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The Educators Attitudes Towards Universal Design for Learning: A Pilot Study

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ABSTRACT

Universal Design for Learning (UDL) is a framework and method of instruction for educational settings that is increasingly being employed all over the world as it aims to be inclusive of various types of learners who may differ in their pace, method, style of learning. It reduces barriers to the learning process for all students, including children with disabilities.

This study uses the base provided by the principles of Universal Design for Learning (UDL) and Universal Design for Instruction (UDI) as its guiding principles for assessment.

The purpose of this study was to determine the level of awareness about UDL and UDI, the readiness to incorporate it into their instruction among the primary teachers in Bareilly, Uttar Pradesh, India. The teachers survey regarding UDL was conducted in this study using a self-developed tool called Universal Design for Learning Awareness and Readiness Scale (UDLARS).

The findings of the study state that overall, the level of awareness and readiness among primary teachers in Bareilly is high with respect to understanding and inculcating the module of Universal Design for Learning into their mode of instruction. Further, it was found that age and level of educational qualification mediate the relationship with Awareness about UDL i.e., teachers equal to or below the age of 30 years (as compared to those above 30 years) and those with Bachelors qualifications (as opposed to Masters) possessed higher levels of Awareness. Other correlates for Awareness and Readiness were not found to be statistically significant. These findings help in establishing the amount of education and training required among instructors, educators to adopt teaching methods based on UDL for students to enhance their learning process.

INTRODUCTION

In the realm of inclusive education, Universal Design for Learning (UDL) has emerged as a crucial framework which accommodates the diverse needs of learners. Through its principles of equity and accessibility, UDL offers a flexible approach to curriculum design and instructional delivery, thereby fostering an inclusive learning environment. Despite its potential to revolutionize educational practices, the successful implementation of UDL hinges upon the attitudes and perceptions of educators. This pilot study seeks to explore teachers' attitudes towards UDL within the context of Bareilly, India, highlighting their awareness and readiness to embrace this pedagogical approach.

Within the educational landscape, teachers serve as the foundational stones of instructional innovation and student support, which has considerable influence over the educational experiences of their learners. Consequently, understanding teachers' attitudes towards UDL becomes imperative in gauging the feasibility and efficacy of its implementation within educational settings. Teachers' beliefs, perceptions,

and readiness to embrace UDL principles has a deep impact on the extent to which inclusive practices are integrated into classroom instruction and curriculum design.

Several studies have underscored the significance of teachers' attitudes in shaping the adoption and implementation of educational innovations. For instance, research by Rose *et al.* (2006) emphasized the pivotal role of teacher beliefs and attitudes in the effective application of UDL principles. Similarly, Al-Azawei *et al.* (2017) highlighted the need to address educators' misconceptions and apprehensions regarding UDL to foster its integration into mainstream educational practices.

Present Scenario of Universal Design for Learning in India

Within the Indian context, studies exploring teachers' attitudes towards inclusive education and pedagogical reforms have gained prominence. Sharma and Desai (2019) conducted a comprehensive analysis of teachers' perceptions towards inclusive education in India, elucidating the factors influencing their acceptance and implementation of inclusive practices. Furthermore, the work of Singh and Venkatesan (2021) underscored the importance of providing professional development opportunities to enhance teachers' readiness to implement UDL in Indian classrooms.

The significance of this study lies in its potential to inform policy interventions, professional development initiatives, and pedagogical practices tailored to the needs of diverse learners in Bareilly and beyond. By unraveling the nuances of teachers' attitudes towards UDL, the findings of this study hold promise for fostering a more inclusive and equitable educational landscape, wherein every learner is empowered to thrive and succeed.

While existing literature offers valuable insights into teachers' attitudes towards inclusive education and pedagogical reforms, a notable research gap persists regarding the specific context of Bareilly, India, and its implications for the adoption of Universal Design for Learning (UDL). Limited empirical studies have systematically examined teachers' awareness, perceptions, and readiness to embrace UDL principles within this socio-cultural milieu. Consequently, there is a dearth of comprehensive research that investigates the unique challenges, facilitators, and contextual factors shaping teachers' attitudes towards UDL implementation in India, and more so, Bareilly.

Moreover, while studies conducted in other contexts have highlighted the pivotal role of teacher attitudes in influencing the uptake of UDL, the nuances of these attitudes within the Indian educational landscape remain underexplored. Factors such as cultural norms, educational policies, resource constraints, and professional development opportunities may exert differential influences on teachers' readiness to adopt UDL practices in Bareilly, thus necessitating a contextually grounded inquiry.

By addressing the research gap, the present pilot study endeavors to contribute nuanced insights into teachers' attitudes towards UDL within the specific socio-cultural and educational context of Bareilly, India. Through a rigorous exploration of teachers' awareness, perceptions, and readiness, the study aims to bridge the existing knowledge divide and inform targeted interventions aimed at promoting inclusive education and pedagogical equity in the region.

Research Objectives

The primary objective of this pilot study is to assess teachers' attitudes towards UDL in Bareilly, India. Specifically, the study aims to:

- Measure teachers' awareness of UDL principles and practices.
- Assess teachers' readiness to incorporate UDL into their instructional strategies.
- Examine the relationship between teachers' demographic characteristics and their attitudes towards

UDL.

METHODOLOGY

Sampling Process

The sampling design used for the study was purposive sampling as for the purpose of this study teachers from Bareilly were required. The inclusion criteria included teachers from government primary schools following Central Board of Secondary Education (CBSE) who were, at the time of the research, teaching in Bareilly. No exclusion criteria were set for age, gender, socioeconomic status, qualification and experience as these correlates were studied as part of the research.

Research Design

This is a pilot study that is testing the teachers' attitudes towards the Universal Design for Learning Module through two components i.e., Awareness and Readiness.

Participants

The participants of the study were teachers from government primary schools in Bareilly District of Uttar Pradesh, between the ages of 27 and 51 years. Many schools were approached for data collection; however, permission was achieved from a couple of them in due time.

For the purpose of pilot study, a sample of 12 teachers were selected, due to time and permission constraints. These teachers are Indian citizens, residing in the district of Bareilly, Uttar Pradesh, India, and at the time of research, holding the post of primary teachers in government primary schools in the district. The schools in Bareilly follow Hindi language as the medium of instruction, hence, for convenient understanding the bilingual tool is administered to them in both Hindi and English.

Tool Used

To achieve the objectives of this research, a self-developed scale, the "Universal Design for Learning Awareness and Readiness Scale" (UDLARS), was administered to the sample (N=12) of primary teachers. The tool is a bilingual tool with 50 items that address the teachers' readiness and awareness about UDL through its three principles i.e., engagement, representation, action and expression. The tool is divided into two parts i.e., Part A, which assesses the Awareness component with 22 items; Part B, which assesses the Readiness component with 28 items. "The items are based on the three mentioned guiding principles:

- Providing multiple means of Engagement through recruiting interest, sustaining effort and persistence and self-regulation;
- Providing multiple means of Representation through providing options for perception, language and symbols and comprehension;
- Providing multiple means of Action and Expression through physical action, expression and communication and executive functions (CAST, 2018).

Administration of the test

The tool titled "Universal Design for Learning Awareness and Readiness Scale" is a bilingual tool in English & Hindi (self-developed), to assess the teachers' attitude towards the knowledge and awareness about the Universal Design for Learning Module of instruction, and the readiness or willingness to adopt it into their mode of instruction.

In order to assess this tool, this pilot study was conducted on 12 primary school teachers. This is a self-administered test with instructions on how to complete the scale. The test must be taken in a quiet and

comfortable environment so as to minimize external distractions. The test items are given in both English and Hindi language, for ease of access, convenience or understanding.

The test starts by collecting demographic information about the teacher, which are aspects used for assessing correlates in this research. The correlates assessed for this research include age, gender, socioeconomic status (SES), highest educational qualification and the professional experience in years.

This is not a timed test; however, the test is observed to have been completed within 20 minutes.

Scoring of the test

The UDLARS is 50 item scale which is divided into two parts. Part A tests Awareness containing 22 items, and Part B assessed Readiness containing 28 items.

Each item is scored on a range of 1 – 5. The participant has to choose between five options against each item to the one that most closely matches his opinion.

The item options and their respective scores are Strongly Agree (SA) – 5, Agree (A) – 4, Indifferent (ID) – 3, Disagree (D) – 2, Strongly Disagree (SD) – 1.

All items are scored with the above scoring with the exception of items that have reverse scoring which are as follows.

Items with reverse scoring in Part A – Item number 4, 6, 7, 9, 11, 13, 14, 16, 18, 21 and 22.

Items with reverse scoring in Part B – Item number 1, 6, 11 and 15.

Reverse scoring for these items would involve the item option to be scored as Strongly Agree (SA) – 1, Agree (A) – 2, Indifferent (ID) – 3, Disagree (D) – 4, Strongly Disagree (SD) – 5.

The raw score of each part or domain i.e. Awareness and Readiness, will be calculated by summing all the items under each part as a total score. The maximum score for each part is as follows:

Awareness = 110.

Readiness = 140.

Awareness part domain percentage calculation:

$$Awareness\ \% = \frac{\text{Total Raw Score in Awareness part}}{Max\ Score\ of\ Awareness\ (110)} \times 100$$

Readiness part domain percentage calculation:

$$Readiness\ \% = \frac{\text{Total Raw Score in Readiness Part}}{Max\ Score\ of\ Readiness\ (140)} \times 100$$

RESULTS

Table 1.1 Sample Demographic Details

	N	Age Range
Male	9	27–51 (M=33.44, SD=8.79)
Female	3	30–45 (M=35.33, SD=8.39)
Total	12	27–51 (M=33.92, SD=8.35)

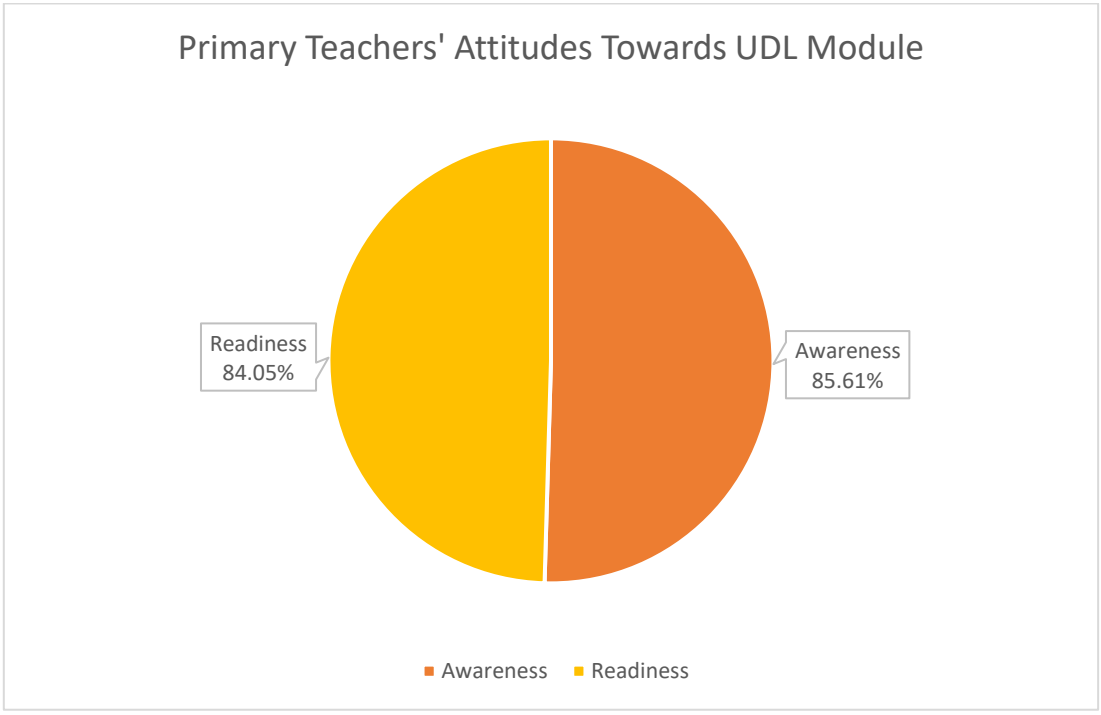
Table 1.2 Results of Teachers' Attitudes towards UDL as per different correlates

Sample	Awareness M (SD)	t	Awareness Percentage	Readiness M (SD)	t	Readiness Percentage
Age (=/<30 years)	96 (2.90)	0.03*	87.27%	120 (5.51)	0.12^{ns}	85.71%

Age (>30 years)	92.33 (3.21)		83.93%	115.33 (7.12)		82.38%
Male	93.78 (3.70)	0.25^{ns}	85.05%	118.22 (7.26)	0.27^{ns}	84.44%
Female	95.33 (3.05)		86.67%	116 (4.36)		82.86%
Urban SES	94 (4.00)	0.40^{ns}	85.45%	117.25 (6.16)	0.40^{ns}	83.75%
Rural SES	94.5 (2.64)		85.91%	118.5 (8.18)		84.64%
Educational qualification (Bachelors)	94.8 (3.46)	0.03*	86.18%	117.8 (6.65)	0.46^{ns}	84.14%
Educational qualification (Masters)	91 (1.41)		82.73%	117 (8.48)		83.57%
Professional Experience (=/<5 years)	95 (3.16)	0.28^{ns}	86.36%	120 (7.07)	0.22^{ns}	85.71%
Professional Experience (>5 years)	93.75 (3.77)		85.23%	116.5 (6.41)		83.21%
Total	94.16 (3.48)		85.61%	117.67 (6.54)		84.05%

ns=not significant; *statistically significant at p=<.05

Figure 1.1 Pie chart depicting the possible prevalence of Awareness and Readiness among Primary Teachers in Bareilly, Uttar Pradesh



According to the results, the total awareness about UDL was found to be M= 94.16 (3.48) and its percentage was 85.61%. Further, the Readiness was found to be M=117.67 (6.54) and its percentage was

84.05%.

Additionally, when the demographic variables were tested in relation to awareness and readiness, it was found that primary teachers aged equal to or below 30 years of age (M=96, SD=2.90) as compared to teachers above the age of 30 years (M=92.33, SD=3.21) had significantly higher Awareness with t=0.03 ($p<.05$).

Secondly, it was found that primary teachers with Bachelors educational qualification (M=94.8, SD=3.46) as compared to teachers with Masters educational qualification (M=91, SD=1.41) was found to have significantly higher Awareness about UDL with t=0.03 ($p<.05$).

Other correlates for Awareness i.e., gender, socioeconomic status and professional experience have no statistically significant difference while there is a marginal difference according to the results.

Similarly, as per the results none of the correlates i.e., age, gender, socioeconomic status, educational qualifications and professional experience have no statistically significant difference while there is a marginal difference.

CONCLUSION

The pilot study seeks to contribute to the existing body of knowledge on UDL implementation by examining teachers' awareness and readiness within the context of Bareilly, India. According to the objectives of the study the following conclusions have been drawn:

- Overall, both the awareness and readiness among primary teachers in Bareilly is high, hence, it can be inferred that they are aware and ready to inculcate the module of Universal Design for Learning into their mode of instruction.
- Primary teachers equal and below the age of 30 years have more awareness regarding UDL module as compared to teachers above the age of 30 years, however, the readiness to adopt it does not differ significantly with age.
- Male and female primary teachers both have the awareness about and readiness to adopt UDL, as it does not differ significantly with their gender.
- Similarly, the Socioeconomic status (SES) of the teachers does not have any significant difference between Urban and Rural background with regard to awareness and readiness about UDL.
- Teachers with a Bachelors qualification have more awareness about UDL as compared to those with a Masters qualification, however the readiness to adopt it does not differ significantly with educational qualification.
- Lastly, teachers with experience equal to or below 5 years and those with experience above 5 years have no significant difference in the awareness about and readiness regarding UDL module.

The study has a few limitations due to permission and time constraints, such as the sample size. Hence, for future studies it is recommended that a larger representative sample size be taken to test the inculcation of UDL module among teachers in Bareilly or India as it will help in adoption of a curriculum beneficial to all types of students.

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