

Special Education Teachers' Knowledge on Universal Design for Learning (UDL) Skills in Inclusive Education

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Abstract:

The present study on Special Education Teachers' knowledge on Universal Design for Learning (UDL) skills in inclusive education was conducted with 30 participants. Participants of the study were chosen from various government and non-governmental schools of rural and urban areas in Tamil Nādu by using purposive sampling method. To focus on the uniqueness of Special Education Teachers' Universal Design for Learning (UDL) skills, the investigators have chosen purposive sampling method. A sample of 30 increases the confidence interval of the population data set enough to warrant assertions against the research findings. In this view 30 respondents are chosen for the study. The 30 Special Education Teachers were divided into two groups, each of the groups had 15 rural and 15 urban teachers. Among these sampled teachers 15 were having below 10 years of experience and the remaining 15 are having more than 10 years of experience. A survey was carried out for the study to gather specific information from the respondents on Universal Design for Learning (UDL) skills at grassroot level. The independent variables chosen for the research study are gender, locality, and experience. The dependent variable used in the study is to know the exact stand of the Special Education teachers' UDL skills in inclusive education. Details were collected from the special education teachers through the personal data sheet and checklist developed by the investigators on Universal design for learning (UDL). From the present study its clearly visible that, most of the special education teachers are aware of the Universal design for learning and terms related to UDL but don't have adequate experience and training in implementation part.

Key Words: *Special Education Teachers, Universal Design for Learning, Knowledge and Skills, Technology, Inclusive Education and NEP 2020.*

Introduction:

In the 21st century, referred as the technology era, the developed and developing countries are growing enormously in science and technology. This technological growth helped many developing countries to acquire the status of developed countries. Thus, technology has become a centre point of national development, especially in education. During the COVID-19 pandemic, this technology made remarkable history in education especially higher education. Online classes, online examinations, and online degrees became a major part of our educational system. New Educational Policy (NEP) 2020 emphasized the same; it assures technology upliftment in education. Universal Design for Learning mainly integrates technology. Universal design for learning (UDL) helps the teachers to preserve their class materials, and share them with students easily including distance learners. Multiple means of representation, engagement, action and expression should be applied in the process of teaching and learning process by the teachers especially special education teachers in all the activities to achieve their educational goals. This, helps the teachers to attend to all the learners in their classroom. In the year 2012 *Summarizing Dell, Newton, and Petroff* "Universal Design for Learning is a philosophical foundation for curriculum development that provides individual opportunities for learners". *Dell* and his co-workers pointed out that this Universal Design for Learning creates a way for all the learners through the teacher's efforts in acknowledging all the learners in 2012. In support of their work *J.Harris* (2014) proved that students can learn better if they are provided with auditory and visual form of instructions. The present research work also addresses the same with Special Education Teachers from inclusive schools at classroom level.

Objectives:

The following objectives are envisaged in the present research study:

1. To study the knowledge of special education teachers universal design for learning (UDL) skills in inclusive education.
2. To compare the knowledge of special education teachers for UDL skills in inclusive education according to gender.
3. To analyse the knowledge of special education teachers for UDL skills in inclusive education according to locality.
4. To compute the knowledge of special education teachers for (UDL) skills in inclusive education according to experience.

Hypothesis:

- H₀ There is no significant difference among the special education teachers' knowledge on UDL skills in inclusive education according to gender.
- H₁ There is no significant difference among the special education teachers' knowledge on UDL skills in inclusive education according to locality.
- H₂ There is no significant difference among the special education teachers' knowledge on UDL skills in inclusive education according to experience.

Need of the Study:

Nowadays our classrooms are accommodating varieties of learners like auditory learners, visual learners and others with or without disabilities. They are coined as diverse learners. It is high time for teachers to address all the diverse learners, especially special education teachers. These special education teachers play an important role in inclusive education. Many research studies state that teachers should have strong planning and technical support to address the looming issues of diverse learners for making Inclusive Education more effective and successful. The present research is an experimental attempt to know the state of special education teachers' knowledge on universal design for learning. This study also helps special education teachers to equip themselves to attain fruitfulness in inclusive education. The study can be replicated for general teachers including subject, language, and physical education teachers. The same study can be used by the Head of the Inclusive Schools with slight modification.

Scope of the Study:

The following are the main scope of the present research work:

- Identifying the exact stand of special education teachers on UDL skills in Inclusive Education.
- Compute the knowledge of special education teachers on UDL skills in Inclusive Education.
- Special education teachers can equip themselves to attain fruitfulness in inclusive education through UDL.

Review of Literature:

The effects of training in UDL on lesson plan development of special and general educators in a college classroom environment were investigated by experimental design with a control group which was used for this study. A one-hour teacher training session introduced UDL to the experimental group; the control group received the intervention later. Differences were found between pre-test and post-test measures for both treatment groups for special education and general education teachers. The results suggest that a UDL can help teachers

to design a lesson plan accessible for all students by (Spooner et al in 2007). Spooner states that Universal Design for Learning (UDL) basic principles of multiple representations, multiple options for expression, and active engagement are made realistic through availability of current educational technologies. The study delineates unique features of collaborative professional development opportunities and benefits for teachers and teacher educators (Zhang et al 2005). Izzo, et al said the same in 2008, Cumming, et al, & Megan in 2021. Larger numbers of students are entering higher education with more diverse learning needs as stated by Holly Buckland-Parker in the year 2012. Later Kumar & Wideman 2014, highlights UDL can be possible with adequate training and immediate feedback.

Materials and Methods:

The research study employed survey design in Tamilnadu. Odunthurai (smartest village) Moothakurichi (largest village) Ariyalur (smallest village) Naluedapathy (poorest village) were the selected rural area of the study. Cities and towns like Chennai, Coimbatore, Madurai, Trichy, Sivaganga and Erode have largest population of qualified Special Education teachers. These location are considered as urban areas for the study. The participants of the study were chosen from various government and non-governmental schools of rural and urban areas in Tamil Nadu by using purposive sampling method. To focus on the uniqueness of special education teachers' UDL skills, the investigators has chosen the purposive sampling method. A sample of 30 increases the confidence interval of the population data set enough to warrant assertions against the research findings. In this view 30 respondents were chosen for the study. The 30 special education teachers are made up of 15 masculine (male) and 15 feminine (female). Further, the same 30 special education teachers were divided into two groups, each of the groups had 15 rural and 15 urban teachers. Among the 30 special education teachers 15 were having below 10 years of experience and the remaining 15 had more than 10 years of experience. The independent variables chosen for the research are gender, locality, and experience of special education teachers. Survey method is used for the study to gather specific information from the respondent on UDL skills at grassroot level. The dependent variable in the study is to know the exact stand of the special education teachers on UDL skills in inclusive education. Details were collected from the special education teachers through the personal data sheet and checklist developed by the investigators. Collected data are analysed and tabulated by performing descriptive statistical calculations.

Limitation of the Study:

- The participants' size is limited, because of the purposive sampling method as the investigator cannot provide opportunities to all the teachers.
- The study has been carried out with Special Education Teachers alone.

- Special Education Teachers from Tamil Nadu state were only chosen for the study.
- General teachers including language, subject, and physical education teachers are excluded from the study.

Result and Discussion

Table No.1 portrays significant difference between male and female special education teachers' knowledge on UDL skills. The calculated variance of the female special education teachers is 11.885 at the same time variance of the male special educators is 30.695. This may be due to the opportunities utilized by male special education teachers during in-service training. Thus, the hypothesis 1 "There is no significant difference among the special education teachers' knowledge on UDL skills in inclusive education according to gender" is rejected.

Table No. 2 is the experimental evidence to show the variance observed among the rural and urban special education teachers' knowledge of UDL skills in inclusive education. The urban special education teachers' mean score is 25.49 whereas the rural special education teacher's mean score is 13.12 only. This variance is observed due to the geographical influence of special education teachers. Thus hypothesis 2 "There is no significant difference among the special education teachers' knowledge on UDL skills in inclusive education according to the locality" is rejected.

Table No. 3 explains the range of special education teachers' knowledge of UDL skills in inclusive education based on their locality. Usually, the higher the experience gives the high score. Here the investigators were surprised to notice that the special education teachers with below 10 years of experience ranged are 14 at the other end 5 was the range of special education teachers with above 10 years of experience. This may be due to the curriculum upgradation in the special teacher education programmes. The updated curriculum includes new educational policies and innovative methods of teaching. Thus hypothesis 3 "There is no significant difference among the Special Education Teachers' knowledge on UDL skills in inclusive education according to experience" is rejected.

Table 1 : Special Education Teachers scores on Universal Design for Learning (UDL) skills in inclusive education with respect to locality

S. No.	Gender	Count N	Range R	Minimum deviation	Maximum	Mean	Standard	Variance
1	Male	15	15	17	32	22.866	5.5403	30.695
2	Female	15	12	18	30	22.2	3.4475	11.885

Table 2 : Special Education Teachers scores on Universal Design for Learning (UDL) skills in inclusive education with respect to locality

S. No.	Locality	Count N	Range R	Minimum deviation	Maximum	Mean	Standard	Variance
1	Urban	15	14	18	32	23.933	5.0493	25.495
2	Rural	15	13	17	30	21.133	3.6227	13.123

Table 3: Special Education Teachers scores on Universal Design for Learning (UDL) skills in inclusive education with respect to experience

S. No.	Experience	Count N	Range R	Minimum deviation	Maximum	Mean	Standard	Variance
1	Below 10Years	15	14	18	32	25.66	4.369	19.095
2	Above 10 Years	15	05	17	22	19.4	1.639	2.686

Maximum and minimum scores obtained by the special education teachers' knowledge on Universal Design for Learning (UDL) skill according to gender along with calculated variance.

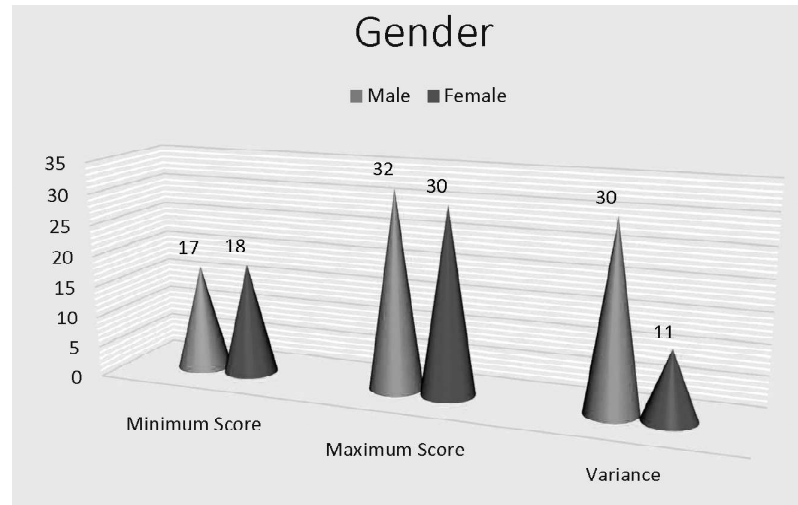


Figure : 1

Variance of special education teachers' knowledge on Universal Design for Learning (UDL) skills based on their locality with maximum and minimum scores.

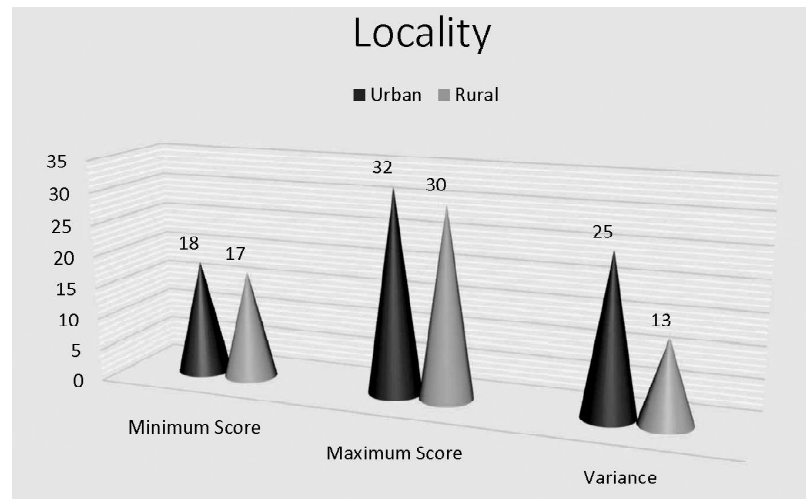


Figure : 2

Maximum, minimum scores and variance of special education teachers based on their experience.

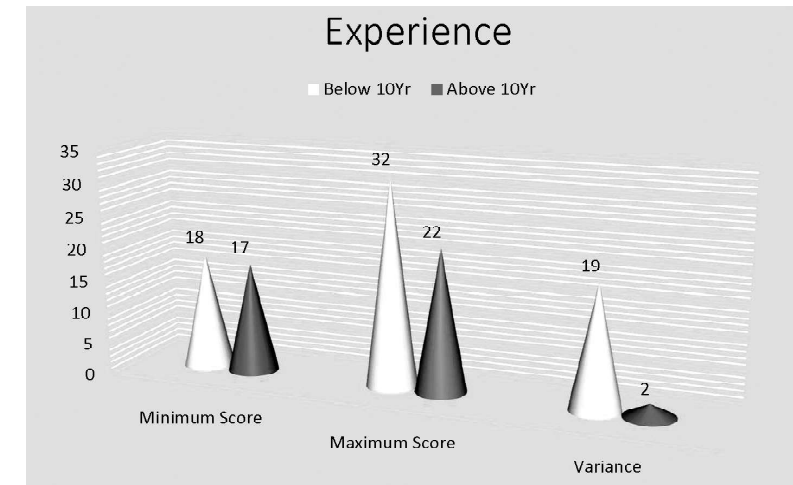


Figure : 3

Suggestions and Conclusion:

India is on the developing country list; because of its strong education system and technology. In our nation, we are following a special type of curriculum that has global standards while at the same time reflecting the extract of traditional methods. It is high time for developing countries like India which has varieties of learners in the inclusive classroom should have strong technological support. Thus, the Universal Design for Learning provides a platform for successful inclusive education programme. From the present study, it is clearly visible that, most of the Special Education Teachers are aware of Universal Design for Learning and terms related to UDL. It is also evident that the special education teachers from rural and urban areas required high support to execute the UDL principles. The present study submits pre-service, in-service, and refresher courses that should be livelier and practical-oriented for teachers. Especially each district of Tamil Nadu should organize practical classes on UDL. The same can be implemented in other districts of India, for successful Inclusive Education by bridging the theoretical and practical knowledge of Special Education Teachers and other teachers. Rural and urban areas should be treated same in-terms of trainings and development. Intensive training programmes can be planned for rural areas.

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