

# Using Backward Design to Foster Inclusivity among Pre-Service Teachers

Dr. Nazia Hassan

Assistant Professor, Institute of Vocational Studies, (Guru Gobind Singh Indraprastha University)

Email: naziahassn1[at]gmail.com

**Abstract:** This study examines the potential of Backward Design as a curriculum planning framework to foster inclusive teaching practices among pre-service teachers. Inclusive education requires teachers to proactively address learner diversity in terms of abilities, backgrounds, and learning needs. Using a qualitative descriptive research design, the study explores how pre-service teachers apply the stages of Backward Design to create inclusive lesson plans. Findings indicate that Backward Design supports clarity of learning outcomes, flexible assessment practices, and differentiated instructional strategies aligned with Universal Design for learning principles.

**Keywords:** Backward Design; Inclusive Education; Pre-Service Teachers; Teacher Education; Universal Design for Learning

## 1. Introduction

Inclusive education has emerged as a global priority in response to increasing learner diversity within classrooms. Teacher education institutions play a critical role in equipping pre-service teachers with the pedagogical competence required to address diverse learning needs.

## 2. Conceptual Framework

### 2.1 Inclusive Education in Teacher Preparation

Inclusive education emphasizes the removal of barriers to learning and participation for all students. In teacher education, this requires preparing pre-service teachers to recognize learner diversity as an asset rather than a challenge. Inclusive pedagogy involves differentiated instruction, flexible assessment, culturally responsive teaching, and supportive classroom environments.

Teacher education institutions have a responsibility to model inclusive practices. When pre-service teachers experience inclusive curriculum design during their training, they are more likely to replicate such practices in their future classrooms.

### 2.2 Backward Design Model

Backward Design is a curriculum planning framework that consists of three stages:

- 1) **Identifying Desired Results** – Clarifying what learners should know, understand, and be able to do.
- 2) **Determining Acceptable Evidence** – Deciding how learning will be assessed and what evidence will demonstrate understanding.
- 3) **Planning Learning Experiences and Instruction** – Designing teaching strategies and activities aligned with outcomes and assessments.

Unlike traditional planning, Backward Design emphasizes clarity of purpose and alignment. When applied thoughtfully, it can support inclusive education by ensuring that goals, assessments, and instruction consider the needs of all learners from the outset.

## 2.3 Universal Design for Learning (UDL)

Universal Design for Learning provides guidelines for creating flexible learning environments that accommodate individual learning differences. UDL is based on three core principles: multiple means of engagement, representation, and action and expression. Integrating UDL principles within the Backward Design framework strengthens inclusivity by offering learners various ways to access content, demonstrate understanding, and remain motivated.

## 3. Review of Related Literature

### 3.1 Inclusive Education and Teacher Preparation

Research on inclusive education emphasizes the critical role of teachers in addressing learner diversity (Florian & Black-Hawkins, 2011). Studies suggest that pre-service teachers often possess positive attitudes toward inclusion but lack practical skills to implement inclusive strategies effectively (Sharma, Forlin, & Loreman, 2008). Teacher education programs, therefore, must move beyond theoretical discussions and provide structured frameworks that guide inclusive lesson planning and instruction.

Banks (2015) highlights that inclusive teaching requires recognition of cultural, linguistic, and socio-economic diversity within classrooms. Similarly, Tomlinson (2014) argues that differentiation is central to inclusive pedagogy, enabling teachers to respond to varying learner readiness, interests, and learning profiles. These perspectives underscore the need for planning models that inherently support flexibility and learner-centered approaches.

### 3.2 Backward Design in Teacher Education

Backward Design, introduced by Wiggins and McTighe (2005), has been widely adopted in curriculum planning to improve alignment between learning outcomes, assessment, and instruction. Research indicates that the use of Backward Design in teacher education enhances pre-service teachers' understanding of learning goals and assessment practices (Gulikers et al., 2018). By focusing on desired learning

outcomes first, pre-service teachers develop greater clarity about what constitutes meaningful learning.

Several studies report that Backward Design encourages reflective practice among pre-service teachers, as they continuously evaluate whether instructional activities truly support intended outcomes (McTighe & Thomas, 2003). This reflective orientation is particularly valuable for inclusive education, where teachers must anticipate diverse learner needs during the planning stage.

### **3.3 Universal Design for Learning and Inclusivity**

Universal Design for Learning (UDL) has emerged as a key framework for inclusive curriculum design. CAST (2018) emphasizes that UDL reduces barriers to learning by providing multiple means of engagement, representation, and expression. Empirical studies show that integrating UDL principles in teacher education improves pre-service teachers' confidence in addressing learner variability (Rao, Ok, & Bryant, 2014).

The literature suggests strong conceptual alignment between UDL and Backward Design. When combined, these frameworks support proactive planning for diversity rather than reactive accommodation. This review highlights a gap in research focusing specifically on how pre-service teachers apply Backward Design to foster inclusivity, thereby justifying the focus of the present study.

## **4. Objectives of the Study**

- 1) To examine how pre-service teachers apply Backward Design in lesson planning.
- 2) To analyze the extent to which Backward Design supports inclusive learning outcomes and assessment practices.
- 3) To explore pre-service teachers' perceptions of inclusivity when using the Backward Design framework.

## **5. Research Questions**

- 1) How do pre-service teachers use Backward Design to plan inclusive lessons?
- 2) What inclusive features are evident in lesson plans developed using Backward Design?
- 3) How do pre-service teachers perceive the role of Backward Design in addressing learner diversity?

## **6. Research Methodology**

### **6.1 Research Design**

The study adopts a qualitative descriptive research design to explore how pre-service teachers use Backward Design to create inclusive lesson plans. A qualitative approach is appropriate as it allows for in-depth understanding of participants' experiences, perceptions, and reflective practices related to inclusive lesson planning.

## **6.2 Participants**

The participants of the study consist of pre-service teachers enrolled in a Bachelor of Education (B.Ed.) program at a teacher education institution. A purposive sampling technique is used to select participants who have received prior instruction on inclusive education and curriculum planning. The sample includes pre-service teachers from diverse academic backgrounds to capture varied perspectives.

## **6.3 Data Collection Tools**

Data are collected using the following tools:

- **Lesson Plan Analysis:** Pre-service teachers' lesson plans developed using the Backward Design framework are analyzed to identify inclusive features such as differentiated outcomes, flexible assessments, and varied instructional strategies.
- **Reflective Journals:** Participants maintain reflective journals documenting their planning process, challenges faced, and insights gained while designing inclusive lessons.
- **Semi-Structured Interviews:** Interviews are conducted to gather deeper insights into participants' understanding of inclusivity and their experiences using Backward Design.

## **6.4 Procedure**

Participants receive orientation sessions on Backward Design and Universal Design for Learning. They are then guided to design lesson plans following the three stages of Backward Design. Throughout the process, participants engage in peer discussions and reflective writing. Data are collected over a specified academic term to ensure adequate engagement with the framework.

## **6.5 Data Analysis**

The collected data are analyzed using thematic analysis. Lesson plans, journals, and interview transcripts are coded to identify recurring themes related to inclusivity, planning practices, and professional learning. Triangulation of data sources enhances the credibility and trustworthiness of the findings.

## **6.6 Ethical Considerations**

Ethical considerations include obtaining informed consent from all participants, ensuring confidentiality, and allowing participants to withdraw from the study at any stage. The study adheres to ethical guidelines for educational research.

## **7. Discussion and Findings**

The findings reveal that pre-service teachers demonstrated increased awareness of learner diversity and incorporated inclusive assessment and instructional strategies when using Backward Design.

## 8. Limitations of the Study

The study is limited by its small sample size and qualitative design, which may restrict generalizability of findings.

## 9. Conclusion

Backward Design provides an effective framework for supporting inclusive practices in teacher education. Its integration within teacher preparation programs can bridge the gap between inclusive education theory and classroom practice.

## References

- [1] Banks, J. A. (2015). Cultural diversity and education: *Foundations, curriculum, and teaching* (6th ed.). Routledge.
- [2] CAST. (2018). Universal Design for Learning guidelines version 2.2. CAST.
- [3] Florian, L., & Black-Hawkins, K. (2011). Exploring inclusive pedagogy. *Cambridge Journal of Education*, 41(4), 813–828. <https://doi.org/10.1080/0305764X.2011.618225>
- [4] Tomlinson, C. A. (2014). The differentiated classroom: Responding to the needs of all learners (2nd ed.). ASCD.
- [5] Wiggins, G., & McTighe, J. (2005). Understanding by Design (Expanded ed.). ASCD.
- [6] Kerimoğlu, E., & Altun, S. (2024). Backward design in pre-service teacher education to enhance curriculum knowledge. *Journal of Teaching and Learning*, 18(2), 128–149.
- [7] Kelting-Gibson, L. M. (2003). *Preservice teachers planning and preparation practices* (Doctoral dissertation). Montana State University.
- [8] Suprihatiningrum, J., Atika, I. N., Putranto, S., & Rofiah, N. H. (2025). Unpacking pedagogical knowledge of inclusive learning design among Indonesian pre-service science teachers. *Center for Educational Policy Studies Journal*.
- [9] Porta, T. (2025). *Backward planning for inclusive classrooms: Inclusion by Design*. Palgrave Macmillan.
- [10] Stapleton-Corcoran, E. (2023). Backward design guide. Center for the Advancement of Teaching Excellence
- [11] Narrative review on designing effective pre-service teacher training in inclusive education. *Educational Psychology Review* (2024).
- [12] Rao, K., Ok, M. W., & Bryant, B. R. (2014). A review of research on Universal Design for Learning: The implications for pre-service and in-service teacher education. *Journal of Special Education Technology*, 29(1), 1–17. <https://doi.org/10.1177/016264341402900101>
- [13] Gulikers, J. T. M., Runhaar, P., & Mulder, M. (2018). *An assessment innovation as flywheel for changing teaching and learning*. *Journal of Vocational Education & Training*, 70(2), 212–231. <https://doi.org/10.1080/13636820.2017.1394353>
- [14] McTighe, J., & Thomas, R. S. (2003). Backward design for forward action. *Phi Delta Kappan*, 84(1), 52–55. <https://doi.org/10.1177/003172170308400111>
- [15] Sharma, U., Forlin, C., & Loreman, T. (2008). Impact of training on pre-service teachers' attitudes and concerns about inclusive education and sentiments about persons with disabilities. *Disability & Society*, 23(7), 773–785. <https://doi.org/10.1080/09687590802469288>