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COMPETENCIES AND EXPERIENCES REGARDING ONLINE ASSESSMENT PRACTICES AMONG SECONDARYLEVEL TEACHERS OF CBSE

Monali Madhuchhanda Pradhan (Research Scholar) Department of Education, Sambalpur University, Odisha (India)
Kirtibidya Tiwary (Research Scholar) Department of Education, Sambalpur University, Odisha (India)
Dr. Debasis Mahapatra (Associate Professor) Department of Education, Sambalpur University, Odisha (India) mahapatra.debasis007@suniv.ac.in

Abstract
Online assessment is an emerging field that adopts technology in a networked environment to improve the quality and efficiency of assessing learner's knowledge, skills, and abilities. Using effective assessment techniques is an essential part of effective teaching and learning in the electronic environment. As educational institutions are increasingly held accountable for student learning, assessment represents an important way to respond to such accountability. Finding effective techniques to assess student learning in online learning environment has received increased attention but has not yet been thoroughly addressed. As a result, several teachers have found significant challenges when assessing student learning in online environment. Hence this study has an important rationale in the context and contest. Keeping all the considerable reviews the present study is conducted to probe the competencies of secondary school teachers on the use of online assessment tools i.e., complementary or supplementary online components to support face-to-face teaching to effectively and thoroughly assess learning. This study aims to identify strengths and challenges, informing the development of targeted support mechanisms to enhance teachers' proficiency in adapting assessment strategies to the online context. By exploring these competencies and experiences, the research seeks to contribute valuable insights to the ongoing discourse on optimizing educational practices in the digital era, ultimately fostering improved learning outcomes for secondary school students.

Key Words: Competencies, Experiences, Online Assessment Practices

Introduction
The study presents a valuable opportunity to delve into the specific competencies required by teachers for effective online assessment implementation, offering insights into their experiences. By identifying best practices within this context, the study can inform targeted professional development initiatives tailored to enhance teachers' online assessment competencies, thus contributing to the overall quality of education delivery. Furthermore, its findings can have significant policy implications at both the district and state levels, guiding the formulation of policies that promote the integration of effective online assessment practices into secondary education curricula. Ultimately, by adding to the existing research literature, this study has the potential to advance understanding and practice in online assessment methodologies, benefiting educational communities not only in Sambalpur District but also beyond. Facts revealed from the previous research work related to this research that secondary school teachers' perceptions about the challenges were poor internet connectivity, lack of technological knowledge of students, lack of academic integrity and cheating, difficulty in scoring and correcting questions with open responses, Chinyere (2021); the implementation of online assessment by a teacher through various platforms like Google Classroom, Instagram, and lmssmkti.com, emphasizing the versatility of platforms for assessing English skills, Widnyana et al (2023); teachers from elementary schools to senior high schools use a range of online assessment tools when giving their students online evaluations such as Google Forms, WhatsApp, Quippier, Quizzes, and Microsoft Team, Kurniati et al (2023); the use of diverse online assessment tools by teachers across different school levels, ranging from Google Forms to WhatsApp and Microsoft Teams, indicating a broad spectrum of platforms utilized in educational settings, Kurniati et al. (2023); while teachers exhibit proficiency in using

Google Forms, their competence in other platforms is comparatively lower, suggesting a need for further training and familiarization with diverse assessment tools, Layco et al. (2022); a significant difference in student achievements between face-to-face assignments and online evaluation, with e-assessment showing superiority, underlining the effectiveness of online assessment methodologies, Hichour (2022); the various advantage of online assessments is providing swift feedback, aligning with the rapid information exchange characteristic of the digital era in education, thus enhancing the learning process, Zamista (2022); deficiencies in teachers' Technological Pedagogical Content Knowledge (TPACK) framework and self-efficacy, affecting curriculum development and assessment practices, suggesting a need for comprehensive teacher training, DeCoito (2022); while teachers initially faced barriers in online assessment, they could adapt their practices over time, indicating a potential for pedagogical adjustment in response to challenges, Ghanbari et al. (2021); a moderate attitudes of teachers towards e-assessment, coupled with significant challenges encountered in online assessment, pointing out the need for addressing barriers to effective implementation, Abduh (2021); a lack of systematic integration of assessment into online curricula due to a misunderstanding of its role, advocating for a holistic approach to curriculum development integrating online assessment effectively, Shi Pu et al. (2021); there is a necessity for a multilevel approach to tackle issues of cheating and plagiarism in online assessment, emphasizing student awareness, teacher training, and institutional measures, Meccawy et al. (2021); the scepticism regarding remote assessment, citing challenges such as software reliability and faculty unfamiliarity with virtual environments, suggesting the need for addressing technical concerns and faculty training, Sa'di et al. (2021); there is a need to address technical infrastructure issues for effective implementation in enhancing learning environments, Alruwais (2018); the benefits of online formative assessment, including improved student engagement and timely feedback, advocating for a student-centered approach to assessment positively impact student learning , Baleni (2015); the importance of ongoing authentic assessment activities and interactive formative feedback to address validity and reliability concerns in online formative assessment is vital, Gikandi et al. (2011); initially educators' showed scepticism towards online assessment but recognized the importance of optimizing assessment design for online environments, suggesting a need for adapting assessment methods effectively, Donnan (2007); clear assignments with meaningful feedback in online assessments, along with tools like rubrics, emphasizing the value placed by both faculty and students on effective assessment techniques are important, Gaytan (2007); it was found that computer-savvy youth generally accepted online assessment systems but identified areas for improvement, suggesting ongoing refinement of assessment platforms, Ozden et al. (2004); while students perceive both types of assessment resources as useful, their usage does not consistently correlate with differential impacts on final learning outcomes, suggesting a nuanced understanding of assessment effectiveness, Peat et al. (2002); while most teachers are proficient in using Google Forms, they exhibit lower competence in other platforms, Layco et al (2022). In conclusion, effective assessment techniques are essential components of modern teaching and learning practices. As educational institutions face increasing pressure to be accountable for student outcomes, the adoption of robust online assessment practices becomes imperative (Association of American Colleges and Universities, 2004; National Council for Accreditation of Teacher Education, 2003). Embracing the potential of online assessment while addressing its challenges will undoubtedly shape the future of education and contribute to improved student learning experiences.

The analysis highlights a significant research gap concerning the competencies and experiences of secondary-level teachers in various types of online assessment practices. While existing literature acknowledges the importance of teachers' technological skills in facilitating online assessments, there is a need for a more comprehensive understanding of the specific technical competencies essential for proficient execution of diverse online assessment methods. This includes proficiency with assessment platforms, familiarity with digital tools for creating and administering assessments, and the ability to integrate technology seamlessly into assessment design, delivery, and feedback processes. Moreover, the majority of existing studies tend to concentrate on the perceptions of students and teachers towards

online assessment practices rather than delving deeply into teachers' experiences and skill sets. Consequently, there is a clear need for more extensive research aimed at understanding the competencies necessary for successful online assessment practices among secondary-level teachers, as well as exploring their experiences comprehensively across a spectrum of online assessment formats. Addressing this gap is crucial for developing effective techniques and solutions to enhance online assessment practices in secondary education.

Objectives of the study

1. To examine how far secondary school teachers coming under CBSE are competent and experienced in

1.1 Traditional assessments submitted online
1.2 Automated online assessments
1.3 Invigilated online assessment
1.4 Online interactive assessments
1.5 Online group assessments
1.6 Online critical reflection and meta-cognition assessments
1.7 Online authentic assessments

Research Method and Design

The survey instrumentis meticulously crafted to encompass various dimensions of online assessment, including typesof online assessments used, technological tools utilized in each type, proficiency and attitude towards various types of online assessment practices. Taking the advantages of survey research in this present study the researcher used Cross-sectional survey method for collecting data fromthe participants which is useful for obtaining a snapshot of teachers' current competencies andexperiences with online assessment practices. The present research work is entrusted the secondary level teachers affiliated to schools under the Central Board of Secondary Education (CBSE) in Sambalpur district of Odisha constitute the population for smooth and successful completion for the study. Given the practical constraints and limitations in accessing the entire population of secondary level teachers in Sambalpur district, the sample of 48 teachers is selected based on their availability on the day of data collection. The questionnaire is developed by the researcher to gather information on teachers' competencies and experiences related to online assessment practices. It includes a series of structured close-ended questions with predefined response options addressing various aspects such as teachers' proficiency levels in using online assessment tools, their experiences with implementing online assessment in their classrooms. The data was assessed using a straightforward statistical approach involving percentage calculation. The questionnaire, designed for data collection, utilized a nominal scale to gather responses from secondary teachers across various questions. Responses were recorded by frequency and numerical values, which were then converted into percentages for analysis.

Analysis And Interpretation of Data

Table 1 **Summary of the general information related to teachers**

N=48

Sl No.	Gender		Age	Subject(s) Taught	Years of Teaching Experience	Educational Qualification	Computer Course		Training in online Assessment	
	M	F					Y	N	Y	N
1	ü		45	English	9	B.A., B.Ed.		ü		ü
2	ü		43	Mathematics	17	M.Sc., B.Ed.	ü		ü	

3	ü		42	Social Science	14	B.A., B.Ed.		ü		ü
4	ü		43	Science	17	M.Sc., B.Ed.	ü			ü
5	ü		37	English	4	B.Sc., B.Ed.	ü			ü
6	ü		33	English	12	M.A., B.Ed.		ü		ü
7	ü		43	Science	17	M.Sc., B.Ed.		ü		ü
8		ü	27	English	1	M.A., B.Ed.	ü		ü	
9	ü		45	Social Science	15	M.A., B.Ed.	ü			ü
10	ü		42	Mathematics	14	M.Sc., B.Ed.		ü	ü	
11	ü		42	English	14	M.A., B.Ed.		ü	ü	
12	ü		39	Physics	17	M.Sc., B.Ed.	ü		ü	
13		ü	24	Social Science	1	B.A., B.Ed.	ü			ü
14		ü	52	Chemistry, Maths	18	M.Sc., B.Ed., M.Phil(Chem)	ü			ü
15	ü		54	Sanskrit	30	M.A., B.Ed.	ü			ü
16		ü	32	English	5	M.A., B.Ed.	ü			ü
17		ü	34	Hindi	12	M.A., B.Ed.	ü		ü	
18		ü	39	English	7	B.A., B.Ed.		ü		ü
19		ü	32	Mathematics	7	M.Sc., B.Ed.	ü		ü	
20		ü	39	Odia	6	M.A., B.Ed.	ü			ü
21		ü	33	Hindi	7	M.A., B.Ed.	ü			ü
22	ü		32	Sanskrit	6	B.A., B.Ed.	ü			ü
23		ü	34	Social Science	5	B.A., B.Ed.		ü		ü
24		ü	28	Social Science	2	B.A., B.Ed.	ü			ü
25	ü		27	English	2	B.A., B.Ed.	ü		ü	
26	ü		29	Science	3	B.Sc., B.Ed.	ü			ü
27	ü		30	Mathematics	6 Months	B.Sc., B.Ed.	ü			ü
28		ü	33	Odia	6	M.Sc., B.Ed.	ü			ü
29		ü	27	Mathematics	1	Diploma Engg. (Civil)	ü			ü
30		ü	30	Science	6 Months	B.Sc., MBA	ü			ü
31	ü		26	Bio-science	3	M.Sc., M.Ed.	ü			ü
32		ü	26	English, Social Science	2	M.Sc.	ü			ü
33		ü	35	Science, Maths	6	B.Sc., B.Ed., MCA	ü			ü
34		ü	24	Hindi	1	M.A.		ü		ü
35		ü	42	Hindi	9	M.A., B.Ed.	ü			ü
36		ü	31	Social Science	4	M.Sc., B.Ed.	ü		ü	
				Mathematic						

37	ü		32	S	7	M.Sc., B.Ed.	ü			ü
38		ü	25	Physics	1	M.Sc., B.Ed.	ü			ü
39		ü	26	English	2	M.A., B.Ed.		ü		ü
40		ü	30	Biology	2	B.Sc., B.Ed.	ü			ü
41		ü	30	Chemistry	5	M.Sc., B.Ed.	ü			ü
42	ü		32	Odia	3	B.A., B.Ed.	ü		ü	
43	ü		55	Physics	18	M.Sc., B.Ed., M.Phil(Phy)	ü		ü	
44	ü		48	Computer Science	10	M.Sc., B.Ed.	ü		ü	
45	ü		60	Mathematics	25	M.Sc., B.Ed., M.Phil		ü		ü
46	ü		45	English	12	M.A., B.Ed.		ü		ü
47	ü		55	English	18	M.A., B.Ed., LLB		ü		ü
48		ü	45	Chemistry	12	M.Sc., M.Phil., Ph.D	ü		ü	
Total	**24**	**24**					**35**	**13**	**13**	**35**
%	**50**	**50**					**73**	**27**	**27**	**73**

N=48

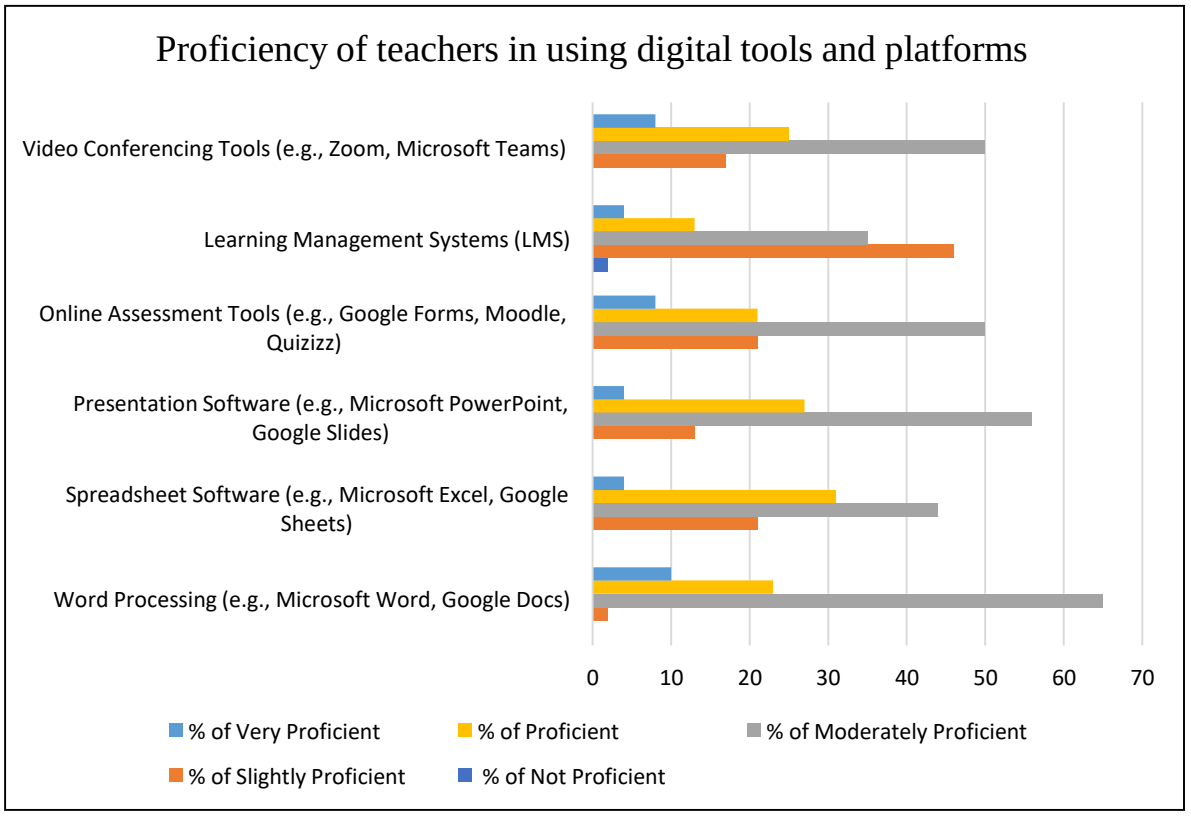

Figure 1 (Graphical representation of Proficiency of teachers in using digital tools and platforms)

From the Figure 1 it was clearly visualized that a significant portion (i.e. 65%) of secondarylevel teachers were moderately proficient in word processing software, with smaller percentages having fallen into the proficient and very proficient categories. A considerable portion (i.e. 44%) of respondents exhibited moderate proficiency in spreadsheet software, witha notable percentage (i.e. 31%) having fallen into the proficient category. Presentation softwareshowed a similar trend to word

processing software, with a majority (i.e. 56%) having shown moderate proficiency. The next category has a significant percentage (i.e. 50%) of respondentswith moderate proficiency in online assessment tools. Learning Management Systems exhibited a larger proportion (i.e. 46%) of respondents in the slightly proficient category compared to other software types. Video conferencing tools showed a balanced distribution across proficiency levels, with a substantial portion (i.e. 50%) having demonstrated moderate proficiency.

The analysis of the provided data in Figure 2 indicates a widespread utilization of online assessment tools among educators. Significant percentages of respondents have employed various types of online assessments, including traditional assessments, automated assessments, and assessments focused on facilitating online interaction and group work.

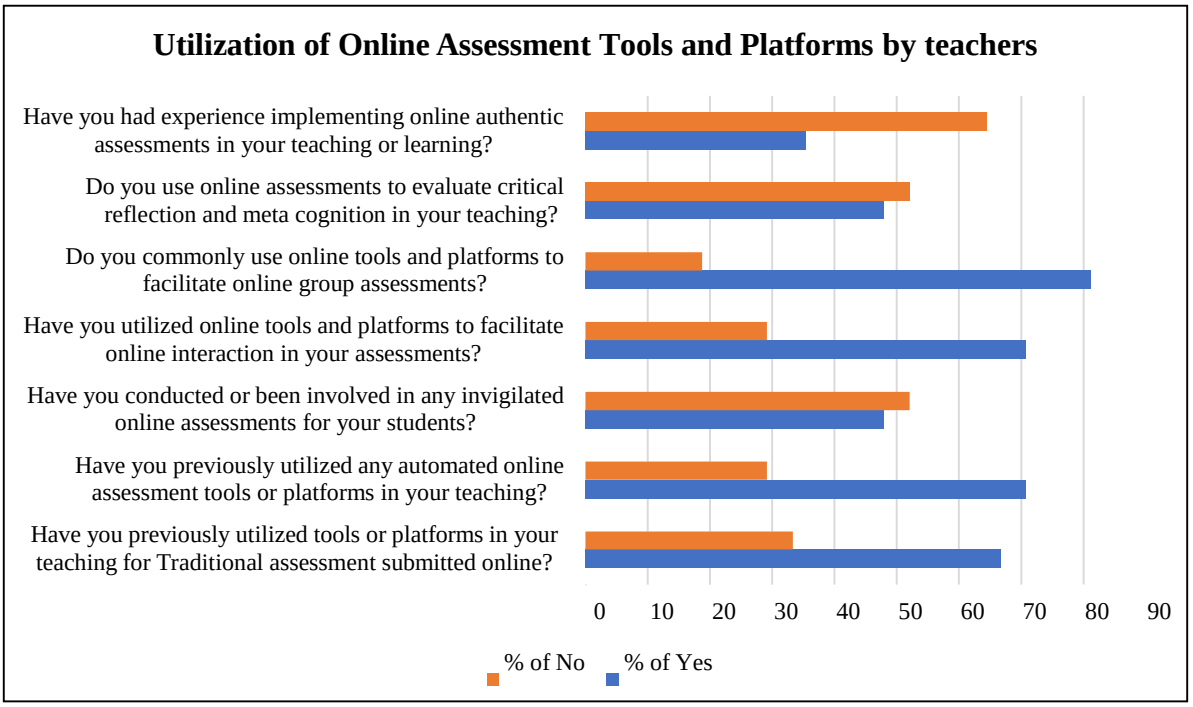

Figure 2 Graphical representation of utilization of online assessment tools and platforms by teachers

Figure 3 presents the average proficiency levels of teachers across various types of online assessment practices derived. In traditional assessments submitted online, a notable majority of respondents (i.e. 42%) demonstrated a moderate proficiency, alongside significant percentages in the proficient (i.e. 25%) and slightly proficient categories (i.e. 24%). Automated online assessments also showed a similar trend, with notable percentage (i.e. 36%) of respondents displayed moderate proficiency. Invigilated online assessments indicated a higher proportion (i.e. 42%) of moderately proficient respondents, although a substantial portion (i.e. 29%) has fallen into the slightly proficient category. Online interactive assessments presented a relatively even distribution across proficiency levels, with 36% moderately proficient. For online group assessments, a significant portion of respondents (i.e. 40%) exhibited a moderate proficiency, while online critical reflection and meta-cognition assessments showcased a similar trend. Lastly, online authentic assessments displayed a broader distribution of percentage for moderately proficient (i.e. 30%), alongside slightly proficient (i.e. 29%) and not proficient (i.e. 13%).

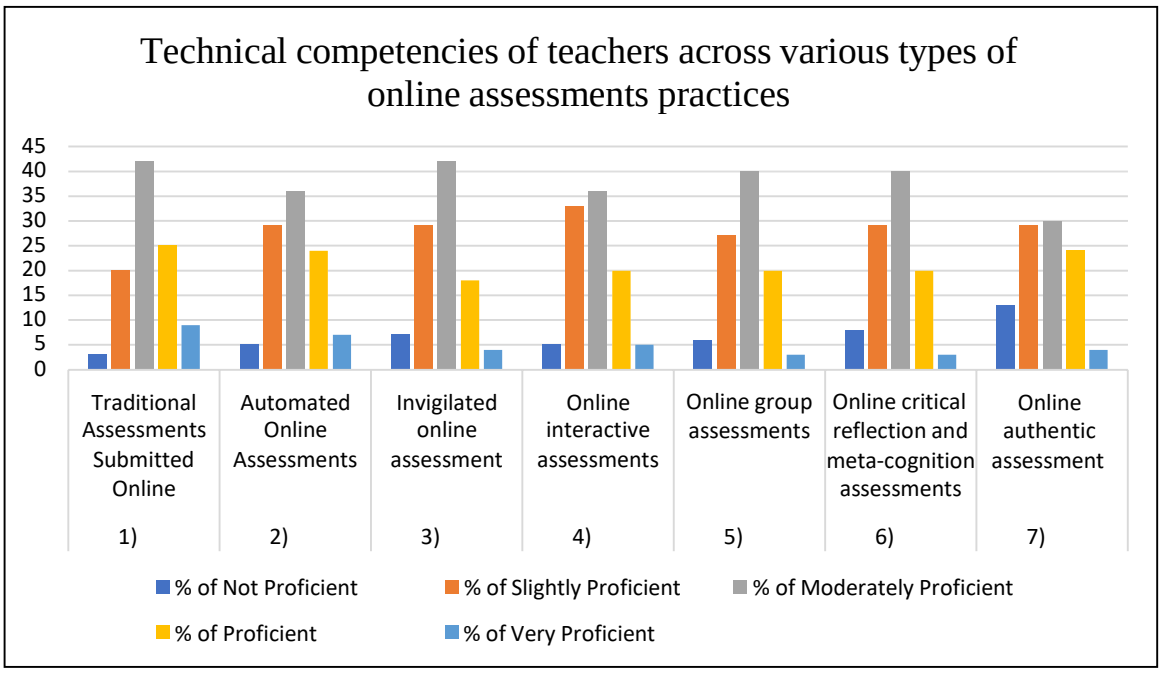

Figure 3 Graphical representation of technical competencies of teachers acrossvarious types of online assessment practices

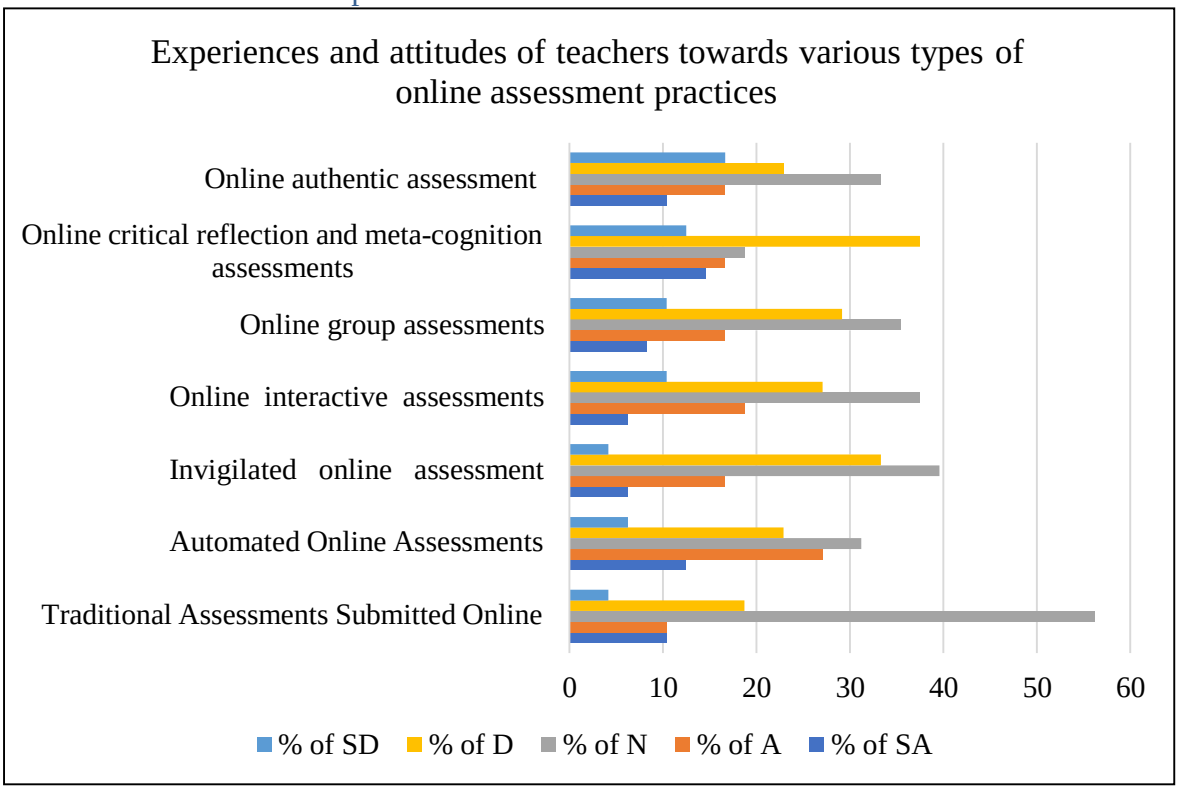

Figure 4 Graphical representation of experiences and attitudes of teachers towardsvarious types of online assessment practices

Figure 4 illustrates teachers' viewpoints on different types of online assessment practices based on their experience, demonstrating a diverse range of attitudes. Traditional assessments submitted online encountered notable skepticism, with below the average (i.e. 20% (10% strongly agree + 10% agree)) of teachers perceived them as effective, while a majority (i.e. 56%) remained neutral, and 23% (i.e. 19% disagree + 4% strongly disagree) expressed skepticism. Automated online assessments received

moderate support from majority i.e. 40% (13% strongly agree + 27% agree) of teachers, yet a notable percentage of teachers (i.e. 31%) remained neutral, and a significant percentage (i.e. 29% (23% disagree + 6% strongly disagree)) of teachers harbored doubts. Invigilated online assessments similarly faced skepticism, with only 23% (6% strongly agree + 17% agree) in agreement, majority of teachers (i.e. 40%) remained neutral while a significant percentage (i.e. 37% (33% disagree + 4% strongly disagree)) of teachers dissented. Online interactive assessments and online group assessments followed a comparable pattern, with around a quarter (i.e. 25%) in agreement, a significant portion (i.e. 38% and 35% respectively) remained neutral, and a notable percentage (i.e. 37% and 39% respectively) of teachers dissented. Online critical reflection and meta- cognition assessments fared slightly better, with a notable percentage i.e. 32% (15% strongly agree + 17% agree) of teachers remained in support, yet some remained neutral (i.e. 19%) and expressed disagreement (i.e. 51%). Online authentic assessments received support from 27% (10% strongly agree + 17% agree) of teachers, with significant proportion (i.e. 33%) of teachers showed neutrality and 40% (23% disagree + 17% strongly disagree) of teachers expressed disagreement.

Conclusion and Discussion

Finding emerged from the analysis revealed that a majority of the secondary level teachers expressed neutrality towards traditional, automated online assessment, invigilated online assessments, online interactive assessments and online authentic assessments and online critical reflection and meta-cognition which is supported by Abduh (2021) that while teachers generallyheld a moderate attitude towards e-assessment and viewed assessment techniques positively, they encountered significant challenges in online assessment; below the average of the respondent expressed moderately proficient or competent towards traditional assessments submitted online, automated online assessments, invigilated online assessments, online interactive assessments, online group assessments, online critical reflection/meta-cognition which is supported by Shi Pu et al (2011) that stated despite using various online assessment methods, teachers struggled to systematically integrate assessment into their online curricula due to lack of their competencies in the field; traditional assessments submitted online faced notable skepticism, while automated assessments received moderate support; invigilated online assessments encountered skepticism, and online interactive and group assessments elicited mixed responses; online critical reflection and metacognition assessments saw a range of opinions, with a notable proportion of disagreement; online authentic assessments received minimal support, with a significant portion expressing disagreement, which is supported by Donnan (2007) and Ozden et al (2004) that initially educators' showed skepticism towards online assessment but recognized the importance of optimizing assessment design for online environments, suggesting a need for adapting assessment methods effectively and teachers found the online assessment system effective, indicating acceptance among computer-savvy youth, though there is room for improvement in future systems, respectively; most of the teachers preferred Google Suite applications among teachers, with lower utilization of third- party platforms and specialized tools among secondary level teachers while employing various types of online assessments, including traditional assessments, automated assessments, and assessments focused on facilitating online interaction and group work, which is supported by Layco et al. (2022) that while teachers exhibit proficiency in using Google Forms, their competence in other platforms is comparatively lower, suggesting a need for further training and familiarization with diverse assessment tools; a widespread utilization of online assessmenttools among teachers where significant percentages of teachers have employed various types ofonline assessments, including traditional assessments, automated assessments, and assessments focused on facilitating online interaction and group work, which is supported by Mary Peat & Sue Franklin (2002) that while most teachers utilize and perceive both types of assessment resources i.e. both online and offline as useful, their usage does not correlate with differential impacts on final learning outcomes. Assessment stands as a pivotal component within any educational framework, serving as a cornerstone for evaluating student learning and guiding instructional strategies. The emergence of online assessment represents a significant intersection between teaching and learning, offering unique opportunities and challenges for educators. While online assessment harnesses the capabilities of technology beyond

traditional classroom boundaries, it also introduces complexities that require careful navigation. Despite the benefits of online assessment, such as flexibility and accessibility, there exists a notable research gap concerning the competencies and experiences of secondary school teachers in effectively implementing these practices. Addressing this gap through a comprehensive study outlining requisite solutions to current challenges will empower teachers to conduct online assessments with greater effectiveness and efficiency. Moreover, such research endeavours hold promise for facilitating the seamless integration of online assessment practices into everyday teaching practices, whether in fully online or blended learning environments, thus ensuring optimal student learning outcomes in the digital age.

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