only **pre-service teachers** enrolled during the academic session 2024–2025 were included.
- The research focuses exclusively on **awareness and perceptions** of AI, not on the technical proficiency or actual classroom implementation.
- Data were collected **online**, which may have excluded participants without digital access or familiarity.

5.4 Objectives of the Study

This study aims to:

1. Assess the level of awareness of pre-service teachers regarding Artificial Intelligence (AI) and its educational applications.
2. Identify the key factors—such as previous exposure to AI, curriculum content, institutional support, and digital literacy—that influence pre-service teachers' awareness.
3. Provide suggestions and recommendations for improving AI-related content in teacher education programs to better prepare future educators for technology-integrated teaching.

5.5 Research Questions

This study was guided by the following research questions:

1. What is the level of awareness among pre-service teachers about Artificial Intelligence (AI) and its applications in education?
2. What are the major sources of AI knowledge and exposure for pre-service teachers?
3. What are the attitudes of pre-service teachers toward the use of AI in education?
4. What level of preparedness does pre-service teachers perceive they have for integrating AI tools into their future teaching practices?
5. What challenges and concerns do pre-service teachers anticipate in using AI in educational contexts?

5.6 Summary of Key Findings

Objective 1: To assess the level of awareness of pre-service teachers regarding Artificial Intelligence (AI) and its educational applications.

- **Finding:**
  95.9% of participants had heard about AI. However, only 19.8% rated their understanding as advanced, with the majority (47.9%) reporting only basic understanding.
- **Interpretation:**
  Awareness is widespread, but depth of understanding is limited, indicating a superficial or general familiarity with AI concepts.

Objective 2: To identify the key factors—such as previous exposure to AI, curriculum content, institutional support, and digital literacy—that influence pre-service teachers' awareness.

- **Findings:**
  o Primary sources of AI awareness were media (83.5%), not academic courses (11.6%).
  o Only 22.3% had received any formal training on AI.
  o Institutional efforts were rated "excellent" by only 28.9% of students.
- **Interpretation:**
  Factors such as institutional support and curriculum integration appear to be

weak. Media plays a disproportionate role in shaping AI awareness, suggesting a need for formal inclusion of AI in teacher education programs.

Objective 3: To provide recommendations for integrating AI-related content into teacher education programs.

- **Finding:**

  90.1% of participants supported the idea of integrating AI as a core subject in teacher education. 91.7% expressed willingness to attend workshops or courses related to AI.

- **Interpretation:**

  There is strong student support for institutional reforms. The findings reinforce the need for curriculum designers and policymakers to implement AI training in pre-service teacher programs.

5.7 Educational Implications

- **For Teacher Education Institutions:** AI should be introduced not just as a concept but as a practical tool in pedagogy, curriculum development, and classroom management. Institutions must also organize workshops and training sessions to improve teacher readiness.
- **For Curriculum Developers:** Incorporate AI literacy and ethical understanding into teacher education curricula aligned with NEP 2020.
- **For Policymakers:** The findings underscore the urgency for national-level teacher education policies that mandate AI awareness and competency.
- **For Pre-service Teachers:** There is a growing need for them to take initiative in learning about AI, participate in professional development, and become proactive contributors to tech-integrated learning environments.

5.8 Suggestions for Further Research

1. Conduct similar studies in rural, tribal, or underrepresented regions.
2. Explore the **effectiveness** of AI-integrated teaching practices through experimental or longitudinal studies.
3. Investigate the **AI skill gap** among in-service vs. pre-service teachers.

4. Study **gender-based or subject-specific differences** in AI awareness and readiness.

5. Design and evaluate an **AI module or workshop** for teacher education and study its impact.

6. Examine the **ethical and psychological dimensions** (e.g., trust, bias, autonomy) of AI in classrooms.

5.9 Conclusion

The study concludes that while AI is a familiar concept among pre-service teachers, deep understanding and practical readiness are still lacking. There is an urgent need to reform teacher education curricula to include AI-focused content and hands-on exposure. The findings also highlight strong interest and openness among future teachers to learn and engage with AI, making them well-positioned for capacity-building interventions.

Teacher education programs must recognize the critical role AI will play in 21st-century classrooms and provide systematic, structured, and ethical training to ensure that future educators are equipped not just to use AI but to lead innovation in tech-integrated learning environments.