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Teachers' Competence in Information and Communications Technology

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ABSTRACT

Teachers' competence in ICT can significantly impact teaching by enhancing instructional methods, increasing student engagement, improving access to information, or facilitating personalized learning experiences. In this context, this study determined the teachers' level of competence in Information and Communications Technology in Tudela District, Cebu Province Division, located on an island that is the fifth District Municipality in the central Philippines, for the school year 2022-2023. Data for this descriptive study was collected from 60 public school teacher-respondents using a self-made survey questionnaire that has passed the rigorous tests of validity and reliability. The data analysis showed a high level of teachers' competence in Information and Communications Technology. Teachers' competence in ICT can be enhanced via continued professional growth in the form of suited relevant training and regular school LAC since education is a continuous process for the benefit of the various learners. Through teachers' competence in ICT, DepEd and educational institutions could produce 21st-century learners equipped with life skills that would help our country in boosting our economy; thus, the Philippines benefit and the fulfillment of the new DepEd agenda, which is Matatag: Bansang Makabata, Batang Makabansa.

KEYWORDS

Education, Information and Communications Technology, Public school, Teachers' competence

INTRODUCTION

The 21st-century learning is the change in education from the outdated methods of the past to a more prevailing approach while preparing students for the forthcoming with critical thinking, creativity, collaboration, and skills to be successful in a global economy (Ramey, 2016) and in realizing DepEd agenda "MATATAG: Bansang Makabata, Batang Makabansa" to produce job-ready, active and responsible citizens for the resilient reforms of the primary education.

Teachers' competencies in information and communications technology (ICT) in the 21st century needed a continual update on knowledge and skills paired with the technology to implement in classroom instruction. Teachers who personally experienced the observed difficulties need to make plans to overcome the difficulties encountered in ICT during utilization so that the target of producing caliber 21st-century learners would turn into reality. This determining levels of teachers' competence in ICT in Tudela District, Cebu Province Division in central Philippines for the School Year 2022-2023 would be the basis for a regular School Learning Action Cell (SLAC) as the best option, which could help minimize this arising problem in the Department of Education as whole.

A globally competent teacher has a cognition of the world, including critical global issues, local impact, the cultural aspects of learners, and the adoption of divergence (Stronge, 2018). There is lifelong learning when there is collaborative ability, communication skills, sincerity to change, expert self-sufficiency, enduring expert, professional development, and ready-to-accept information with the application of the new information technology in everyday school context being the pedagogical and didactic-methodological competencies of educators (Ghavifekr & Mohammed, 2015). Based on actual observations, there are difficulties in the basics of education, such as reading ability, academic performance, and values in engaging with other people. Modern education institutions are digital in nature, and they require the addition of technologies to solve educational problems by integrating ICT (Stronge, 2018).

This study on teachers' competence and theory on using information and communication technology in the Philippines is anchored on the theory of the Technology Acceptance Model (TAM). The primary source is "Perceived Usefulness, Perceived Ease of Use, and User Acceptance in Information Technology" (1989). The difficulties in ICT are the lack of training and professional development opportunities by Mendoza, D.C. Technology penetrates almost all environments in social groups. Considering education, there are dual directions that can be observed: First, educational systems worldwide are merged with digital competencies in curricula and assessments (Beller, 2013). Second, teachers and teacher pedagogues are pleased to consider technology in their teaching—as an instrument to alleviate learning or as a formative assessment. It has transformed the selected purpose of education to assist students in becoming digitally literate citizens who can make do with the complexities and dynamics in today's societies (Fraillon et.al. 2014). This improvement, however, requires the meaningful inclusion of technology in teaching and learning contexts (Scherer et al. 2016). A large body of writing deals with the factors connected with this situation by focusing on teachers' adoption of technology (Straub, 2009). A theory, though, has dominated the research landscape—the Technology Acceptance Model (TAM). The TAM comprises of variables informing behavioral purposes and the utilization of technology directly or indirectly (i.e., perceived usefulness, perceived ease of use, attitudes toward technology). It has been extended by external variables, such as self-efficacy and subjective norms, and has alleviated conditions of technology use (Schepers, J. et al. 2007). The TAM has increased appreciable prominence, mainly due to its transferability to various contexts and samples, its potential to justify variance in the goal to use or use technology, and its simplicity of specification within structural equivalence modeling frameworks (Granic et al. (2015). Besides, the TAM is a strong medium for discovering teachers' acceptance of technology, which is different from other models.

Objectives

This study aimed to determine the teachers' level of competence in Information and Communications Technology (ICT) in Tudela District, Cebu Province Division in the Central Philippines for the School Year 2022-2023. Specifically, it sought to determine:

1. The teachers' level of competence in ICT according to technical knowledge and skills, instructional materials development, and assessment of learning.
2. The teachers' level of competence in ICT when grouped according to the aforementioned variables; 3) the significant difference, if any, in the teachers' level of competence in ICT when grouped according to the aforementioned variables.

METHODS

This study used the descriptive research design to determine the levels of competence in ICT in Tudela District, Cebu Province Division in central Philippines for the School Year 2022-2023 as a basis for a Learning Action Cell. According to McCombes (2019), descriptive research aims to accurately and systematically depict a population, status, or phenomenon and can use various research methods to look into one or more variables.

Respondents

The study's respondents were the 60 public school teachers in Tudela District, Cebu Province Division in the central Philippines for the School Year 2022-2023 using total population enumeration.

Research Instrument

This paper used a self-made questionnaire to gather the data, mainly from the public school teacher-respondents. It was subjected to validity (4.71-excellent) and reliability (0.946-Excellent). All of them were interpreted as worthy and good, respectively. This comprised of two parts. Part I gathered the profile of the respondents as to age, number of ICT-related training, and length of service; Part II gathered data on the level of competence of the respondents in areas of technical knowledge and skills, instructional materials development, and assessment of learning as to very high level, high level, moderate level, low level, and very low level.

Data Collection

After the research instrument was found valid and reliable, the researcher requested clearance from the Schools Division Superintendent (SDS) to conduct the research and distribute the questionnaires. After SDS approval, the researcher asked the Public Schools District Supervisor (PSDS) permission to conduct the study. After the approval, the questionnaires were distributed personally to the teacher-respondents, with the agreement that they would be retrieved personally a week after the distribution. The data gathered were tallied, carefully analyzed, and interpreted using appropriate statistical tools with the aid of the Statistical Package for Social Sciences (SPSS) by the statistician assigned.

Data Analysis

Objective No. 1 used a descriptive-analytical scheme and mean statistical tool to determine the teachers' competence level in Information and Communications Technology (ICT). Objective No. 2 also used a descriptive-analytical scheme and mean statistical tool to determine the level of competence of the teachers in ICT on technical knowledge and skills, instructional materials development, and assessment of learning. Objective No. 3 used the comparative analytical scheme and Mann-Whitney U Test to determine the teachers' level of competence in ICT when grouped according to the variables required.

Ethical Consideration

The ethics protocol for this study was well apprehended by research ethics committees that included minimizing the risk of damage, getting informed permission and suitable ethical approval for the research before starting, protecting anonymity and confidentiality, avoiding deceptive practices, and providing the right to withdraw. The design and conduct were in accord with the recognized research guidelines. The respondents were well-oriented about the information and the secrecy of their personal information to reduce the risk of damage to its target respondents by guaranteeing them the secrecy of their responses and safeguarding their privacy throughout the research process.

RESULTS AND DISCUSSION

Table 1. *Competence in Information and Communications Technology in technical knowledge and skills*

Item	Mean	Interpretation
1. implementing the competencies based on the K to 12 MELCS for the development of a shared DepEd vision, mission, and goals.	4.55	Very High Level
2. sharing and applying knowledge and skills in ICT during classroom instruction	3.88	High Level
3. mastering the knowledge and skills involved in the content of digital technology	3.70	High Level
4. promoting, facilitating, and enhancing diverse learners' creative know-how in ICT for digital effectiveness	3.60	High Level
5. instilling the appropriate positive values while engaging the world of new technology	4.15	High Level
6. providing a digital learning environment to produce ICT literate learners in the attainment of DepEd VMG	3.57	High Level
7. applying one's experience and skills to improve digital learning performance	3.68	High Level
Overall Mean	3.88	High Level

Table 1 shows the competence of the respondents in ICT in terms of technical knowledge and skills. As indicated in the table, the overall mean is 3.88, or a high-level equivalent. The item on "implementing the competencies based on the K to 12 MELCS for the development of a shared DepEd vision, mission, and goals" is noteworthy as it garnered the highest mean rating of 4.55 or Very High Level. However, there is a great need to note that the area of providing a digital learning environment to produce ICT literate learners, despite being rated at a high level, receives the lowest rating (rated 3.57) due to the significant costs associated with equipping every school computer room with complete ICT devices, which is often financially unfeasible for many educational institutions under the Department of Education. This data serves as a basis for school administrators to allocate funds from the school Maintenance and Other Operating Expenses (MOOE) to acquire the necessary materials and resources for an ICT-integrated classroom environment. Raheim (2020) supported his statement that deficiency in digital devices, issues with internet connectivity, the need for technological skills, and the cost of Internet data are the barriers.

Table 2. *Competence in Information and Communications Technology in instructional materials development*

Item	Mean	Interpretation
1. responding immediately to the needs of the learners to be digitally proficient	3.73	High Level
2. maintaining a sufficient supply of resources,	3.82	High Level

	including internet load		
3.	producing quality ICT-related instructional materials to enhance learners' participation	3.57	High Level
4.	managing and maintaining quality computer rooms	2.80	Moderate Level
5.	enhancing positive value in doing ICT-related activities	3.57	High Level
6.	managing diverse learners with inclusive education in ICT-related activities	3.45	High Level
7.	creating a digital learning environment	3.15	Moderate Level
Overall Mean		3.44	High Level

Table 2 shows the competence level of teachers in ICT in instructional materials development, with an overall mean of 3.44, indicating a High Level of competence. Starting with the highest mean "pertains to maintaining a sufficient supply of resources, including internet," with a mean score of 3.82 or High Level of competence. On to the lowest mean, "focused on creating a digital learning environment," with a mean score of 3.15 or Moderate Level. This indicates that respondents have demonstrated moderate proficiency in this area of focus. This implies that producing a digital learning environment requires considerable money and is thus given less priority. Data supported (Green, 2017), who claimed and backed up by these findings that there is slight support from the department in acquiring ICT-related equipment for school children's use.

Table 3. *Competence in Information and Communications Technology in assessment of learning*

Item		Mean	Interpretation
1.	reporting the result of student assessment.	4.27	High Level
2.	identifying the appropriate ICT-related learners' assessment	3.72	High Level
3.	engaging in the use of ICT tools during the assessment	3.45	High Level
4.	assessing learners in ICT-related topics for feedback and monitoring	3.28	Moderate Level
5.	assessing diverse learners on ICT-related topics	3.35	Moderate Level
6.	conducting an online learners' assessment	2.53	Low Level
7.	engaging stakeholders in supporting online learners' assessment	2.85	Moderate Level
Overall Mean		3.35	Moderate Level

Table 3 presents the competence of respondents in ICT in assessment of learning in checking the learners' level of understanding of ICT competencies as bases for implementing re-teaching, interventions, and remedial measures when necessary. The overall mean for all the items combined is 3.35 or Moderate Level of competence. Item on the reporting of student assessment results obtained the highest mean score of 4.27 or high level of competence. On the other hand, items on the online assessment of learners achieved the lowest mean score of 2.53 or a moderate level. This implies that the respondents have displayed moderate proficiency in this area. These findings imply that teachers must explore alternative ways to implement modern assessment methods beyond traditional face-to-face classes as part of the educational landscape. Brooks (2015) supported that teachers should continually be engaged in advanced instruction on teaching-learning process skills with the present educational demands for improvement.

Table 4. *Competence in Information and Communications Technology in technical knowledge and skills when grouped according to age*

Categories	Younger Mean	Interpretation	Older Mean	Interpretation
1. implementing the competencies based on the K to 12 MELCS to develop a shared DepEd vision, mission, and goals.	4.55	Very High Level	4.55	Very High Level
2. sharing and applying knowledge and skills in ICT during classroom instruction	4.00	High Level	3.76	High Level
3. mastering the knowledge and skills involved in the content of digital technology	3.81	High Level	3.59	High Level
4. promoting, facilitating, and enhancing diverse learners' creative know-how in ICT for digital effectiveness	3.74	High Level	3.45	High Level
5. instilling the appropriate positive values while engaging the world of new technology	4.26	High Level	4.03	High Level
6. providing a digital learning environment to produce ICT literate learners in the attainment of DepEd VMG	3.52	High Level	3.62	High Level
7. applying one's experience and skills to improve digital learning performance	3.61	High Level	3.76	High Level
Overall Mean	3.93	High Level	3.82	High Level

Table 4 presents the overall result of the competence of teacher-respondents in ICT on technical knowledge and skills when grouped according to age. It has an overall mean of 3.93 for the younger group and 3.82 for the senior group, which are both interpreted as high levels. This indicates that both groups manifest a high level of competence in the items considered. This result suggests that the older group need more time to enhance themselves to cope with the learners' needs in this technology-driven world. Item on promoting, facilitating, and enhancing diverse learners' creative know-how in ICT for digital effectiveness, the older mean got the lowest mean of 3.45 while the younger mean of 3.74, which both have high levels. This indicates that the older group needs more knowledge about the digital effectiveness of diverse learners. This implies that the older group still needs to go through different training to level up their knowledge of ICT-related skills, techniques, and knowledge. Raheim (2020) further supports that the teachers' insufficient ICT time, knowledge, and skills in instruction showed lesser effects.

Table 5. *Competence in Information and Communications Technology in instructional materials development when grouped according to age*

Categories	Younger Mean	Interpretation	Older Mean	Interpretation
1. responding immediately to the needs of the learners to be digitally proficient	3.71	High Level	3.76	High Level
2. maintaining a sufficient supply of resources, including internet load	3.71	High Level	3.93	High Level
3. producing quality ICT-related instructional materials to enhance learners' participation	3.61	High Level	3.52	High Level
4. managing and maintaining quality computer rooms	2.61	Moderate Level	3.00	Moderate Level
5. enhancing positive value in doing ICT-related activities	3.61	High Level	3.52	High Level
6. managing diverse learners with inclusive education in ICT-related activities	3.52	High Level	3.38	Moderate Level
7. creating a digital learning environment	3.00	Moderate Level	3.31	Moderate Level
Overall Mean	3.40	Moderate Level	3.49	High Level

Table 5 presents the overall result of the competence of teacher-respondents in ICT in instructional materials development when grouped according to age. The overall mean of the younger group is 3.40 or moderate level while the mean of the older group is 3.49 or High Level. This indicates that the younger group showed less competence in this area as compared to the older mean but with a slight difference. This implies that younger mean needs to be digitally more competent in convincing learners to gain ideas, knowledge, and skills. Data shows that the lowest mean score is on managing and maintaining quality computer rooms; “younger” has 2.61 while “older” has slightly higher of 3.00, which both interpreted as moderate level. The lower mean scores in the "younger” category suggest that participants have room for improvement. This indicates a need to enhance their skills and knowledge in a robust digital learning environment that maximizes the potential of ICT for instruction. These findings supported the contention of Orhan (2020) that ICT education can be incorporated into education with serviceable facilities for confident teachers for the impact of the country's evolution.

Table 6. *Competence in Information and Communications Technology in assessment of learning when grouped according to age*

Categories	Younger Mean	Interpretation	Older Mean	Interpretation
1. reporting the result of student assessment.	4.16	High Level	4.38	Very High Level
2. identifying the appropriate ICT-related learners' assessment	3.74	High Level	3.69	High Level
3. engaging in the use of ICT tools during the assessment	3.39	Moderate Level	3.52	High Level
4. assessing learners in ICT-related topics for feedback and monitoring	3.19	Moderate Level	3.38	Moderate Level

5. assessing diverse learners on ICT-related topics	3.23	Moderate Level	3.48	Moderate Level
6. conducting an online learners' assessment	2.45	Low Level	2.62	Moderate Level
7. engaging stakeholders in supporting online learners' assessment	2.74	Moderate Level	2.97	Moderate Level
Overall Mean	3.27	Moderate Level	3.43	High Level

Table 6 summarizes the results for the level of competence of teacher-respondents in ICT in the learning assessment when grouped according to age. The data shows that the younger group has a mean of 3.27 or a moderate level, while the older group has a mean of 3.43 or a high level. This indicates that the younger mean shows slightly lower in this concern. This implies that younger groups are less competent as compared to older, more experienced counterparts. On the other hand, the lowest mean score is observed in the category of "conducting an online learners' assessment." The mean score for the "younger" category is 2.45, or a low level of competence, while the "older" category is slightly higher at 2.62, or a moderate level of competence. This indicates that the "older" category exhibits a slightly higher level of competence as compared to their younger counterparts. This could be attributed to their willingness and eagerness to engage in the technology and online learning environments. Stronge (2018) supported this by stating that the younger group of teachers had many plans in mind, but plans failed due to a lack of dedication and ability to implement; others had implemented their plans but failed, too, due to a lack of patience to get themselves through.

Table 7. *Competence in Information and Communications Technology in technical knowledge and skills when grouped according to the number of ICT related training attended*

Categories	Lower Mean	Interpretation	Higher Mean	Interpretation
1. implementing the competencies based on the K to 12 MELCS to develop a shared DepEd vision, mission, and goals	4.48	High Level	4.62	Very High Level
2. sharing and applying knowledge and skills in ICT during classroom instruction	3.81	High Level	3.97	High Level
3. mastering the knowledge and skills involved in the content of digital technology	3.74	High Level	3.66	High Level
4. promoting, facilitating, and enhancing diverse learners' creative know-how in ICT for digital effectiveness	3.61	High Level	3.59	High Level
5. instilling the appropriate positive values while engaging the world of new technology	4.16	High Level	4.14	High Level
6. providing a digital learning environment to produce ICT literate learners in the attainment of DepEd VMG	3.61	High Level	3.52	High Level
7. applying one's experience and skills to improve digital	3.71	High Level	3.66	High Level

learning performance				
Overall Mean	3.88	High Level	3.88	High Level

Table 7 exhibits teachers' competence in ICT in technical knowledge and skills when grouped according to the number of ICT-related training attended. Data shows the overall mean of both the lower and higher mean got an average of 3.88 or High Level. This indicates that both lower mean and higher mean show equal levels of competence in this area. This implies that teachers with less training are still competent in the knowledge and skills because teachers are very resourceful. The lowest mean is shown in "providing a digital learning environment to produce ICT literate learners in the attainment of DepEd VMG." The mean for this competency in the lower category is 3.61, while higher is slightly lower is 3.52, and both with “High Level." This suggests that both higher and lower participants, even those classified as "High Level," still indicate room for improvement. This implies that lower and higher group categories still need more skills and knowledge to leverage digital tools to enhance learning outcomes. These findings were enhanced by Spante et al. (2018), that acquisition in education of learners could access their basic cognitive process by ensuring no limit in place and time with the provision of instrumentality to digitally integrate ICT in instruction to authorize their students in the 21st century.

Table 8. *Competence in Information and Communications Technology in instructional materials development when grouped according to number of ICT related trainings*

Categories	Lower Mean	Interpretation	Higher Mean	Interpretation
1. responding immediately to the needs of the learners to be digitally proficient	3.81	High Level	3.66	High Level
2. maintaining a sufficient supply of resources, including internet load	3.90	High Level	3.72	High Level
3. producing quality ICT-related instructional materials to enhance learners' participation	3.58	High Level	3.55	High Level
4. managing and maintaining quality computer rooms	2.74	Moderate Level	2.86	Moderate Level
5. enhancing positive value in doing ICT-related activities	3.39	Moderate Level	3.76	High Level
6. managing diverse learners with inclusive education in ICT-related activities	3.45	Moderate Level	3.45	Moderate Level
7. creating a digital learning environment	3.16	Moderate Level	3.14	Moderate Level
Overall Mean	3.43	High Level	3.45	High Level

Table 8 shows the level of competence of teachers in ICT in instructional materials development when grouped according to the number of ICT-related training attended. As shown in the table presented, the overall mean in the lower group is 3.43, and the higher mean is 3.45, both interpreted as Moderate Levels. This indicates that both groups perform slightly less than the high level. This implies that both lower and higher mean groups would enhance themselves through attending suited and relevant training. Conversely, the competence with the lowest mean in both categories is "creating a digital learning environment." The mean for this competency in both categories is relatively low, with 3.16 in the lower category and 3.14 in the higher category, and both are interpreted as "Moderate Level." This suggests that both categories have demonstrated moderate competence in this area and need to possess some knowledge and skills in leveraging digital tools

and platforms for instructional purposes. These findings were supported by Spante et al. (2018), that acquisition education of learners could access their basic cognitive process by ensuring no limit in place and time to digitally integrate ICT in instruction in this 21st century.

Table 9. *Competence in Information and Communications Technology in assessment of learning when grouped according to number of ICT related training*

Categories	Lower Mean	Interpretation	Higher Mean	Interpretation
1. reporting the result of student assessment.	4.03	High Level	4.52	Very High Level
2. identifying the appropriate ICT-related learners' assessment	3.61	High Level	3.83	High Level
3. engaging in the use of ICT tools during the assessment	3.42	Moderate Level	3.48	Moderate Level
4. assessing learners in ICT-related topics for feedback and monitoring	3.39	Moderate Level	3.17	Moderate Level
5. assessing diverse learners on ICT-related topics	3.35	Moderate Level	3.34	Moderate Level
6. conducting an online learners' assessment	2.77	Moderate Level	2.28	Low Level
7. engaging stakeholders in supporting online learners' assessment	3.00	Moderate Level	2.69	Moderate Level
Overall Mean	3.37	Moderate Level	3.33	Moderate Level

Table 9 exhibits teachers' competence level in ICT in learning assessment when grouped according to the number of ICT-related training. By simply looking at the table, the overall mean of the lower mean group was 3.37 or Moderate Level, while the higher mean group got an overall mean of 3.33 or Moderate Level. This indicates that the higher mean is slightly less competent. This implies that attending the training is a way of effectively implementing the teaching-learning process in the assessment of learning. The competence with the lowest mean in both the lower and higher categories is "conducting an online learners' assessment." The mean for this competency is 2.77 in the lower category and 2.28 in the higher category, with the interpretation of "Low Level" to "Moderate Level." This suggests that participants have demonstrated a moderate to low level of competence in designing and implementing effective online assessment strategies and utilizing appropriate digital tools and platforms. These findings do not support Nelson et al. (2019), who state that younger teachers show greater abilities in ICT-related assessment because having a moderate level to low-level mean is not a guarantee of producing quality learners.

Table 10. *Competence in Information and Communications Technology in technical knowledge and skills when grouped according to length of service*

Categories	Shorter Mean	Interpretation	Longer Mean	Interpretation
1. implementing the competencies based on the K to 12 MELCS for the development of a shared DepEd vision, mission, and goals	4.47	Very High Level	4.63	Very High Level
2. sharing and applying knowledge and skills in ICT during classroom	3.93	High Level	3.83	High Level

instruction				
3. mastering the knowledge and skills involved in the content of digital technology	3.77	High Level	3.63	High Level
4. promoting, facilitating, and enhancing diverse learners' creative know-how in ICT for digital effectiveness	3.77	High Level	3.43	Moderate Level
5. instilling the appropriate positive values while engaging the world of new technology	4.20	High Level	4.10	High Level
6. providing a digital learning environment to produce ICT literate learners in the attainment of DepEd VMG	3.53	High Level	3.60	High Level
7. applying one's experience and skills to improve digital learning performance	3.53	High Level	3.83	High Level
Overall Mean	3.89	High Level	3.87	High Level

Table 10 exhibits data on the level of competence in ICT in terms of technical knowledge and skills when grouped according to length of service. As shown in the table, the shorter-tenured group has an overall mean of 3.89 or High Level, while the longer-tenured group has an overall mean of 3.87 or High Level. This indicates that the longer mean group showed less competence in the above-mentioned areas. This implies that when dealing with ICT, the longer mean group showed less competence because most belong to non-millennials or Generation X teachers. The competence with the lowest mean, in both the shorter and longer term of service categories," provides a digital learning environment to produce ICT literate learners in attaining DepEd VMG." The mean is relatively lower, with 3.53 in the shorter mean group and 3.60 in the longer mean group which interpreted both as "High Level," respectively. This suggests that even both groups have demonstrated a high level of competence but still, there is room for improvement to be more effective and impactful digital learning. Orhan (2020) strengthened that ICT in the classroom would depend on the ability of the teachers to defeat the traditional ways of learning successfully.

Table 11. *Competence in Information and Communications Technology in instructional materials development when grouped according to length of service*

Categories	Shorter Mean	Interpretation	Longer Mean	Interpretation
1. responding immediately to the needs of the learners to be digitally proficient	3.83	High Level	3.63	High Level
2. maintaining a sufficient supply of resources, including internet load	3.80	High Level	3.83	High Level
3. producing quality ICT-related instructional materials to enhance learners' participation	3.70	High Level	3.43	Moderate Level
4. managing and maintaining quality computer rooms	2.67	Moderate Level	2.93	Moderate Level
5. enhancing positive value in doing ICT-related activities	3.67	High Level	3.47	Moderate Level
6. managing diverse learners with inclusive education in ICT-related activities	3.53	High Level	3.37	Moderate Level

7. creating a digital learning environment	3.10	Moderate Level	3.20	Moderate Level
Overall Mean	3.47	Moderate Level	3.41	Moderate Level

Table 11 presents teachers' competence in ICT in instructional materials development when grouped according to length of service (LOS). Data shows that the shorter LOS group obtained an overall mean of 3.47 while the longer mean had an overall mean of 3.41, with both having Moderate Level interpretation. This indicates that the longer mean showed less competence in this area as compared to the shorter length. This implies that most of longer mean are mostly utilizing traditional visual aids because they have less skill in producing digital instructional materials. The competence with the lowest mean, in both the shorter and longer length of service categories, is "managing and maintaining quality computer rooms." The mean for this competency is relatively lower, with 2.67 in the shorter mean and 2.93 in the longer mean, both interpreted as "Moderate Level." This suggests that both groups have demonstrated a moderate level of competence but not the high quality as expected. Pantoñal (2022) further strengthens that in a country like Yemen, the schools need abundant resources and expert teachers for the high impact of implementation on diverse learners, including the uneducated population.

Table 12. *Competence in Information and Communications Technology in assessment of learning when grouped according to length of service*

Categories	Shorter Mean	Interpretation	Longer Mean	Interpretation
1. reporting the result of student assessment.	4.17	High Level	4.37	Very High Level
2. identifying the appropriate ICT-related learners' assessment	3.80	High Level	3.63	High Level
3. engaging in the use of ICT tools during the assessment	3.53	High Level	3.37	Moderate Level
4. assessing learners in ICT-related topics for feedback and monitoring	3.27	Moderate Level	3.30	Moderate Level
5. assessing diverse learners on ICT-related topics	3.37	Moderate Level	3.33	Moderate Level
6. conducting an online learners' assessment	2.50	Low Level	2.57	Low Level
7. engaging stakeholders in supporting online learners' assessment	2.83	Moderate Level	2.87	Moderate Level
Overall Mean	3.35	Moderate Level	3.35	Moderate Level

Table 12 exhibits the level of competence of teachers in Information and Communications Technology in the assessment of learning when grouped according to length of service. By simply looking at the table, both have an overall mean of 3.35 or moderate. This indicates that the shorter mean and longer mean are both at the moderate level. This suggests that both need to enhance their level of competence through appropriate training and regular conduct of the school Learning Action Cell. Regarding competence, the lowest mean falls on conducting an online learners' assessment in both the shorter and longer length of service categories. The mean for this competency is relatively lower, with 2.50 in the shorter mean and 2.57 in the more extended mean category. This suggests that individuals in both groups have room for improvement in conducting an online learners' assessment. These findings are enhanced by Nelson (2019), who states that the younger teachers

manifested greater abilities in utilizing a more comprehensive range of assessment practices and supported that older teachers who are more experienced, most of them still dwell in using paper and pencil tests.

CONCLUSION AND RECOMMENDATION

Based on the analyzed and interpreted data presented in this study, teachers generally demonstrate a high level of competence in technical knowledge and skills but not an assurance to produce a holistically developed individual since data proved that respondents got a moderate level in instructional materials development and assessment of learning. Based on the findings, the Learning Action Cell (LAC) Plan is proposed to bridge the gap while waiting for more suited training to enhance teachers' targeted professional development because education is a continuous process with advancements in educational technology and effectively assessing and evaluating student learning outcomes. This implies that the school should give immediate remediation on the gaps/problems that exist, including allocating funds from the MOOE for teachers' training travel expenses and tapping the stakeholders for support on equipment and gadgets to produce competent teachers in realizing the goal of DepEd to produce quality 21st-century learners.

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