Readiness of Teacher Educators for Blended Learning in Odisha

(A Baseline Survey)

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Authors:

Dr Sudarshan Mishra, *Professor in Education, Department of Education, Ravenshaw University, Cuttack, Odisha*
Dr Manas Ranjan Panigrahi, *Senior Programme Officer (Education), Commonwealth Educational Media Centre for Asia (CEMCA), New Delhi*
Dr Pranita Gopal, *Visiting Faculty, Department of Education, Ravenshaw University, Cuttack, Odisha*

Layout and Design: Mr. Sabyasachi Panja

For further information, contact:
Commonwealth Educational Media Centre for Asia
7/8, Sarv Priya Vihar
New Delhi- 110016
http://www.cemca.org

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Preface

The covid19 pandemic has been caused for closing of all institutions imparting face to face mode of teaching globally. In India, the University Grants Commission (UGC), in its 547th meeting held on 29th May 2020 instructed all its higher education institutions running regular courses to opt blended mode of teaching in which 40% of the syllabus will be taught in online and 60% of the syllabus will be taught through offline mode. In the month of May 2021, UGC released its concept note on Blended mode of Teaching and Learning for feedback from stakeholders. Ratifying the usage of online strategies and empowering teachers to create a blend of online and offline mode of course delivery, the UGC has acknowledged the need for and importance of using blended learning strategies in the education system of India. Govt. of Odisha on dated 26th May 2020 in the video conference of all Vice-Chancellors of State public universities unanimously decided to introduce 'Blended Learning' in the form of 'Guided Self Study' covering 25 per cent of the syllabus both at Under-Graduate (UG) and Post-Graduate (PG) level from the next academic session i.e. 2020-21 as per the modalities. It put much emphasis on teacher educators' ability to develop self-guided e-contents for the students and making it available in dedicated online portal.

In this connection, implementation of Blended teaching and assessment was also an innovation for the teacher education institutions of the state of Odisha. The teacher education institutions offering elementary and secondary teacher education courses also started working as guided by the UGC in the blended learning concept note and instructions of the Govt of Odisha to develop e-contents for dedicated portals and to deliver ICT integrated blended teaching.

CEMCA, New Delhi and Ravenshaw University, Cuttack joined hands to explore the status of teachers' perception and ability to impart teaching and assessment through a blended approach. Ultimately, it is designed as a baseline survey to identify the needed proficiencies and to design the mode of input program for the teacher educators of Odisha.

This report clearly spells out the training needs of the teacher educators, their perception towards different components of blended learning and the skill level of ICT integrated online teaching. This report has four sections. First section deals with introduction, research reviews, scenario of teacher education in Odisha and objectives of the baseline survey. The Second Section deals with methodology opted for the survey and the third section deals with the analysis of the collected data with graphical and textual discussion basing on the objectives of the study. The fourth section deals with discussion on findings to listing out the emerged needs and to generate a capacity building program for the teacher educators of Odisha.

We feel honoured to have been entrusted with this undertaking and must convey our gratitude to all those who have helped us in various ways in accomplishing this task. We

are grateful to Principals and colleagues of Teacher Education Institutions of Odisha for extending their wholehearted cooperation in sharing their perception and experiences of online teaching. We are deeply indebted to Prof. Sanjay K. Nayak, Vice-Chancellor, Ravenshaw University for extending necessary systemic and academic support for this noble task. We are deeply acknowledging the wholehearted support of Prof. Madhu Parhar, Director, CEMCA, New Delhi for accomplishing the task successfully.

Sudarshan Mishra
Manas Ranjan Panigrahi
Pranita Gopal

Abbreviations and Acronyms

BIET: Block Institute of Education and Training

TPACK: Technological Pedagogical Content Knowledge

CABLES: Complex Adaptive Blended Learning System

CEMCA: Commonwealth Educational Media Centre for Asia

COL: Commonwealth of Learning

DIET: District Institute of Education and Training

ETEI: Elementary Teacher Education Institution

IASE: Institute of Advance Studies in Education

ICT: Information and Communication Technology

NROER: National Repository of Open Educational Resources

NEP: National Education Policy

UGC: University Grants Commission

UNICEF: United Nations Children's Fund

Section-I
Background of the Study

1.1 Introduction

The COVID-19 pandemic compelled teachers to adopt and adapt teaching learning strategies that could be delivered from a distance in the absence of face-to-face interaction. Few interested teachers across disciplines and ages have come up with innovative ways to engage their learners, but these innovative practices haven't been scaled up to student mass of the institutions throughout the world.

Online teaching learning has its own benefits and its own challenges. Dhawan (2020) has listed the various advantages and challenges of online teaching learning programs and processes involved thereof. The paper also explains in detail how the online teaching learning programs have helped students connect with their teachers, mentors and peers, but this was possible only if adequate infrastructure was available at both ends- teacher and the taught. This paper, like many others that have researched about online teaching learning process have laid the emphasis of capacity building of teacher educators to transact online classes and in the same breadth have documented that only online mode of teaching learning may not be sufficient to augment the learning journey of students. Directly or indirectly, we observe, there is a case made for Blended Learning so that educators can make use of the better of the two worlds- online education and face-to-face classroom interaction.

In the month of May 2021, University Grants Commission, India released its concept note on Blended mode of Teaching and Learning [1]. This document is an outcome of the Public Notice by UGC [2] that permitted Higher Education Institutes to teach up to 40% of the syllabus through online mode and the remaining 60% through offline mode. Ratifying the usage of online strategies and empowering teachers to create a blend of an online and offline mode of course delivery, the UGC has acknowledged the need for and importance of using blended learning strategies in the education system of India.

1.2 Need for Blended Learning in Teacher Education

There are two threads that weave the need to introduce blended learning in teacher education. The first thread deals with the benefits of blended learning in the classroom and the second thread deals with the empowering teachers to implement blended learning successfully in the classroom; as blended learning helps teachers plan and execute learning experiences that incorporate online and offline tools.

1 https://www.ugc.ac.in/pdfnews/6100340_Concept-Note-Blended-Mode-of-Teaching-and-Learning.pdf
2 UGC Public Notice # D.No.1-9/2020(CPP-II), 20 May 2021

Graham (2006) broadly defined blended learning as a mix of face of face interaction along with technology-based instruction. This often used, loosely structured definition gives freedom to researchers and practitioners to decide on the mixing ratios of face-to-face interaction and technology-based instruction. Blended learning combines elements of student control of the time they spend with the content/ activity, the pace they set to complete the course and the learning path they choose to gain the learning experience (Horn and Staker, 2014).

According to Dziuban, Hartman, & Moskal (2004), "Blended learning should be viewed as a pedagogical approach that combines the effectiveness and socialization opportunities of the classroom with the technologically enhanced active learning possibilities of the online environment, rather than a ratio of delivery modalities. In other words, blended learning should be approached not merely as a temporal construct, but rather as a fundamental redesign of the instructional model." As an ideological change that has the potential to redesign classroom learning experiences, Horn and Staker (2014) write "…it (*blended learning*) can free up teachers to become learning designers, mentors, facilitators, tutors, evaluators, and counsellors to reach each student in ways never before possible…"

Means, Bakia, & Murphy (2014) shared five purposes for blended instruction in school education. They suggest these five purposes have the ability to broaden the access to instruction in the classroom by helping teachers facilitate small-group and one-to-one teacher-led instruction; serving students with diverse needs, providing opportunities for productive practice (additional resources that are so designed to provide corrective feedback), adding variety to instruction so as to enhance student engagement, and lastly, supporting learning of complex and abstract concepts by levering technology. The five purposes of blended instruction in school education include broadening access to instruction; facilitating instruction; helping students with diverse needs; giving students opportunities to practice; proving scaffold to strengthen student engagement.

In a very interesting policy paper regarding teacher training, almost three decades back Lawlor (1990) wrote *"… at the basis of the present, bad system of teacher training, there lies a confusion between what can best be learnt by academic study and what can be learnt only through practice. Whereas the individual subjects which teachers will teach require academic study, the skills of teaching are essentially practical ones. They can be acquired only through experience, trial and error and careful, individual supervision...".* Orchard and Winch (2015) state, *"… teacher education should integrate three kinds of theory– conceptual understanding, empirical research and ethical deliberation – with practical observation, experience and reflection."* Viewed from the lens of practicality, there is a saying in English that the *proof of the pudding lies in its eating* and therefore, if we want teachers to become proficient in using technology in the classroom so as to support their learning environment, they themselves need to be able to experience its benefits, experience the learning environment, experience the problems learners face in a technology infused classroom so that they are empathetic and pro-active while planning and designing their own classroom learning environment. In the same breadth it is imperative teacher educators also become proficient in planning, delivering, and implementing blended lessons in their classroom so as to help pre-service teachers experience the benefits of blended learning.

1.3 Teacher Education in Odisha with reference to Blended Learning

In the state of Odisha, there are three IASEs, 13 Colleges of Teacher Education for Secondary level Teacher Education programme and 31 DIETs, 33 ETEIs, four BITEs and three Secondary Training (ST) schools for Elementary level Teacher Education programmes (http://scertodisha.nic.in/admissions/). As per the joint Review Committee report (2012) 163 teacher educators at Elementary level and 122 at Secondary level are working in regular mode. There are contractual teacher educators in the vacant positions which numbers varies from year to year. Apart from that, there are 12 Govt. Institutions those are running Secondary level or Higher studies in Teacher Education in Self-financing mode.

Directorate of Teacher Education and SCERT Odisha in collaboration with UNICEF organised a workshop on ICT integration in Teacher Education in the year 2016 for the teacher educators. It recommend that

- There is a need to establish ICT competency level for teachers, in terms of competency in the innovative and creative use of ICT in teaching
- Provision of training in teaching methods and recommended that the teacher training curriculum should incorporate competence in the use of specific ICT tools, competence in integrating ICT into subject teaching, and competence in utilizing ICT for planning, preparing, teaching, assessing and evaluating lessons

Teacher Educators of DIETs have been trained on DIKSHA portal and its usefulness for the teachers and Teacher Educators. ICT in Teacher Education programme was introduced in selected DIETs / IASEs / CTEs and BITEs with technical support of SNDT Women University, Mumbai and CIET, New Delhi. ICT tools have been used by those TEIs in Teaching-Learning Processes and Assessment.

ICT components have already been integrated in the PSTE Curriculum for B.Ed and D.El.Ed. (as a special paper as well as integration in Core/Pedagogy papers). Online Professional Learning Community (PLCs) are functioning at DIET, Khurda and DIET, Nayagarh. All the Teacher Educators and official staffs are being trained on the Basic computer literacy skills as per the suggestions given in the PAB by Ministry of Human Resource Development (2017) (Source: http://scertodisha.nic.in/programmes-undergoing/). It also organized online teachers training for selected teacher educators enabling virtual engagement with students through IBM programme (STEM) during 2020. Most of the programmes are piecemeal in approach and did not cover all the teacher education institutions and teacher educators. There is no single programme designed to train all the teacher educators of the state on blended learning. However, the state government has introduced 'Blended Learning' in the form of 'Guided Self Study' covering 25 per cent of the syllabus both at Under-Graduate (UG) and Post-Graduate (PG) level from the academic session i.e. 2020-21. It says,

"To ensure proper student self-study, teachers shall provide necessary guidance to students through 4 (Four) hours of doubt clearing classes (4/5 classes) in physical classroom teaching mode; one class at the beginning, one class at the end and 2/3 classes

in between. While the first doubt clearing class should necessarily be used for orienting the students for self-study (including informing students about how to get access to prescribed Text Books and e-Learning Resources), the remaining doubt clearing classes should be utilized for doubt-clearance, explaining complex portions of the self-study syllabus, question-answering, analytical discussion amongst students, etc".

As follow up actions many State Universities and Autonomous colleges of Odisha organized workshops, orientation programs on development of e-learning resources, use of e-learning resources and face the challenges confronted by the teachers during teaching. The central University of Odisha located in Koraput also started its initiatives in this regard. But the fact is as there was no or little preparation of the teachers for Blended Learning with ICT integration, thus, teachers throughout the state looked for support for ICT integrated teaching, designing of lessons best fit to blended approach and appropriate assessment tools of blended learning. Neither the higher education system of Odisha experienced such modalities earlier nor pre-prepared to adapt the guidelines given by the UGC, New Delhi. As there was no way out, both higher education administration and higher education institutions opted and explored many alternate initiatives for teacher preparation and development of necessary e-resources for the students.

1.4 Theoretical Framework to Implement Blended Learning

On surveying related literature on blended learning, a very useful framework to identify, structure and implement blended mode of learning was identified- the TPACK framework (Koehler & Mishra, 2009). This framework in its essence aims at helping educators integrate technology into the classroom practice by focussing on their technological, pedagogical, and content knowledge. This baseline study used this framework to identify the skills needed to plan, develop, and implement the blended learning mode of learning in pre-service teacher education program. Figure-1 presents a comprehensive view of the TPACK Framework.

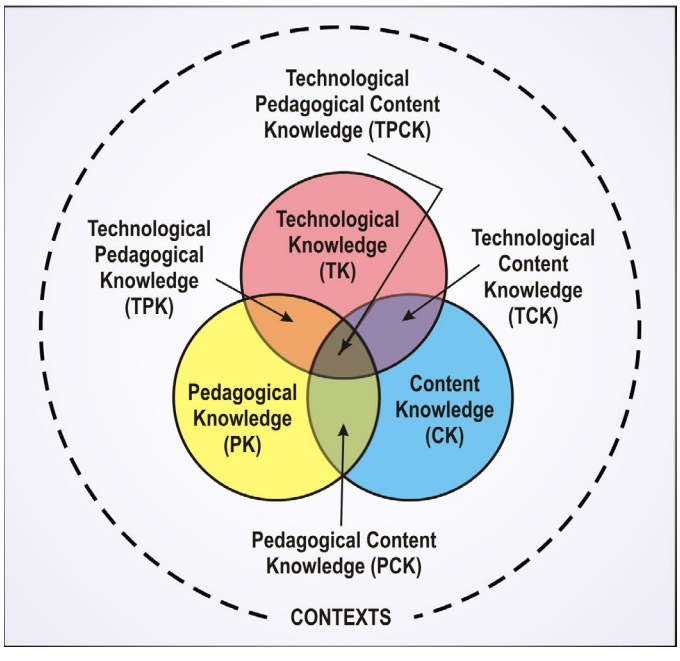

Figure 1: TPACK Framework: Reproduced by permission of the publisher, © 2012 by tpack.org

The TPACK framework identifies three basic forms of knowledge–pedagogical, content, and technological knowledge along with its intersecting points: pedagogical-

content; technological-pedagogical; technological-content and technological-pedagogical-content knowledge. In this study, the focus was laid on understanding the position of teacher educators on the intersecting points of knowledge i.e., technological-pedagogical; technological- content and technological-pedagogical-content knowledge.

The baseline study also drew from the Complex Adaptive Blended Learning System (CABLS) while planning the baseline study and workshops for the blended learning mode in pre-service education in Odisha. At the heart of the CABLS model is the learner but each component along with its sub-systems interact with each other. The six components within the CABLS model includes the learner, teacher, content, technology, learning support and the institution. The CABLS framework (Figure 2) is designed to "facilitate a deeper, more accurate understanding of the dynamic and adaptive nature of blended learning" (Wang et al., 2015).

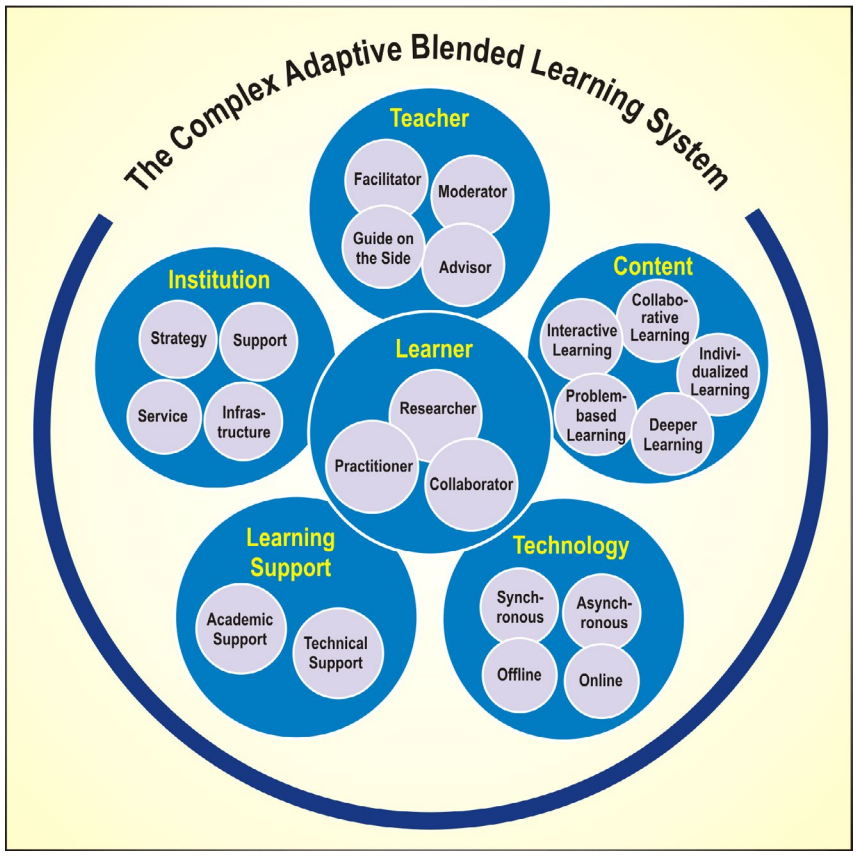

Figure 2: The Framework of Complex Adaptive Blended Learning Systems (CABLS)

1.5 Rationale and Indicators of Baseline Study

A baseline study simply defines the 'pre-operation exposure' condition for the set of indicators that will be used to assess achievement of the outcomes and impact expressed in the program's logical framework [3] This baseline study was undertaken while the world was grappling with the COVID 19 pandemic. It was almost twenty months since educators around the world were using technology to facilitate learning. In the state of Odisha also

3 United Nations World Food Programme, How to Plan a Baseline Study, Monitoring & Evaluation Guidelines.

teacher educators were using technology to conduct their classes and therefore, it was sufficient reason to know the ability of the teacher educators leveraging technology in the classroom. It was with this aim, these indicators were selected for the baseline study; many of the indicators found research support while there were some that were chosen for their perceived value (described in the rationale/ research support section of the Table 1

Table-1: Indicators of Baseline study

Indicator	Rationale / Research Support
Gender	Boyte-Eckis, Minadeo, Bailey, & Bailey (2018).; Cai, et al., (2017); Diep, et al., (2016) are some studies that studied gender vis a vis online learning vis a vis educational outcome – and the results were inconclusive. On the other hand, research like that of Leong et al (2021) suggests that the university administrators need to undertake strategic change to assist female learners in overcoming the barrier of Internet self-efficacy skills. Therefore, this indicator was chosen to ensure equitability and access to both men and women teacher educators in training to implement blended learning in teacher education.
Age	Many research identify age as a factor in adopting newer technologies, prominent among them is that of Czaja et al., 2006. On the other hand, if older people are shown how technology can add value to their lives, they are more open to learn, adopt and adapt technology (Heinz et. al., 2013). This indicator was chosen to understand the technology proficiency of the participants.
Discipline & Educational Qualification	Research around academic discipline versus technology integration in the classroom is not exhaustive. Research of Orji (2010); Semary (2011); Hue, & Jalil (2013). Mercader and Gairín (2020) provide a glimpse of how academic discipline could act as a barrier to integrate technology into a classroom. Since the pandemic of 2019 forced all teachers to integrate technology into their curriculum and classroom it was decided to use academic discipline as an indicator for the baseline study.
Designation & Teaching Experience	Mohamad, Salleh, ohd, Salam, and Bakar (2016) shows teaching experience does not affect the usage of technology in the online classroom. Researchers wanted to explore this dimension in the context of Odisha.
Status of Institution	The UGC regulation on blended learning permitted teachers to conduct 40% of their classes using blended mode. The NEP 2020 introduced and ratified the choice-based credit which provides university students with the option of completing the requisite credits of their degree program from various recognized universities. For this system to be robust, teacher educators across the country can create and get students to enroll for their blended learning courses based on the status of their institution (state university/ central university/ UGC recognized university etc.).

Blended Teaching Readiness	Blended teaching model has been around for some time now, empirical research regarding teacher readiness to plan, initiate and sustain blended teaching is needed. Understanding the readiness of teacher educators towards blended teaching will help the researchers plan the workshop on blended teaching.
Integrating technology in the classroom	Technology integration is an integral part of implementing blended learning. In Greenhow et.al. (2008) numerous researches have been studied and five factors have been identified that that aid in successful technology integration.

1.6 Objectives of Baseline Study

1. To study the profile of Teacher Educators working in the state of Odisha.
2. To study the readiness of Teacher Educators on different components of Blended Teaching and Learning
3. To suggest broad framework for a capacity building program to address the emerging needs of teacher educators.

Section-II
Methodology

2.1 Method

The descriptive survey method has been used for the present baseline study. The goal of descriptive research is to describe a phenomenon and its characteristics. This research is more concerned with what rather than how or why something has happened.

2.2 Population

All the teacher educators working in the state of Odisha comprises the population of the study. They constitute of teacher educators from the institutions, like IASEs, CTEs, DIETs, ETEIs, BIETs, self-financing Teacher Education Institutions, University Departments of Education, Department of Education of various colleges under State Governments.

2.3 Sample

The target was to reach more than 300 teacher educators across the state. It is to note that 203 teacher educators participated in the study from various Teacher Education institutions of Odisha. The Teacher Education Intuitions like, IASEs, CTEs, DIETs, ETEIs, BIETs, self-financing Teacher Education Institutions, University Departments of Education, Department of Education of various colleges under State Governments participated in the baseline study.

2.4 Data Collection Instrument and Procedure

The actual scenario of Teacher education institutions in Odisha skewed towards government managed institutions than private (self-financing) institutions. In Odisha, there is no private institution running teacher education program. Thus, the participants are only from govt. institutions. The study opted convenient sampling procedure in the baseline study. Attempt was made to include teacher educators of different age groups, designation, length of experience and gender, thus the link of the survey was shared to majority of the institutions through email, WhatsApp, Facebook and posting letters to the institution heads.

After a thorough review of the literature, the relevant components of blended learning were listed out. The team developed the items relating to each component of blended learning. Initially the questionnaire had three sections. The first section was about the demographic profile of the participants like, age, experience, gender, designation, subject of teaching and type of management in which s/he is working.

Second section dealt with readiness of the participants in ensuring and checking the participation of students, checking of students' progress, ability to get students' feedback, integration of different activities in online teaching. Third section dealt with ICT integration in online teaching which includes items like, participants' exposure to online collaboration tools, e-Portfolio, eBook, video, audio resources to different platforms, use and accessibility of tools, educational games, pallet, flip grid, etc. The piloting of the Questionnaire was done for checking the appropriateness of the language of the items, ambiguity and feasibility of the tools to the targeted group. Accordingly, necessary modifications were made. Finally, the Online Survey Questionnaire had three sections. The respondents were given 15 days duration to fill up the online questionnaire. The team also sends reminders to the institutions to submit the questionnaire in time.

In the baseline study Google form was used to administer the questionnaire to collect information from the teacher educators of Odisha.

Section-III

Data Analysis and Interpretation

3.1 Data Analysis and Interpretation

Keeping in mind the objectives of the Baseline Survey, the responses of teacher educators have been analysed by using descriptive statistics. The procedure of analysis has been done in the following way:

- The distribution of the participants in percentage relating to their different sample characteristics like gender, age, experience, designation, subject of teaching and type of institution in which they work
- What percentage of participants knows/do not know the use/availability/ accessibility of each component of blended learning?
- What is the level of agreement of participants to the statements relating to the implementation of the blended learning in Teacher Education in the state of Odisha (Part C)?
- Graphical (Histogram and Pie diagram) representation of data

3.2 Part A: Profile of the Participants

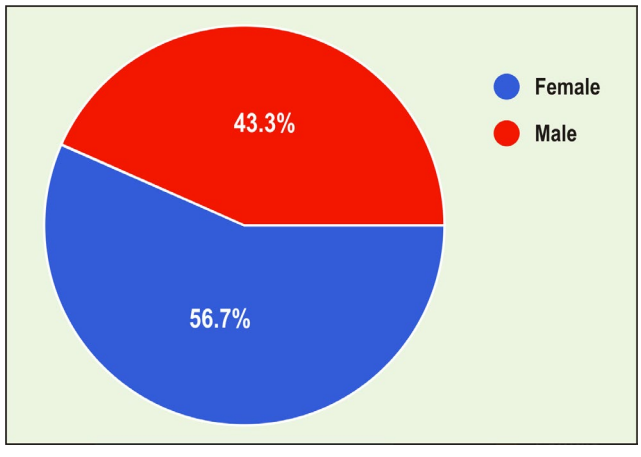

Figure 3: Gender wise distribution of participants

Figure 1 represents the gender wise distribution of participants. More than half of the participants (56.7%) were female. Although research on gender vis a vis online technology integration supports the view that female needs more support than male. Thus, to ensure equitability and access among the targeted group, female participants were encouraged to participate in the survey. Familial roles and responsibilities traditionally filled by women in the home had to be a considering factor in understanding the participation of participants in the proposed capacity building program. In Section 1 of this study, the indicators of the baseline study along with their research support and rationale was discussed.

It is found that 41% the participants are above 40 years of age; while, 59% of the participants were less than 40 years of age. This age distribution is significant because majority of the participants of the study would be an integral part of leading their institutions in implementing the blended learning policies that NEP 2020 would necessitate – adding to the importance of these training workshops.

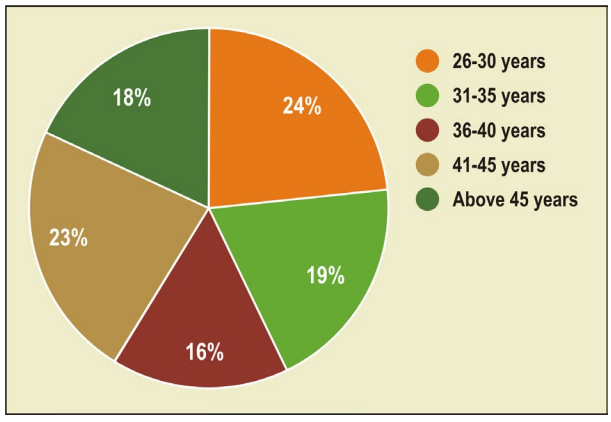

Figure 4: Age-wise distribution of participants

In the state of Odisha, the teacher educators working in DIETs are designated as Teacher Educators and Senior Teacher Educators; while in Education colleges and University Department of Education, they are designated as Assistant Professor, Associate Professor, Professor based on their position in the institution. Figure 5 is representative of the participants designation and it is interesting to note 51% of the workshop participants belonged to the DIETs. As an institute, DIETs provides Diploma in Elementary Education (D.El.Ed.) programme. Students who pass out from DIETs become elementary school teachers. These student teachers who pass out from DIETs are eligible to teach up to Class VIII. It is expected skillsets the participants learn in the Blended Learning Workshop would assist them to create access and equity in education.

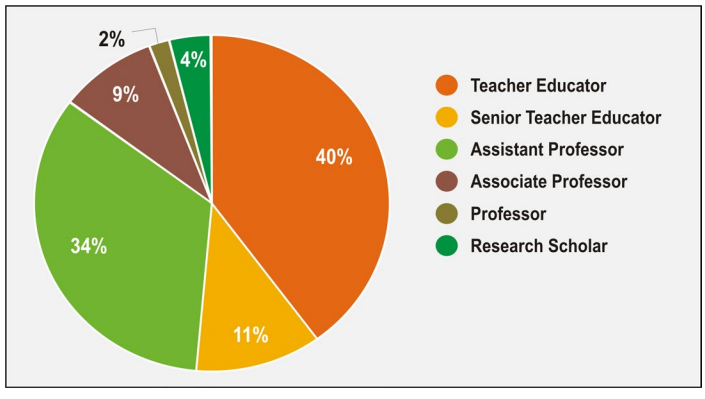

Figure 5: Designation-wise distribution of participants

The Figure 6 shows that more than 70% of the participants are from Science, Social Sciences and Mathematics. The remaining participants are from Indian Languages, Odia and English. However, research reviews claim that academic subjects stand

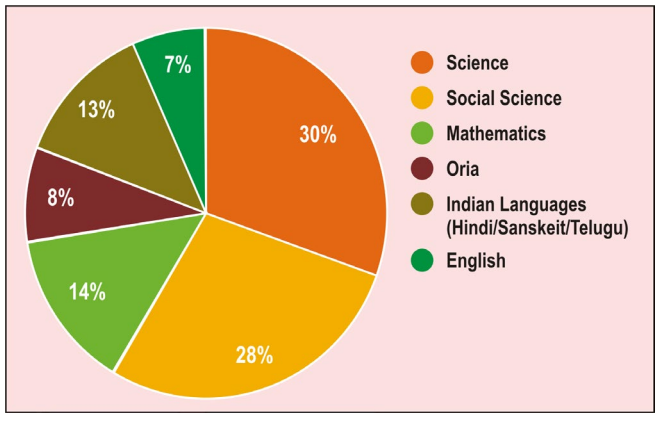

Figure 6: Subject-wise distribution of participants

as barrier in integration of technology in the classroom (Mercader and Gairín, 2020). But the UGC guidelines for Blended Learning is common to teacher educators irrespective of their subject of teaching. The Blended Learning compels each teacher educator to plan, execute and assess through technology integration in online and offline classes. It is not restricted to any subject/discipline.

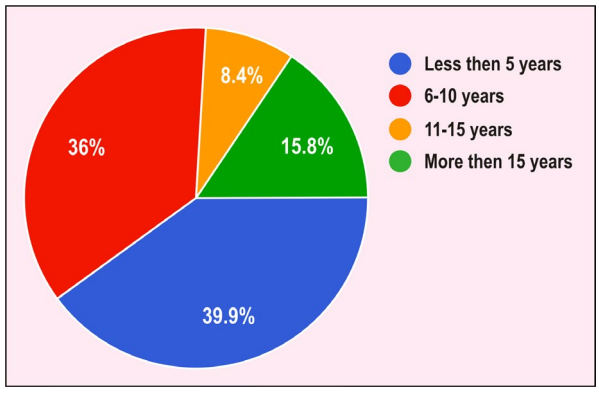

Figure 7: Experience-wise distribution of participants

The Figure 7 shows that more than 75% of the participants in the study fall in the category of 0 to 10 years of experiences. The remaining participants had more than 10 years of teaching experiences. However, the previous research supports the view that experience in teaching does not affect usage of technology in online classroom teaching.

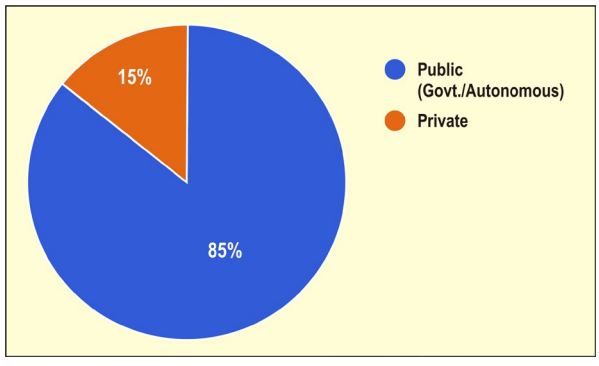

Figure 8: Participant's Status of Institute

Figure 8 It shows that majority of the participants i.e. more than 85% of participants are from public/Govt. institutions. UGC and NEP 2020 viewed for blended learning in all types of institutions throughout the country.

From Part-A presentation of the data it can be inferred that there is a sizable female teacher educator who participated in the survey. It gives a clue for their future participation in any need based program even though they have their domestic responsibilities. 41% of the participants are 41 years and above age group which again a positive sign of the participants to be involved in any need based program. 85% of the teacher educators are lecturer/Asst. Professor/Senior Teacher Educators/Teacher Educators in the sample who are in a better position to spare time for their professional growth than the higher positioned teachers like, Readers, Associate Professor and Professors. It is a fact that Reader and Professors are assigned more responsibilities and multiple tasks than others. It is also found that about 76% of the teacher educators participated in the survey have 0 to 10 years of teaching experiences that is mostly on offline teaching, thus, there is a need to expose them to the online as well as blended approach so that, they can implement and innovate in their long future. As the teacher education in Odisha is dominated by the Govt institutions, thus, any program to be designed should best fit to the teacher educators of the Govt. set up at large. Thus, it can be inferred that sample characteristics best resemblance with the real status of teacher educators in the state of Odisha.

Table-2: Key insights drawn from graphical representations

Age → Indicators	Age below 30 years	Age between 31 -40 years	Age 41 – 50 years	Above 50 years
Gender	29 Females 24 Males	46 Females 25 Males	32 Females 31 Males	8 Females 8 Males
Institutional Status	• 38 working in Government/ Public funded institutions • 9 working Private Institutions • 3 in Government Aided colleges • 3 in Autonomous colleges	• Only 6 of the participants were from Private Institutes and the remaining 65 were from Government Institutions	• 52 Participants were from government run public institutions while one participant was from a self-financing institution	• All participants in this category worked in the Government run institutions
Number of years of teaching experience	• 48 of the participants had less than 5 years of teaching experience	• 38 participants had teaching experience between 6-10 years • 26 participants had less than 5 years of teaching experience and remaining had more than 10 years of teaching experience	• 17 participants had more than 15 years of experience • 9 participants had experience between 11-15 years • 30 participants had experience between 6-10 years • 7 participants had less than 5 years of teaching experience	• 14 participants had more than 15 years of teaching experience • 2 participants had between 11 and 15 years of experience
Educational discipline	Majority of the participants were from the Social Science stream	Mixed distribution of discipline	Mixed distribution of discipline	Mixed distribution of discipline

3.3 Part B: Readiness of Teacher Educators for Blended Teaching

This section deals with the teacher educators' opinion regarding the various components that finally lead towards blended learning practices. These statements and opinions help the researchers form a basis of clearing misconceptions during the training process and plan experiences that could either strengthen the opinion or suggest

strategies to implement practices in the classrooms. For this purpose, 21 statements relating to practices of online planning of teaching, teaching delivery and assessment were taken, and the teacher educators responded to them. The responses of the teacher educators were collected using a five-point scale. The scale point started from Strongly Disagree (1) to Strongly Agree (5). The followings are the graphical representation of the distribution of teacher educators' responses to each statement along with their interpretation.

Figure 9 represents the opinion of teacher educators regarding the participation of students and teachers with regard to online discussions. From the figure, it is evident that majority of the teacher educators (51.2%) either agreed or strongly agreed with that statement, but what was surprising to see from the figure was that as an individual category, 35% of the participant teacher educators were not sure about the statement of online discussions in improving learning experiences. Hence, training for teacher educators related to how to organize online discussions is essential.

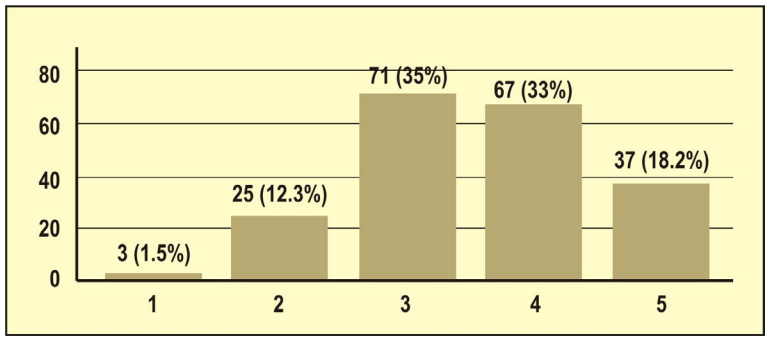

Figure 9: Opinion of Participants on Online Discussions leading to better learning experiences

Figure 10 discusses the opinion of teacher educators on exploring the new teaching strategies that combine in-person and online learning. 83% of the respondents agreed that teachers should explore new teaching strategies that combine in-person and online learning. Nearly 17% of the respondents were in undecided and disagree category. Hence, training for teacher educators for exploring the new teaching strategies that combine in-person and online learning is essential.

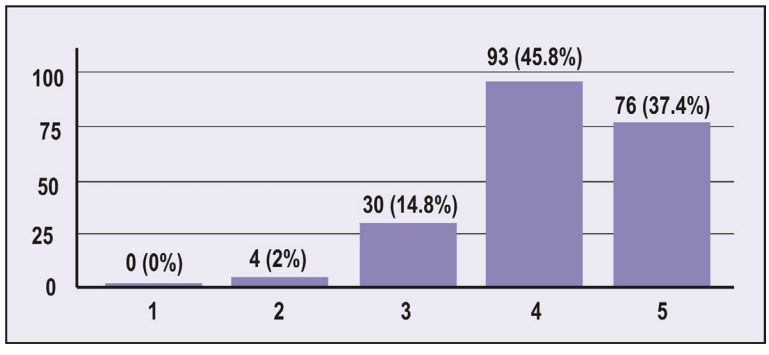

Figure 10: Opinion of Participants on teachers exploring new teaching strategies combining in-person and online learning

Figure 11 discusses perceptions of teacher educators about how online quizzes, discussion boards, etc. that teachers often use to support their learning outcomes would be difficult to achieve without technology. 63.5% of teachers agreed that this would be

difficult whereas, 48 participants (nearly 24%) who were undecided and nearly 13% responses falls in disagree and strongly disagree category. Hence, training for teacher educators for exploring online quizzes, discussion boards, etc. is essential.

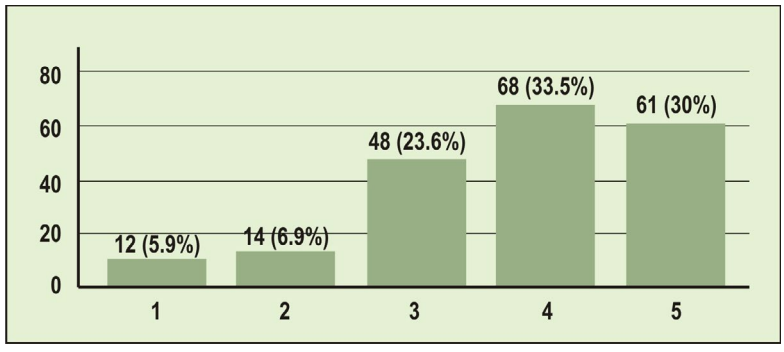

Figure 11: Perceptions of teacher educators about how online activities would be difficult to achieve without personal technology access

Figure 12 discusses the stem statement on how online technology can ensure that the student has learnt the material before moving on to the next lesson. The statement for this theme was worded laying emphasis on online technology is important to ensure that each student has learned the material before moving ahead. This statement is reflective of the behaviour disposition of the participant teacher educators as in the normal classroom it is difficult to ensure if all students have learnt the material before moving ahead. On the basis of the data received, majority of the teacher educators (69.9%) agreed that online technology is important as a tool to ensure that each student has learned the material before moving to the next lesson. Nearly 30% of the responses in undecided, disagree and strongly disagree category.

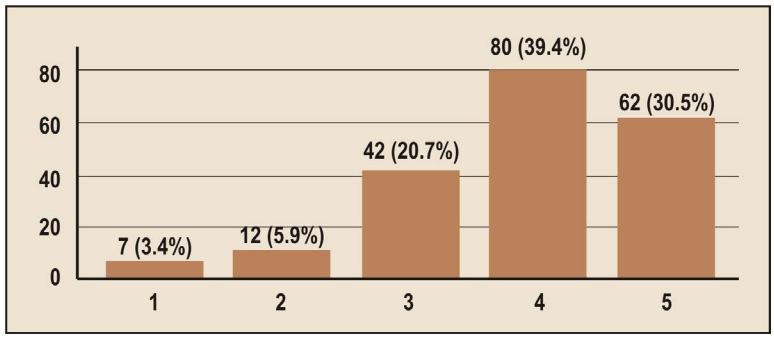

Figure 12: Opinion of teacher educators on using Online Technology to ensure students have completed the learning material before moving ahead

Figure 13 discusses the stem statement students learn better when technology allows them to adjust the speed of their own learning. When students adjust the speed of

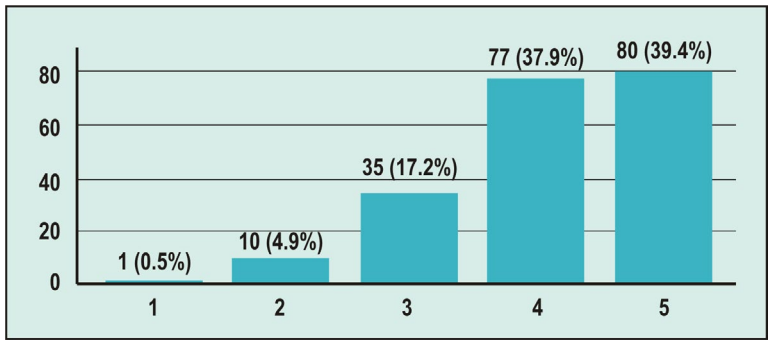

Figure 13: Opinion of teacher educators on the ability of technology to adjust the speed of learning

their own learning they are making use of self-pacing feature offered by technology in education. Research on self-pacing in education suggests that self-pacing boosts students' confidence and motivates students to be engaged with the content. 77.3% of respondents of this baseline study agreed that technology allowed students to adjust the speed of their own learning. Nearly 23% of the teacher educators' responses fall in undecided and disagree category.

Figure 14 shares the opinion of teacher educators on the relationship of teachers with students with regard to the use of technology. 81.7% of the teachers agreed to the statement *teachers who regularly use technology can help their students more than those who don't*. Nearly 18% of the responses of the teacher educators are in strongly disagree, disagree and undecided category.

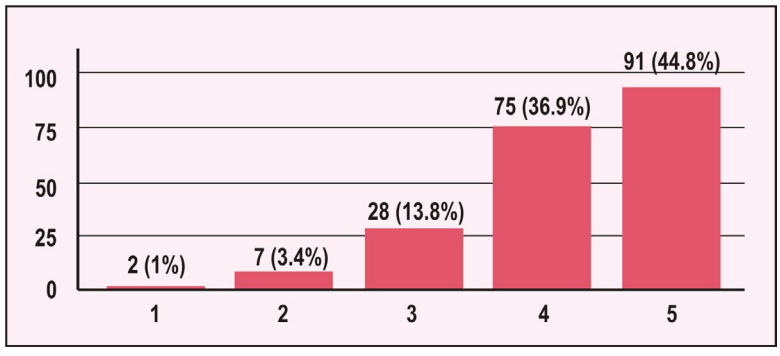

Figure 14: Opinion of teacher educators on the relationship of teachers with students with regard to the use of technology

Figure 15 discusses the opinion of teacher educators of Odisha regarding the ability of teachers to integrate technology in the classroom to encourage students to become self-regulated learners. Zimmerman and Schunk (1998) have attributed self-regulated learning as a key area that helps increase academic achievement. Nearly 82% of the respondents of the survey agreed to the stem statement; 14% were undecided. Therefore, a positive opinion of teacher educators towards this statement reinforces the commitment of the researchers of the baseline study to also give opportunities to the participants of this workshop to experience self-regulated learning via the LMS.

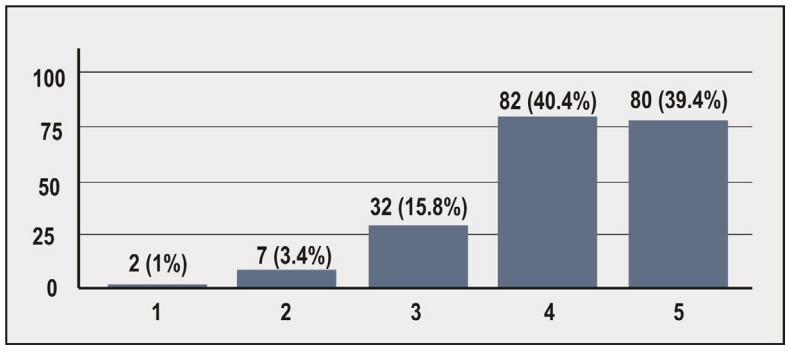

Figure 15: Opinion of teacher educators on the ability of teachers to integrate technology in the classroom to encourage students to become self-regulated learners

Figure 16 is representative of the stem where the teacher educators of Odisha share their perception on the ability to integrate online technology in teaching which will help to decide when it is better to interact with students-in-person and when through the online options. Blended learning is about merging online instruction and in person instruction so as to strengthen the learning experience of the learners. When teachers are

able to make this judicious decision, blended learning strengthen learning. Data from this baseline study found that 71.5 % of the participants were confident of their ability to appropriately integrate technology in online and in-person mode; 28.5% of the teachers were not confident about their ability. Ability to appropriately integrate technology for online and in-person learning experience is integral to blended learning.

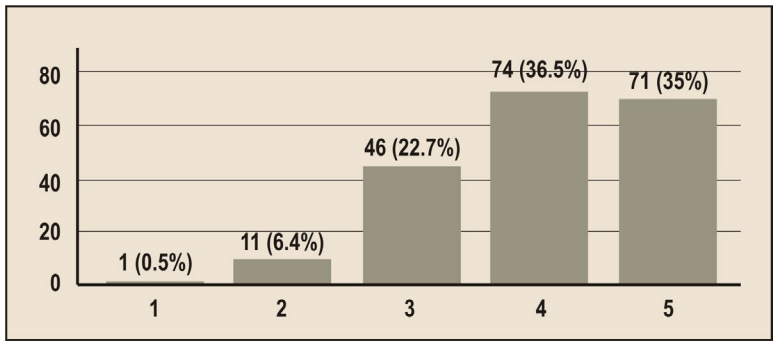

Figure 16: Opinion of teacher educators on their ability to integrate online technology in the classroom to decide when it is better to interact with students-in-person and when through the online options

Figure 17 discussed the opinion of teacher educators of Odisha in their ability to integrate online technology to create reports of the projects and assignments. 74.3% teacher educators agreed that they were able to integrate online technology in their teaching learning process that helped them assess their students' work on projects, reports and assignments; while nearly 25% felt that they were not able to do so. Teachers need data points that help them get a clear picture about students learning, and therefore, assessment is very important. In a blended learning environment, assessment plays a crucial role, as students' work in both modes (offline and online mode) with varying degree and make use of self-learning principles.

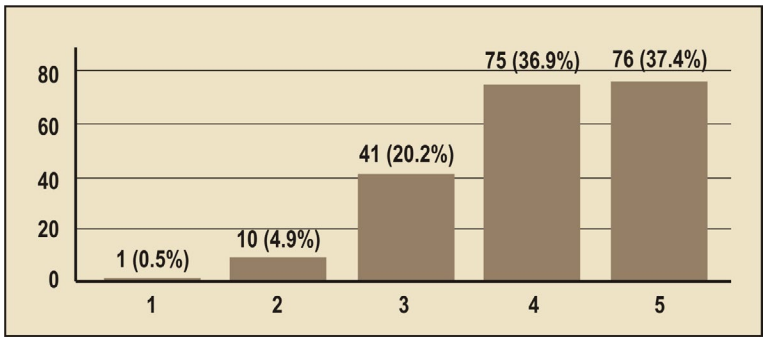

Figure 17: Opinion of teacher educators of Odisha in their ability to integrate online technology to create reports of the projects and assignments

Figure 18 discusses the ability of teacher educators of Odisha in integrating online technology to evaluate the strength and limitations of

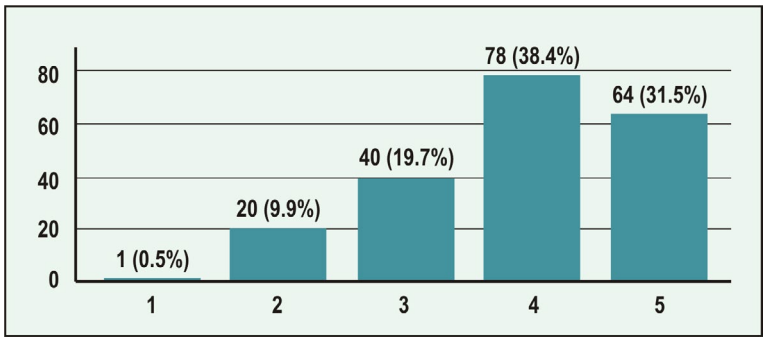

Figure 18: Ability of teacher educators Odisha in integrating online technology to evaluate the strength and limitations of specific online activities for students

specific online activities for students. With the EdTech boom, and the variety of websites and apps available with teachers, it is important that teachers should find a right balance of activities that help their students to access learning resources. Therefore, this stem statement was important. The data from the baseline study showed 69.9% teachers were confident of their ability to evaluate online activities that helped meet the criteria of their learning goals, while nearly 30% of the teacher educators comprised of teachers who were either not confident, or who had very little confidence. This, aspect was taken into consideration while deciding on the various tools that were to be discussed during the workshop.

Figure 19 discusses the opinion of teacher educators of Odisha on their ability to *see students' learning progress while using online and offline assessment results. As a teacher, understanding the assessment results* help the teacher plan the next learning cycles. Technology tools, like spreadsheet software, etc. help teachers visually see students' data to gain inferences and 77.4% teacher educators from Odisha agreed that they were able to interpret the learning progress based on the assessment results, while the remaining teachers were not confident in their ability to interpret the data. Incidentally, if the Figure 19 is read with Figure 18, one could say that there are slightly more teachers who are confident in interpreting the data than those who could integrate online technology to create reports of the projects and assignments.

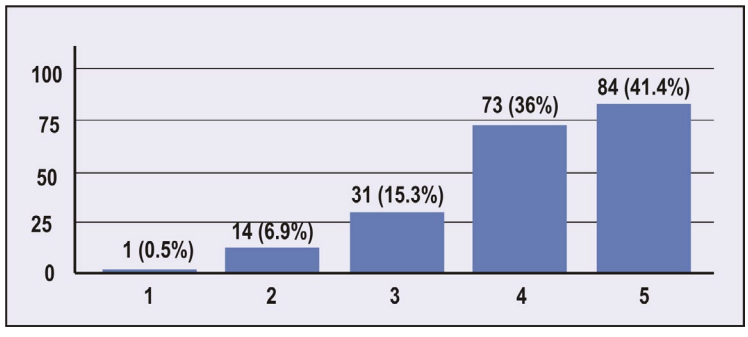

Figure 19: Opinion of teacher educators of Odisha on their ability to see students' learning progress while using online and offline assessment results

Figure 20 discusses a very important aspect for online and blended learning – student participation. During the COVID-19 pandemic when all the classes shifted into an online mode, teachers found it difficult to ensure student participation; students found it difficult to participate due to various reasons like, low data, bandwidth issues, home environment, etc. The resultant effect was that many a times teachers were having monologues and staring at the screen without knowing who was listening and who wasn't. As the pandemic times, progressed teachers become more adept and started using simple techniques like calling out students' names who were

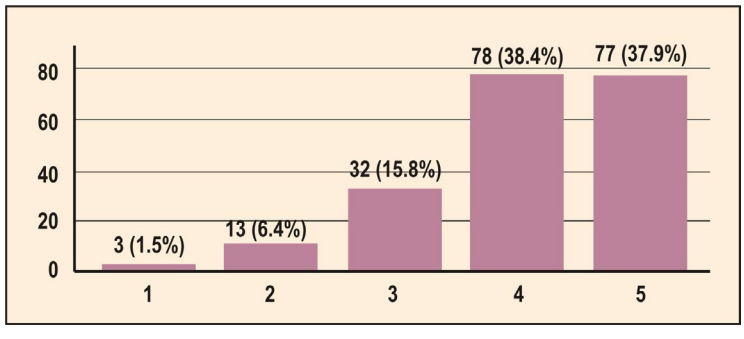

Figure 20: Opinion of teacher educators of Odisha on their ability to use technology to check student participation in online activities

present to answer questions, or seeking response on the chat, or including a quick poll in the classroom learning environment. These simple techniques can bolster a teachers' confidence and increase student participation. Researchers of this baseline study were desirous of seeking data on this aspect from the teacher educators of Odisha. Results of the baseline study show 76.3% teachers were able to use tools that helped check student participation.

Figure 21 discusses the opinion of teacher educators of Odisha who were able to evaluate the effectiveness of instruction for students with special needs. It is pertinent to note that although the baseline study data shows that 64.5% teacher educators agreed to this statement, 35% of the teacher educators were not confident of their ability or were not aware on how to evaluate the effectiveness of instruction for students with special needs.

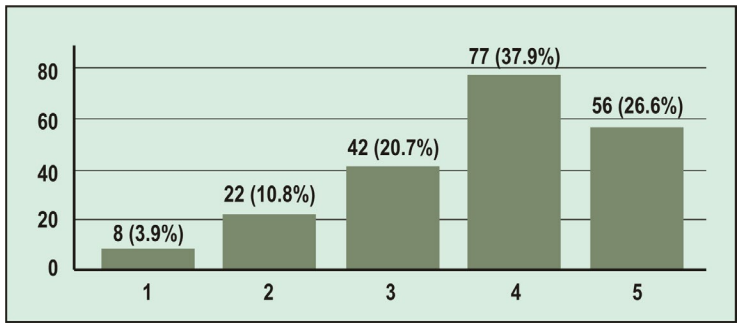

Figure 21: Opinion of teacher educators of Odisha on their ability to evaluate effectiveness of instruction for special needs students

Figure 22 discusses the ability of teacher educators of Odisha to decide which individual student or group of students need additional help. Nearly 76% of the teacher educators from Odisha opined they were confident on their ability to decide on students who needed additional help. Nearly 15% of teacher educators were undecided; while nearly 9% of the teacher educators of Odisha felt they were not confident in their ability to decide who needed additional help. The Figure 22 circles back to the Figure 19 where 77.4% teacher educators from Odisha agreed they were able to interpret the learning progress based on the assessment results, while the remaining teachers were not confident in their ability to interpret the data and therefore not able to provide additional help.

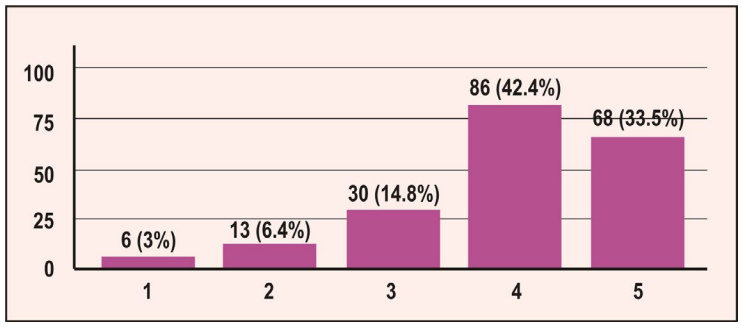

Figure 22: Opinion of teacher educators of Odisha on their ability to decide which student needs additional help

Figure 23 discusses the teacher educators of Odisha's ability to organize and display student assessment results. Nearly 75% of the teacher educators were confident in their ability to display the results while nearly 25 % of them were either not sure or expressed their inability to organize and display student assessment results.

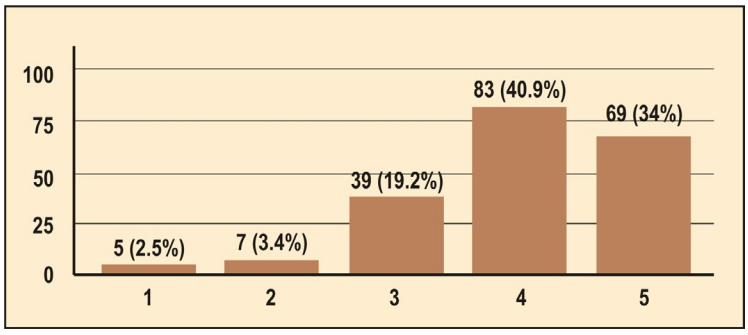

Figure 23: Opinion of teacher educators of Odisha on their ability to use technology in student assessment

Figure 24 discusses the ability of teacher educators to make use of online tools to ensure that students learn the material before moving to the next lesson. 71.5 % teacher educators agreed that they were able to use online tools to ensure that student learn the material before they move to the next lesson. This data point was in sync with the earlier figure 12 where 69.9% agreed that online technology is important as a tool to ensure that each student has learned the material before moving to the next lesson. The researchers of the baseline study and the organizers of the workshop, decided to add this topic in the workshop, so that all the teacher educators will be able to ensure maximum participation in their classes.

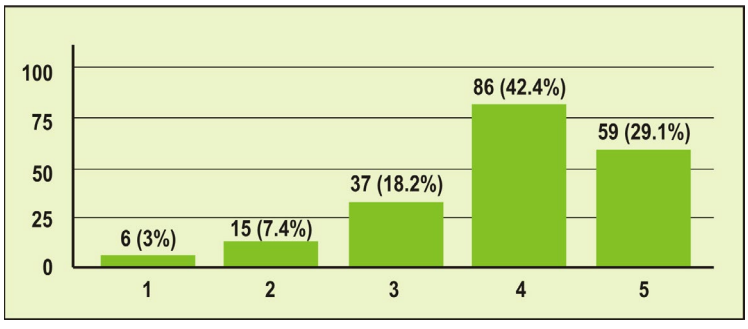

Figure 24: Opinion of teacher educators on their ability to use of online tools to ensure students learn the material before moving to the next lesson

Figure 25 discusses the opinion of teacher educators on their ability to give students the agency of choice so that students can take onus of their learning. This stem statement also encompasses the ability of teacher educators to create a repository of learning resources that help teachers share varied resources with students. There were more than 75% teachers who were confident of their ability to develop online and offline resources that give students choice in how they learn. Nearly, 25% of the participants were not confident on their ability.

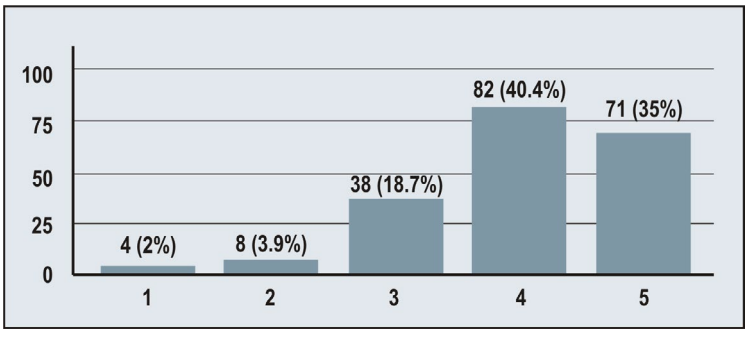

Figure 25: Opinion of teacher educators on their ability to give students the agency of choice so that students can take onus of their learning

Figure 26 discusses the ability of teacher educators to assist students in interacting well during online discussions. One of the pillars of communications is the ability to ask

questions, apart from that, while communicating we need to be able to acknowledge what is being said and even learn to respectfully disagree with the peers. These pillars of communication are essential not only during the student life, but also during the professional life of the individuals. Teachers in their various discussions have the ability to steer discussions allowing students to be more tolerant, respectful and open minded while discussing topics. This rationale helped the researchers use this stem question, and 78.8% of the respondents were confident in their ability to help students interact well during online discussions. 15.8% participants were undecided, and the remaining fall in disagree and strongly disagree category.

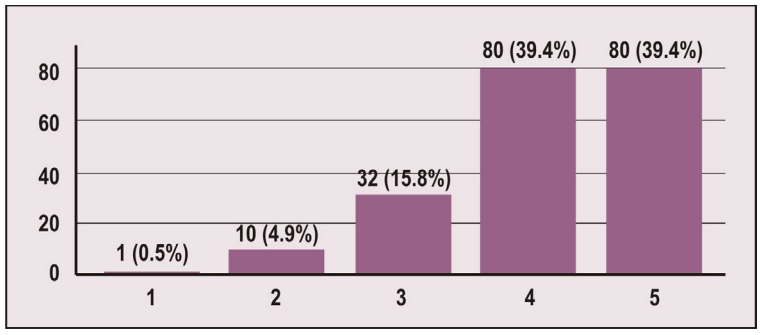

Figure 26: Opinion of teacher educators on their ability of teacher educators to assist students in interacting well during online discussions

Figure 27 discusses the ability of teacher educators of Odisha in getting quick feedback from students using texts, audio or video. 77.4% respondents of the baseline study agreed they were able to get feedback from students using a variety of ways, but in Figure 39 63.3% participants were not aware of Flipgrid – a versatile tool in using video in the teaching learning process. Using Flipgrid, comments can also be given using Video. Therefore, Flipgrid was added as a tool for consideration in the workshop.

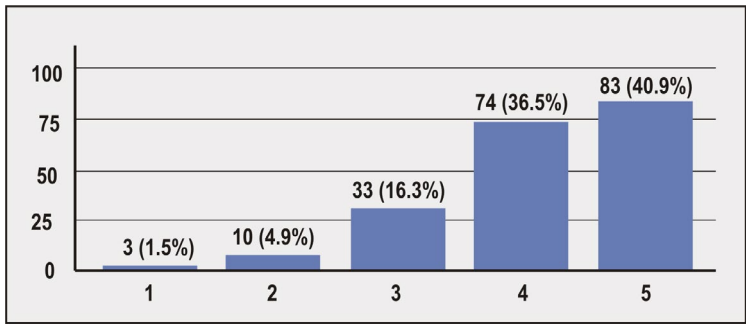

Figure 27: Opinion of teacher educators of Odisha on their ability in getting quick feedback from students using multi-modes

Figure 28 discusses the opinion of teacher educators on their ability to communicate online with students while maintaining the professionalism in the student-teacher relationships. 76.3% teacher educators agreed they were able to. 18.7% teachers expressed their inability.

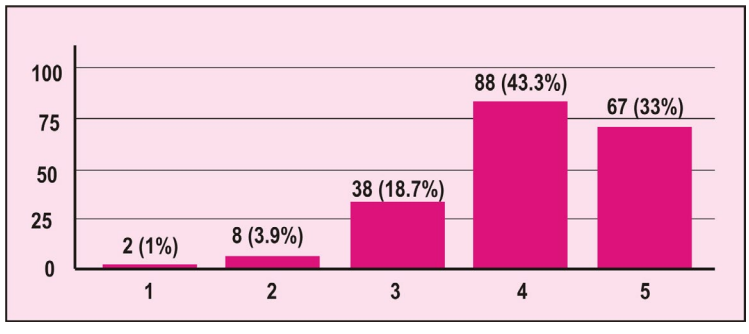

Figure 28: Opinion of teacher educators on their ability to communicate online with students while maintaining the professionalism in the student teacher-relationships

3.4 Part C: Integrating ICTs in Teaching

This is the third section of the online questionnaire. The items are the statements which describe a skill related to online teaching. These skills are the basic requirements for teacher educators to conduct online class of any subject. Teacher educators were asked to rate themselves in a five-point scale. The scale points are from lower to higher order such as, 'I can't it use', 'I can use it little', 'I can use it satisfactorily', 'I can use it well' and 'I can use it very well'. The last point of scale i.e., "I can use it very well" represents the perfectness or in other words the perfect user. Here, the responses given on "I can't use" and "I can use little" have been clubbed with a reason that this will present the emerged needs to be addressed through any capacity building program. The teacher educators rated themselves out of their experiences in online teaching during COVID 19. Similarly, the responses on the scale points like "I can use satisfactorily", "I can use it well" and "I can use it very well" have been clubbed with a reason that this will show the skilled status of teacher educators on different skills. It shows that teacher educators are using those skills during their online teaching. The skill level variation exists due to individual factor or experiences. Because the participants in the survey have range of teaching experiences.

Figure 29 represents the ability of teacher educators of Odisha on their ability to use Learning Management System. 34.9% of the respondent do not know or know little about the use of learning Management System like Moodle, Canvas and Google Classroom. The remaining 65.1% of the respondent know the use of Learning Management System at satisfactory, well and proficient level. However, the extent to which the teacher educators know, understand and use LMS is not known. Thus, there is an emergence of the exposure of teacher educator for the use of LMS

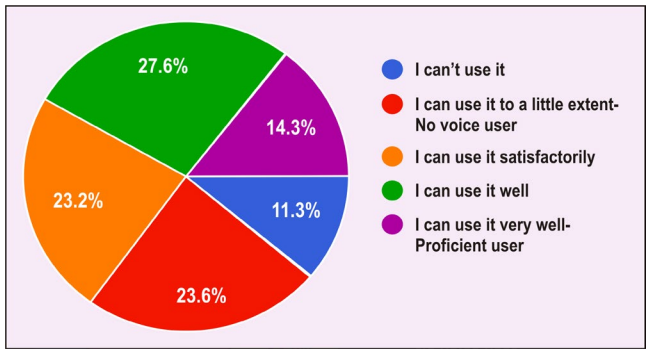

Figure 29: Opinion of teacher educators of Odisha on their ability to use LMS

Figure 30 discusses the opinion of teacher educators of Odisha on their ability to use e-portfolios. This figure shows that 56.6% of participants responded that they know little or do not know the use of e-Portfolio. The remaining 43.4% of the participants responded that they know the

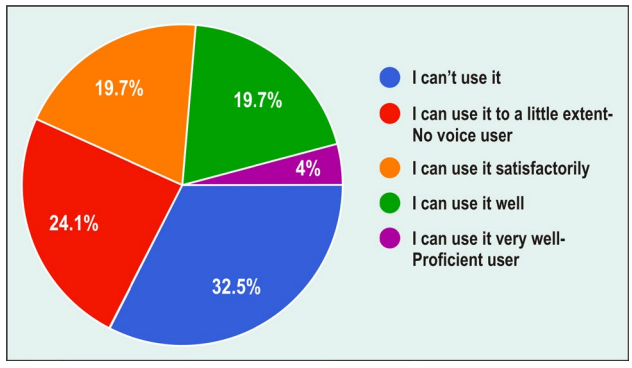

Figure 30: Opinion of teacher educators of Odisha on their ability to use e-portfolios

use of e-Portfolio at satisfactory, well and proficient level. Thus, there is a need to expose those 56.6% participants to the use of e-Portfolio for students to whom they are teaching in online mode.

Figure 31 discusses the opinion of teacher educators of Odisha on their ability to use online collaboration tools. This figure shows that 75.4% of the participants are exposed to online collaboration tools like, docs, sheet, forms in Google whereas 24.6% of participants have little or no exposure to online collaboration of tools. Thus, there is a need to expose those teacher educators to the online tools and making them to satisfactory or well or proficient level. No doubt individual factors affect a lot of making teachers proficient in collaboration of online tools.

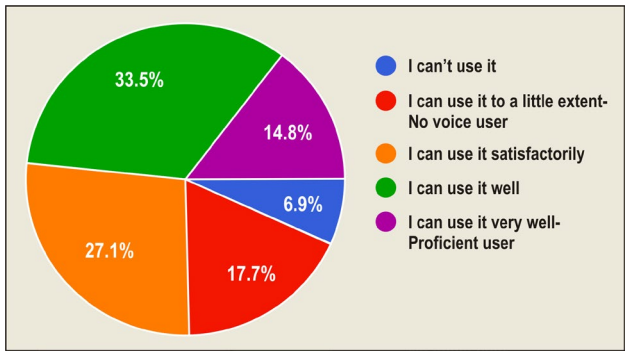

Figure 31: Opinion of teacher educators of Odisha on their ability to use e-portfolios

Figure 32 discusses the opinion of teacher educators of Odisha on their ability to use ebooks/ etextbooks. The figure shows that 24.7% of the participants either know little or do not know the use of the eBooks/eTextbooks whereas the remaining 75.3% of the participants are of the view that they know the use of eBooks/ eTextbooks at satisfactory, well and proficient level. Thus, there is a need to acquaint those 24.7% of teacher educators with the use of the said books.

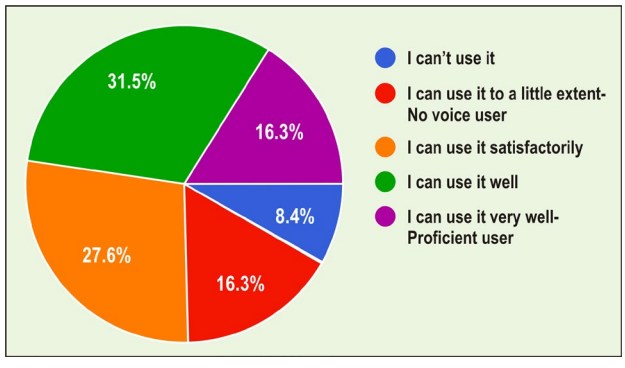

Figure 32: Opinion of teacher educators of Odisha on their ability to use ebooks/ etextbooks

Figure 33 discusses the opinion of teacher educators of Odisha on their ability to use online video resources like, vimeo/ NROER. The figure shows that 59.1% of the participants know little or do not know the use of online video/audio resources, like vimeo, NROER, etc. They need exposure to those online resources. Remaining 40.9% of the respondents know the use of those resources at satisfactory, well and proficient level.

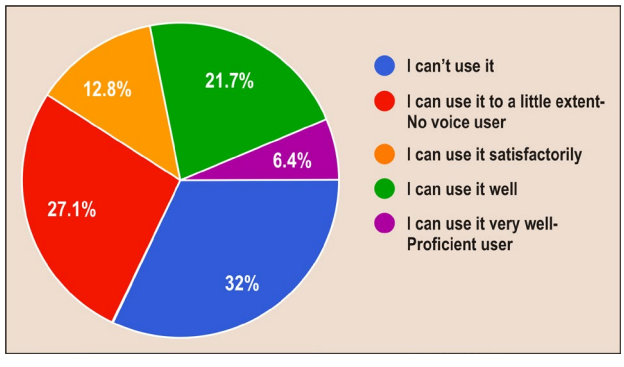

Figure 33: Opinion of teacher educators of Odisha on their ability to use NROER, Vimeo

Figure 34 reflects the opinion of teacher educators of Odisha on their ability to use audio/video resources such as YouTube. The figure shows that 89.7% respondent know the use of online video/audio resources. That means a great majority of participants know the platforms/ portals where online resources are available. The remaining10.3% of participants needs exposure of those platforms/portals of online resources.

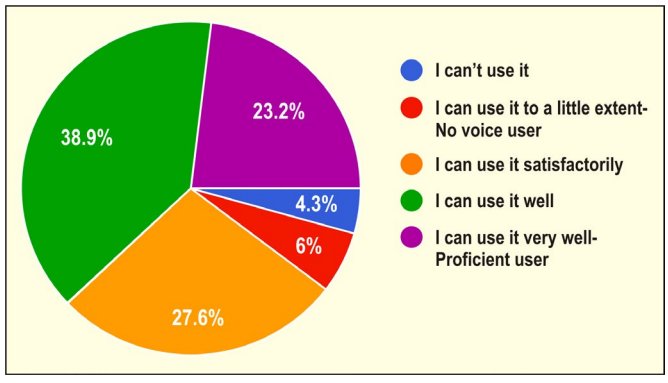

Figure 34: Opinion of teacher educators of Odisha on their ability to use audio/ video resources

Figure 35 reflects the opinion of teacher educators of Odisha on their ability to use YouTube to share their video lectures. The figure shows that 34.5% of the participants responded that they know little or do not know, how to share their own lecture in YouTube channel. The remaining 65.5% of the respondents are of the view that they know the sharing of their video lecture at satisfactory or well or proficient level. Thus, as it is a basic skill for teacher to deliver online teaching, this 34.5% of the participants need to be acquainted in this particular skill.

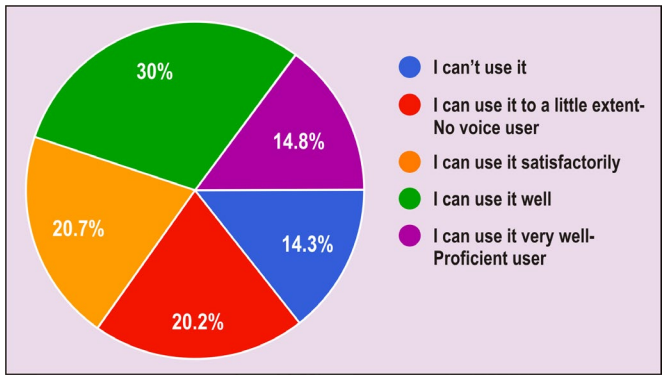

Figure 35: Opinion of teacher educators of Odisha on their ability to use YouTube to share video lectures

Figure 36 reflects the opinion of teacher educators of Odisha on their ability to create video content using screen capturing software. The figure shows that 49.3% of the participants do not know or know little on making video contents through screen capture tools. The remaining 50.7% of the participants are skilled in making video contents through screen capture tools. Thus, this 49.3% of the participants need to be acquainted in this particular skill.

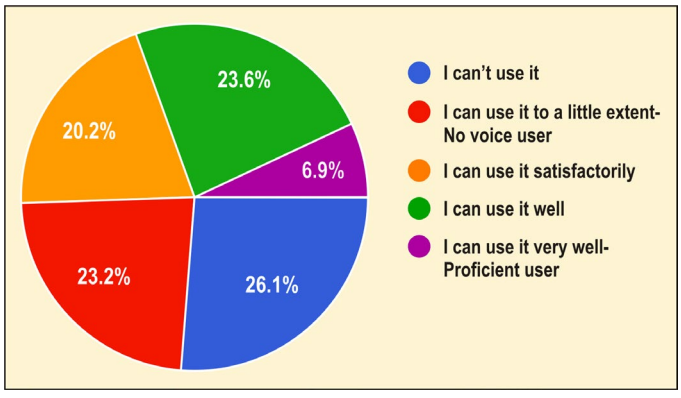

Figure 36: Opinion of teacher educators of Odisha on their ability to make video content using screen capturing tools

Figure 37 reflects the opinion of teacher educators of Odisha on their ability to use educational games and simulations that are available online. The figure shows that 54.7% participants responded that they know little or do not know the availability of educational games/ simulation in online. The remaining 45.3% of the participants responded that they know use of the educational games/ simulations available online. Thus, this 54.7% of the participants need to be acquainted in this particular skill.

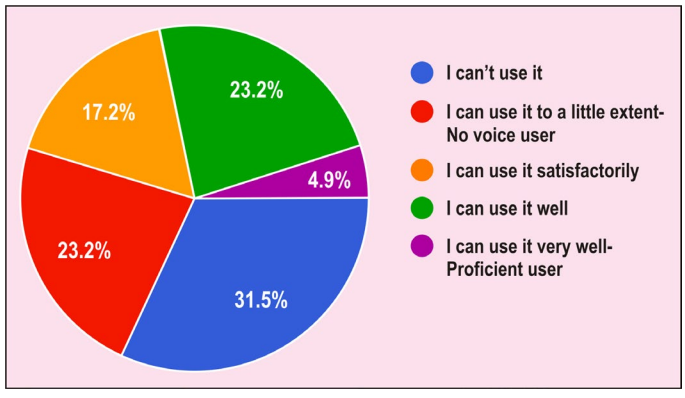

Figure 37: Opinion of teacher educators of Odisha on their ability to use educational games/ simulations in the teaching learning process

Figure 38 reflects the opinion of teacher educators of Odisha on their ability to use accessibility tools/ apps for students with special needs. The figure shows that 56.6% of the participants responded that they do not know or know little about the use of accessibility tools/apps for students with special needs. Thus, there is a need to make them skilled in use of tools/apps for the students with special needs. The remaining 43.3% of the participants are already skilled in use of tools/apps for the students with special needs

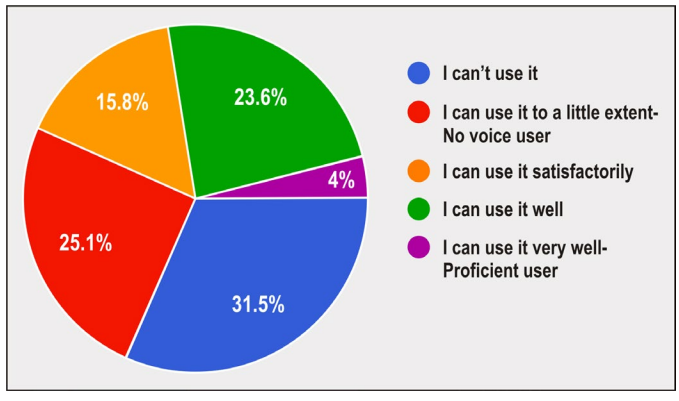

Figure 38: Opinion of teacher educators of Odisha on their ability to use accessibility tools/ apps for students with special needs

Figure 39 discusses opinion of teacher educators of Odisha on their ability to use tools like Padlet and Flipgrid. The figure shows majority of the participants were unable to use these two tools. The advantage of these tools is their ease of use and the flexibility in using them across devices.

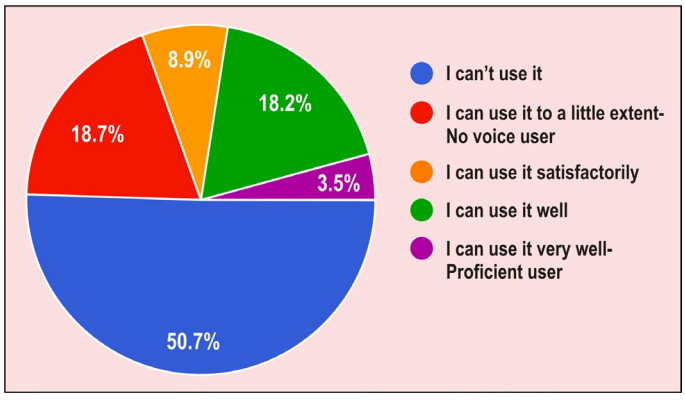

Figure 39a: Opinion of teacher educators of Odisha on their ability to use Padlet

Padlet allows learners to interact in the virtual space, where responses from learners are visible and can be commented upon for better interaction. It acts an excellent tool to see questions that students wish to ask about topics. Flipgrid on the other hand allows video based interaction amongst participants. This tool is extremely useful for music teachers who can not only review video shots of students practicing, but also give video feedback. The same feedback loop can be viewed by other participants of the class. Such tools are extremely useful in the blended learning environments where teachers need tools to increase the interaction in the class.

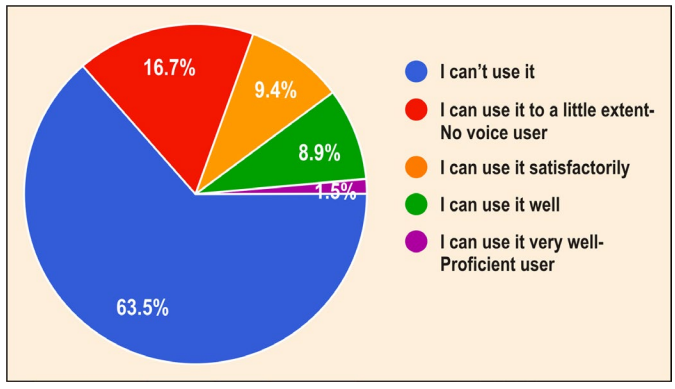

Figure 39b: Opinion of teacher educators of Odisha on their ability to use Flipgrid

Section-IV
Discussion

4.1 Discussion on Findings

Part B deals with the teacher educators' opinion regarding the various components that finally lead towards blended learning practices. These opinions are the indication of the perceptual understanding which directly affects their role as teacher in online classes. To have appropriate perceptual understanding, appropriate activities, exercises, discussions and sample works need to be presented before the teacher educators during the training/ orientation/ workshop so that perception can be changed or improved.

As per the analysis in Part B, it is found that:

- 48.8% of participants were either not sure or disagreed to the statement that participation in online discussions helps in providing better learning experiences. Hence, training for teacher educators related to how to organize online discussions is essential.
- Nearly 17% of the respondents were undecided or disagreed to the statement that teacher should explore new teaching strategies that combine in-person and online learning. Hence, training for teacher educators related to how to explore new teaching strategies that combine in-person and online learning is essential.
- 36.5% of participants were either not sure or disagreed to the statement that online activities that teachers use like, online quizzes, discussion boards, etc. can result in learning that would be difficult for students to achieve without technology. Hence, training for teacher educators for exploring online quizzes, discussion boards, etc. is essential.
- Nearly 30% of the respondents were undecided or disagree to the statement that online technology is essential to ensure that each student has learnt the materials before moving on to the next lesson. Hence, training for teacher educators for exploring online technologies is essential to ensure that each student has learnt the materials is essential.
- 18% of the respondents were undecided or disagree to the statement that ability to integrate online technology in teaching will help teachers to combine online and in-person activities to encourage students to become self-regulated learners. 28.5% of the respondents were undecided or disagree to the statement that ability to integrate online technology in teaching will help to decide when it is better to interact with students-in-person and when through online. Nearly 30% of the respondents were undecided or disagree to the statement that ability to integrate online technology in teaching will help to evaluate the strength and limitations

of specific online activities for students. Hence, training for teacher educators to integrate online technologies in teaching and evaluation.

- 22.6% of the respondents were undecided or disagree to the statement that as teacher educators, they can see students' learning progress while using online and offline assessment results. 23.7% of the respondents were undecided or disagree to the statement that as teacher educators, they can use technology tools to check student participation in online activities. Hence, training for teacher educators how to use technologies to see students' participation and their learning progress.
- 35% of the respondents were undecided or disagree to the statement that as teacher educators, they can evaluate the effectiveness of instruction for students with special needs. Hence, training for teacher educators how to use technologies to evaluate the effectiveness of instruction for students with special needs.
- Nearly 25% of the respondents were undecided or disagree to the statement that as teacher educators, they can use technology that organizes and displays student assessment results. Hence, training for teacher educators how to use technologies to organizes and displays student assessment results.
- 29.5% of the respondents were undecided or disagree to the statement that as teacher educators, they can use online tools to make sure that students learn the material before moving to the next lesson. Hence, it is essential to add this topic in the workshop, so that all the teacher educators will be able to ensure maximum participation in their classes.
- Nearly, 25% of the participants were not confident on their ability to develop a set of online and offline resources to give students choice in how they learn. Hence, training for teacher educators is essential on how to create repositories of online and offline resources.
- 21.2% of the participants were not confident on their ability to assist students in interacting well during online discussions. 22.6% of the participants were not confident on their ability to get quick online feedback from students in a variety of ways using text, audio or video. 23.7% of the participants were not confident on their ability to communicate online with students while still maintaining professionalism in student-teacher relationships. Hence, training for teacher educators is essential on how to communicate using text, audio or video.

The above responses of the teacher educators clearly spell out their misconceptions related to blended learning. The reason behind such misconceptions may be the lack of exposure or experiences of using technology or integrating technology in teaching-learning and assessment. Online teaching is a stop gap arrangement during lock down. As the teacher educators had less or no orientation about online technology before, persistence of such misconceptions is obvious. The components having higher percentage of teacher educators' responses fall in undecided category indicates that the concerned teacher educators do not have sufficient knowledge, exposure and experiences for which they prefer to stand on undecided category. It is also noted that the percentage of the teacher educators having at least one misconception ranges from 15% to 35%.

Thus, workshop is the appropriate platform where the misconceptions can be addressed through discussion, appropriate demonstrations, assignments and activities.

Part C, deals with ICT integration in Blended learning which is basically skill based. The skill deficiencies as responded by the teacher educators are as follows.

- 34.9% of the respondent do not know or know little about the use of learning Management System like Moodle, Canvas and Google Classroom. Thus, there is an emergence of the exposure of teacher educator for the use of LMS
- 56.6% of participants know little or do not know the use of e-Portfolio. Thus, there is a need to expose the participants to the use of e-Portfolio for students.
- 24.6% of participants have little or no exposure to online collaboration of tools. Thus, there is a need to expose teacher educators to the online tools and making them to satisfactory or well or proficient level. No doubt individual factors affect a lot of making teachers proficient in collaboration of online tools.
- 24.7% of the participants either know little or do not know the use of the eBooks/eTextbooks. Thus, there is a need to acquaint teacher educators with the use of the said books.
- 59.1% of the participants know little or do not know the use of online video/ audio resources, like vimeo, NROER, etc. They need exposure to those online resources.
- 34.5% of the participants know little or do not know, how to share their own lecture in YouTube channel. Thus, as it is a basic skill for teacher to deliver online teaching, participants need to be acquainted in this particular skill.
- 49.3% of the participants do not know or know little on making video contents through screen capture tools. Thus, the participants need to be acquainted in this particular skill.
- 54.7% participants responded that they know little or do not know the availability of educational games/simulation in online. Thus, the participants need to be acquainted in this particular skill.
- 56.6% of the participants do not know or know little about the use of accessibility tools/apps for students with special needs. Thus, there is a need to make them skilled in use of tools/apps for the students with special needs.
- Majority of the participants were unable to use Padlet and Flipgrid. Thus, there is a need to make them skilled in use of such tools.

The skills like use of e-portfolio, online video platforms, educational games, addressing the needs of students of special category, use of Pallet, use of Flipgrid, use of Waklet and use of Kahoot should be kept in priority with much demo and practice work as its deficit widely exist among the teacher educators. The second range of skills like online collaboration of teaching, use of eBook/eTextbook, own video sharing and video content making needs to be incorporated in the planned training/orientation/workshop.

4.2 Discussion on Feasibility of Design

The designing of any capacity building programs for teacher educators mainly depends upon:

1. Topics to be taught/Skills to be practised
2. Target Participants and their characteristics
3. Learning style/Activity/Mode
4. Amount of time and cost to be consumed
5. Materials/Resource persons/Devices to be used

Here, we can insightfully look into each factor discussed above for drawing a feasible design. The knowledge or skills to be improved are at two levels i.e. 1. Basic deficiencies which emerged from the data at perceptual and skill level for implementation of Blended Learning and 2. The required understanding and skills as mapped from TPACK and Complex Adaptive Blended Learning System for smooth implementation of Blended Learning in teacher education. Thus, the topics to be included in the proposed capacity building program should be assessed on the basis of above two points. As much of the needs are of skill based, thus, workshop should be the most appropriate strategy where teacher educators may get ample opportunities to practice skills both in simulation and live mode.

The target participants are mostly from Govt. Institutions and a better mixture of both the gender. Teacher educators are mostly of the age group of 41 to 60 years range having wider tenure of teaching experiences in teaching.

The above characteristics of the participants say much about the learning activities to be incorporated. All the teacher educators have exposure to online teaching, although it varies at skill level. Thus, keeping in mind the Covid 19 situation and availability of resource persons and nature of content, online mode of conducting the workshop is preferable than offline mode. The activities may be of simulation or live keeping in mind the feasibility of the situation.

From the sample characteristics, it is clear that the target teacher educators are in-service. Thus, the workshop should be conducted on working days and the length of the workshop may be decided on how much time they can consume without disturbing their routine job in their own institutions. The time slot for each day will be preferably second half of each working day as much important institutional work will be accomplished in the first half of the day.

Keeping in mind the complexity level of the topic to be discussed and skills to be improved and the experiences of the target teacher educators, the selection of the resource persons can be done. Here, as we know participants have 0 to 10 years of teaching experiences in online teaching, thus, the resource persons should have expertise to cater the needs of the varied group of teacher educators. No doubt, the proposed workshop demands skills on the part of the resource persons who can explain the topics from varied perspectives and promptly present the needed activities and extend instant support to participants in the limited time duration of the session.

4.3 Broad Framework

The discussions made in the above clearly spell out the model, content, participants, mode of delivery and management of the workshop. The learning theories, management theories and technology integrated pedagogical principles are at the root to decide the broad framework for the proposed workshop. It is to note that the very essence of this workshop is to implement blended learning in teacher education institutions of Odisha which optimizes the achievement of learning objectives with the application of appropriate learning technologies to match the personal learning style. Following Table-5 represents the broad framework for the proposed workshop with selective paradigm supported by contextualised justifications.

Table-5: Broad Framework of Proposed Workshop

Paradigm	Justification
Model Constructivist Enquiry Model	• Constructivist Enquiry Model will be preferred as almost all the teacher educators are skilled in online teaching and do understand the importance of Blended Learning in their teaching and assessment. The role of the resource person will be to facilitate the participants to a specific task to accomplish.
Content	• The skills like, Use of portfolio, Online video platforms, Educational Games, Addressing the needs of students of Special category, Use of Padlet, Use of Flipgrid, Use of Waklet and Use of Kahoot • Online collaboration of teaching, Use of eBook/ eTextbook, Own video sharing and Video content making needs to be incorporated in the planned training/orientation/ workshop • Systematic Integration of content as per complexity and feasibility of delivery • Designing content for interactive, collaborative, individualized task, etc. • Packaging and phasing the contents for measurable indicative knowledge and skill enhancement
Participants Independent Learners	• Teacher educators of all levels, all types of management (Govt. and Self-financing) institutions • Teacher educators who have less exposure to online teaching
Mode of Delivery Virtual and Collaborative	• Both synchronous and asynchronous mode • Individual task may be offline • Use of Most common online platform • Inbuilt collaborative and progress tracking

Management of Workshop Cooperative and Consensus Driven	• The decision about time, day and duration of the session and completion of individual task will be decided with due consultation with the participants • Cooperation may be sought from various institutions and persons • Preferably Second half of the each working day • The length of the workshop depends upon the content, the time duration in each day

Conclusion

The very purpose of the Baseline survey was to be mapping out the skills of the teacher educators to implement Blended learning in teacher education institutions of Odisha. The Section II and III clearly discussed the methodological decisions on how to be mapping out the perceptions and skills to integrate ICT whereas, Section III discussed the status of the perceptions and skills to plan, execute and assess the blended learning in their subjects of teaching. The Section IV deals with the emerging needs and feasibility of designing a workshop for the teachers to expose towards the required skills of complex adaptive blended learning system. It can be said that the output of the baseline survey basically expected a broad framework of the workshop in the hand of the partner organisations. No doubt, this task is a mixture of theoretical understanding of blended learning, situational analysis from teacher educators' point of view to implement blended learning and conceptualising skill to derive a broad framework of proposed workshop is inter-connected and interdependent. Finally, the proposed framework best relates to the essence of Blended Learning i.e self-pace, ICT integrated content and pedagogy, self-engaged, collaborative effort to optimize learning. It is a complete way forward for making the planning for the content, mode and monitoring of the progress of the visualised workshop.

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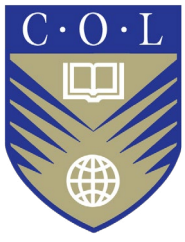

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