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Teachers' Challenges in ICT Instruction on Students Learning and Digital Skills Development

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Abstract— *The main purpose of this study is to examine the extent of challenges that teachers face in administering ICT instruction and to figure out how these challenges influencet students' learning and the development of their digital skills, with the goal of informing strategies to enhance ICT integration in the classroom. Specifically, it sought to find the extent of challenges of teachers in ICT instruction. Also, to find the level of students; learning and digital skills. Furthermore, to find out the relationship between the teachers' extent of challenges in administering ICT instruction and students' learning and digital skills. A descriptive-correlational research approach was utilized by the researchers to analyze the association between the challenges facing by the teachers in ICT instruction and student learning and the development of digital skills among students. The researcher used a questionnaire checklist as the main instrument to gain the required data to seventy (70) ICT teachers selected through a purposive sampling. Particularly, the statistical analyses show that the challenges faced in ICT instruction were generally ranked as high to very high, especially in the areas of resource limitation and time constraints. These outcomes point to systemic and working barriers that persist in delay effective ICT integration in classroom settings. The findings imply that teachers' extent of challenges is very high. Also, students demonstrate a very high level of learning skills, characterized by keen interest, collaboration, and task completion, which can be completely affected by supportive instructional strategies. Furthermore, the students exhibit a very high level of digital skills, especially in technical and information literacy domains. However, the development of digital communication skills is found as an area needing extended support and teacher training. Significantly, the study discovered that all five identified ICT instruction challenges had a significant correlation with both students' learning and digital skills development. These results emphasize the fundamental role of well-supported ICT instruction in influencing students' 21st-century skillsets. Based on the findings the following conclusions were drawn. It is significantly concluded that attending to the instructional obstacles faced by teachers is critical for promoting improved learning and digital outcomes among students was observed, implied by rejecting the null hypothesis. Considering these findings, it is suggested that schools invest in continuous ICT training for teachers, develop access to digital infrastructure, and design peer mentoring opportunities to improve resource-based challenges. Furthermore, policymakers and administrators are persuaded to revisit current ICT integration frameworks to guarantee their support with existing technological demands and instructional existences. Finally, potential researchers may investigate the influences of ICT challenges in other academic disciplines and school settings to further contextualize the findings.*

Keywords— *ICT Integration, Digital skills development, Instructional challenges, Teacher competency, Students learning outcomes.*

I. Introduction

In today's rapidly evolving digital landscape, Information and Communication Technology (ICT) has become an integral part of education, promising to revolutionize learning experiences and equip students with essential digital skills. However, the implementation of ICT in classrooms is significantly hindered by various challenges and limitations faced by educators, manifesting most prominently in the insufficiency of instructional materials and resources. One of the most significant challenges is the inadequacy of instructional materials and resources. Teachers frequently encounter obstacles such as outdated hardware, a lack of modern software, and unreliable internet access, all of which severely restrict their ability to integrate digital technologies into their teaching. This scarcity not only hinders the delivery of engaging and effective ICT instruction but also delays the cultivation of essential digital competencies among students' skills that are indispensable for the 21st-century workforce and daily life.

The repercussions of such inadequacies are profound. Teachers, constrained by these limitations, often struggle to deliver a curriculum that fully harnesses the capabilities of ICT. As a result, students may develop only a superficial understanding of digital concepts, affecting both their academic performance and their ability to interact with digital tools and environments critically and creatively. Furthermore, disparities in resource availability can exacerbate existing inequities, placing students in under-resourced schools at a significant disadvantage compared to their peers in better-equipped institutions.

Anderson et al. (2020) stated that e-learning platforms have become a critical tool in fostering digital skills in students. The research shows that online learning environments help students develop technical skills like software proficiency, but also soft skills like time management and self-regulation.

In the context of 21st-century education, the integration of Information and Communication Technology (ICT) is widely regarded as a pivotal component in enhancing student learning and developing critical digital skills (Blake, 2019). However, teachers face numerous challenges in effectively incorporating ICT into their instructional practices, ranging from limited access to technology, inadequate training, to the evolving nature of digital tools (Anderson et al., 2020). These challenges not only hinder teachers' ability to leverage ICT for teaching but also affect the development of students' digital

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competencies, which are increasingly essential in the modern workforce (OECD, 2022). This research aims to investigate the specific obstacles faced by educators in ICT instruction and how these challenges impact student engagement, and digital skill development. By addressing these barriers, this study seeks to provide insights that can inform strategies to better support teachers, ensuring that students are equipped with the digital literacy required to thrive in an increasingly technology-driven world (Greenhow & Lewin, 2020).

1.1 Statement of the Problem

It sought to answer the following questions:

1. What is the extent of challenges in ICT instructions in terms of:
   - 1.1 Rapid Technology Changes;
   - 1.2 Resource Limitation;
   - 1.3 Curriculum updates;
   - 1.4 Technical Support; and
   - 1.5 Time Constraints?
2. What is the level of Students learning skills in terms of;
   - 2.1 Interest in the subject;
   - 2.2 Peer interaction;
   - 2.3 Homework completion; and
   - 2.4Growth Mindset?
3. What is the level of students' digital skills of the learners in terms of;
   - 3.1 Technical Skills;
   - 3.2 Digital Communication skills; and
   - 3.3 Information Literacy Skills?
4. Is there a significant relationship between the challenges in ICT Instruction and the Student's learning skills?
5. Is there a significant relationship between challenges in ICT instructions and students' digital skills?

II. Methodology

The research study adopts a descriptive-correlational research design, as defined by Colorafi & Evans 2016), which focuses on describing and interpreting existing phenomena. It aims to investigate the conditions of relationships, opinions held by individuals, ongoing processes, and emerging trends. Although it mainly focuses on the present, it also considers relevant past events and influences related to the conditions under investigation. The primary sources of data for this study are the profiles and perceptions of the respondents. To ensure the reliability of the study, a normative survey questionnaire was utilized to gather essential information from the participants.

The researchers utilized the descriptive method to gather data on relationships between Teachers' Challenges in ICT Instruction on Student Learning and Digital Skills Development at Senior High School in Pila Laguna, school year 2024-2025.

III. Results and Discussion

The presentation of the collected data in accordance with the research questions, analysis, and interpretation in relation to the subproblem and hypothesis outlined in the first chapter are covered in this chapter.

Extent of Challenges in ICT Instructions

In this study, the challenges in ICT instructions are to explore the challenges and difficulties teachers face using ICT in their instructions and how these challenges affect students learning and digital skills development.

A study parallel to rapid technology changes of Taban Habibu (2015), stating that ICT plays a significant role in enabling learners to become competent since this digital revolution era, however, there are some barriers in place for the effective utilization of ICT in the classroom.

These factors include equipment shortages, teacher resistance to change, shortage of skilled personnel, and technological challenges, such as low internet speeds and power issues.

Furthermore, it highlighted coping mechanism around it and recommended continual professional development of teachers in integrating ICT into teaching and learning practices.

Table 1 shows that, even though teachers frequently struggle to adjust to new tools (mean of 4.07) and express significant concern about security risks associated with rapidly changing technology (high mean of 4.46), the overall grand mean of 4.21 indicates that there are widespread challenges in integrating ICT into instruction.

TABLE 1. *Extent of Challenges in ICT Instructions in terms of Rapid Technology Changes*

STATEMENT	Mean	SD	Remarks
As a teacher, I was able to…			
express concern about security risks associated with rapidly changing technology.	4.46	0.67	Always
experience a shortage of skilled personnel to manage new technological changes.	4.07	0.72	Often
find rapid technological challenges to keep up with the latest technological trends.	4.33	0.73	Always
face difficulties adapting to new software or tools introduced in your work environment.	4.07	0.99	Often
perceive that the cost of upgrading technology outweighs the benefits.	4.14	0.95	Often
Grand Mean	*4.21*		
SD	*0.84*		
Verbal Interpretation	*High*		

This emphasizes the needs of detailed teacher training, technological reinforcement, cybersecurity understanding, and tactical organizing to attend means constraints and the cost of equipment upgrading.

Table 2 reveals that, adjusting and delivering effective teaching despite limited resources (mean=4. 40, SD=0.73) gives the highest mean score indicating the teachers always feel capable of adjusting and delivering effective teaching even when faced with limited resources. Despite the challenges posed by limited resources, teachers demonstrate a strong adaptability and resourcefulness in ensuring that the teaching process continues effectively. It also shows that, it is challenging to maintain IT infrastructures (mean=4.16) which is somewhat lower mean score, indicating that teachers often

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face obstacles in maintaining IT infrastructure due to limited resources and having a high SD (0.90) says that teachers have more discrepancy in perceiving these challenges.

TABLE 2. *Extent of Challenges in ICT Instructions in terms of Resource Limitations*

STATEMENT	Mean	SD	Remarks
As a teacher, I was able to…			
face budget constraints that limit technology upgrades or implementations.	4.21	0.73	Always
adjust and deliver effective teaching despite limited resources	4.40	0.73	Always
experience a shortage of necessary hardware or software resources.	4.33	0.84	Always
encounter limitations in training resources which impacted their team's ability to keep up with technological advancement	4.29	0.88	Always
find it challenging to maintain it infrastructures because of limited resources	4.16	0.90	Often
Grand Mean	*4.28*		
SD	*0.82*		
Verbal Interpretation	*Very High*		

It can be obtained in this table that, A very high challenge level for teachers, especially concerning resource and infrastructure deficits are evidenced by the grand mean of 4.28 with a 0.82 standard deviation. While teachers can certainly adapt to limitations, these challenges are both persistent and significant. This indicates that classrooms face similar challenges such as budgeting limitations and a lack of resources and infrastructure, which makes the integration of technology difficult for teachers.

TABLE 3. *Extent of Challenges in ICT Instructions in terms of Curriculum Update*

STATEMENT	Mean	SD	Remarks
As a teacher, I was able to…			
find the process of updating the ict curriculum to be challenging.	4.10	0.83	Often
frequently experience a lack of up-to-date materials when modifying ict curriculum.	4.14	0.80	Often
regularly face difficulties in keeping the ict curriculum aligned with the current technological advancements.	4.16	0.97	Often
face resistance often from stakeholders when proposing updates to the ict curriculum.	4.14	0.82	Often
meet time constraints make it difficult to modify the ict curriculum effectively.	4.11	0.82	Often
Grand Mean	*4.17*		
SD	*0.82*		
Verbal Interpretation	*High*		

According to the grand mean score of 4.17 in the analysis of Table 3 shows that updating the ICT curriculum is a great challenging task that is significantly experienced by across the TVL teachers who is teaching ICT. The highest mean score of 4.16 indicates the difficulty teachers endure in matching the curriculum with the rapid development of technology which requires a need for constant adjustment to help maintain the relevance of their learning material. On the other hand, the general difficulty felt during the updating, which is well known to be extremely crucial, is scored the least mean of 4.10, indicating that, as a medium complex process of updating the ICT curriculum to be challenging the respondents that can have a falling positive effect.

This investigates teachers' attitudes, knowledge, and skills in TCT integration, as well as the challenges they encounter, such as limited resources, lack of training, and institutional resistance. It reveals that while teachers acknowledge the potential benefits of ICT, they face significant obstacles in integrating it into their teaching practices, including a lack of up-to-date resources, insufficient professional development, and inadequate support from school management.

Table 4 displays teachers' experiences with technical support related to ICT instruction.

TABLE 4. *Extent of Challenges in ICT Instructions in terms of Technical Support*

STATEMENT	Mean	SD	Remarks
As a teacher, I was able to…			
experience the technical support team following up to ensure that my problems have been fully resolved.	4.37	0.86	Always
receive sufficient training on how to use ict resources and services.	4.19	0.90	Often
give regular updates on the status of teachers' ict issues.	4.29	0.81	Always
receive clear and understandable guidance from the technical support team.	4.17	0.77	Often
acquire technical support to become both skills and proficiency to assist teachers in ict teaching and learning.	4.34	0.73	Always
Grand Mean	*4.23*		
SD	*0.83*		
Verbal Interpretation	*Very High*		

The data includes responses to various statements about the availability and quality of technical support in the educational environment, with the mean score of 4.37 and SD of 0.86. follows up to ensure their problems have been fully resolved. Additionally, a mean score of 4.17 and SD of 0.77 indicates teachers often receive clear and understandable guidance from the technical support team they receive to be effective and consistent.

A grand mean score of 4.23 suggest that teachers experience with technical support in ICT instruction are "very high" and SD of 0.83 shows that most teachers feel positively about the technical support they receive. However, there is some variation in the responses regarding the clarity of guidance and the sufficiency of training, with the teachers indicating they often receive support.

It found out that when teachers received specialized education and support, the effectiveness of ICT interventions increased significantly. The average effect size rose to 0.57 when such support was included, indicating a moderate positive impact on learning outcomes.

This underscores the critical role of both technical support and pedagogical training in enhancing the effectiveness of ICT use in education and learning.

Extent of Challenges in ICT Instructions in terms of Time Constraints

This table shows a mean score of 4.29 and SD of 0.72 showing on how time constraints affect ICT instruction, highlighting various challenges teachers face, including

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teachers' responses to several statements about the impact of teachers frequently multitasking to manage ICT-related duties because of time constraints. Indicating that multitasking is a consistent experience for most teachers.

Also, given a mean score of 4.13 and SD of 0.89 unveil teachers often feel that they affect their ability to stay updated with the latest ICT developments and best practices.

TABLE 5. *Extent of Challenges in ICT Instructions in terms of Time Constraints*

STATEMENT	Mean	SD	Remarks
As a teacher, I was able to…			
multitask frequently to manage ict-related duties due to time constraints.	4.29	0.72	Always
feel overwhelmed by the amount of ict work required within the available time.	4.14	0.87	Often
affect the quality of ict work is sometimes compromised due to insufficient time.	4.07	0.88	Often
formed that time constraints affect the ability to stay updated with the latest ict developments and best practices.	4.13	0.89	Often
feel that time constraints limit their ability to collaborate effectively with colleagues on ict projects.	4.19	0.93	Often
Grand Mean	*4.21*		
SD	*0.78*		
Verbal Interpretation	*Very High*		

The table reveals "very high" as verbal interpretations, signify that time constraints cause a level of challenge for teachers when it comes to ICT instruction, with a mean score of 4.21 and SD of 0.78. time pressures also hinder collaboration with colleagues, further impairing the challenges teachers face.

It also emphasizes the need for more structured time management strategies and targeted professional development to ensure that teachers have the time and resources to effectively use ICT in enhancing student learning and development.

Level of Students Learning Skills

In this study, it shows how to identify and evaluate learners' engagement and involvement in class discussions and how they demonstrate in their learning process and was determined by the mean and standard deviation.

The data unveils a mean score of 4.40 and SD of 0.66, indicates that additional training or reflective exercises may assist with calibrating teachers' observations and facilitation of the student discussion.

It can be a sign of an opportunity to improve student participation strategies, or a sign of challenges to motivate certain types of learners to progress in the classroom.

Also, a mean score of 4.66 and SD of 0.50, indicates that teachers see the subject as having lasting effects. It encourages the notion of relating this to applications or careers and presenting it as a preparation for life skills or future relevance.

It can be derived from the table, that the level of students learning skills in terms of interest in the subject is 4.50 with "Very High" as a verbal interpretation. Giving a general insight into the value of teaching and its effect on students: teacher perspectives, as well as the ease of topic comprehension, leading to a general positive attitude regarding their ability to teach the topic, and its effect on the students.

TABLE 6. *Level of Students Learning Skills in terms of Interest in the Subject*

STATEMENT	Mean	SD	Remarks
As a teacher, I was able to…			
observe the learners' engagement and involvement in class discussions and activities related to this subject.	4.40	0.66	Always
sharing the knowledge, I've gained from this subject with others outside of class.	4.40	0.68	Always
observe that this subject is considered one of my learner's favorites.	4.47	0.69	Always
instill the belief that the skills and knowledge gained from this subject will be valuable in the future.	4.66	0.50	Always
consider the topics in this subject to be engaging and thought-provoking.	4.57	0.60	Always
Grand Mean	*4.50*		
SD	*0.64*		
Verbal Interpretation	*Very High*		

TABLE 7. *Level of Students Learning Skills in terms of Peer Interaction*

STATEMENT	Mean	SD	Remarks
As a teacher, I was able to…			
use technological tools or platforms to foster better communication and collaboration among peers.	4.51	0.63	Always
observe peer interaction compared to that of teacher-led instruction in ict education.	4.40	0.66	Always
contribute to the development of digital skills with their peers.	4.43	0.69	Always
see peer character in engaging effectively with peers during ict learning activities.	4.49	0.65	Always
recognize the skills of peer in the learning process for students developing digital skills	4.53	0.69	Always
Grand Mean	*4.47*		
SD	*0.67*		
Verbal Interpretation	*Very High*		

Given the data with high a mean of 4.53 and standard deviation of 0.69, recognizing the skills of peers in the learning process for students developing digital skills rises to where peer recognition adopts a positive learning environment for students to feel supported and encouraged to develop their own skills. A grand mean of 4.47 with a standard deviation of 0.67, which indicates "very high" levels of peer interaction indicates the level of students' learning skills in terms of peer interaction within ICT education, reflects a positive classroom environment where collaboration supports digital skill development. It shows that teachers strongly agree students are learning well through peer interaction, especially in ICT subjects.

The level of students learning skills in terms of homework completion gained a grand mean of 4.49 and a standard deviation of 0.72 and was verbally interpreted as very high among the respondents. This implies that giving homework in ICT is a helpful part of the students' learning. The elements' purpose is tailored to each student's gained knowledge from homework practical ICT task completing with online resources, make students' performance activity to manage and complete their homework engaging and meaningful.

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TABLE 8. *Level of Students Learning Skills in terms of Homework Completion*

STATEMENT	Mean	SD	Remarks
As a teacher, I was able to…			
complete homework contributes to developing digital skills in ict.	4.56	0.62	Always
apply the knowledge gained from homework to their practical ict task.	4.54	0.67	Always
seek help from teachers, peers, or online resources when completing ict homework.	4.40	0.83	Always
make students use to manage and complete their ict homework efficiently.	4.43	0.75	Always
perform activity for making ict homework more engaging and meaningful.	4.53	0.69	Always
Grand Mean	*4.49*		
SD	*0.72*		
Verbal Interpretation	*Very High*		

TABLE 9. *Level of Students Learning Skills in terms of Growth Mindset*

STATEMENT	Mean	SD	Remarks
As a teacher, I was able to…			
demonstrate a willingness to take on challenges and try new things.	4.64	0.54	Always
believe that intelligence and abilities can be developed through effort and perseverance.	4.54	0.60	Always
exhibit resilience when faced with difficult tasks or failures.	4.59	0.62	Always
set goals and work towards achieving them, adjusting strategies as needed.	4.56	0.62	Always
collaborate effectively with peers to solve problems and learn from each other.	4.49	0.71	Always
Grand Mean	*4.56*		
SD	*0.62*		
Verbal Interpretation	*Very High*		

Table 9 reveals the levels of students learning skills in terms of growth mindset having a mean score of 4.64 and standard deviation of 0.54 demonstrates the willingness of students to take on challenges and try new things to experience. Reflecting the belief that new assignments and difficulties are opportunities for development. Likewise (mean=4.49:SD=0.71) suggesting that while collaboration is effective, it may not be as always pointed out as an individual strength and endurance.

The data presented in Table 9 shows the level of students' learning skills in relation to their growth mindset, showing very high scores in all aspects, with a grand mean of 4.56 and standard deviation of 0.62. to which believe that a growth mindset can develop intelligence and abilities through effort, persistence and learning from challenges. The data suggests that students not only possess this mindset but also engage in behaviors and attitudes that support their development and learning.

Level of Students' Digital Skills

The level of Students' digital skills in technical aspect had a grand mean of 4.60, (very high as verbal interpretation among respondents) and a standard deviation of 0.56. This implies that teachers are well skilled in teaching ICT that has endowed them with great confidence and ability to incorporate and control ICT in teaching online learning in the company of technical skills and teaching that support effective online learning. Also, the lowest mean score was 4.57 and standard deviation was 0.49. This suggests a lack of targeted professional development to support the consistent and collaborative use of ICT, while in some instances teachers sometimes struggle to effectively guide students in using software and communication tools (likes emails, chats and discussions) productively, effectively and appropriately effectively in working collaboratively.

TABLE 10. *Level of Students' Digital Skills in terms of Technical Skills*

STATEMENT	Mean	SD	Remarks
As a teacher, I was able to…			
motivate and independently troubleshoot basic technical issues that arise during online learning sessions by the learners.	4.61	0.54	Always
assist students in demonstrating proficiency in using productivity software (e.g., word processors, spreadsheets, presentation tools) for assignments.	4.57	0.49	Always
understand and follow digital safety and privacy practices while using the internet.	4.66	0.56	Always
use communication tools (e.g., email, chats, discussions) appropriately and effectively for collaborative work.	4.57	0.65	Always
able to integrate multimedia elements (e.g., images, videos, audio) into their digital assignments or presentations.	4.60	0.55	Always
Grand Mean	*4.60*		
SD	*0.56*		
Verbal Interpretation	*Very High*		

TABLE 11. *Level of Students' Digital Skills in terms of Digital Communication Skills*

STATEMENT	Mean	SD	Remarks
As a teacher, I was able to…			
use digital communication tools for enhancing student learning outcomes	4.54	0.65	Always
facilitate online collaboration and teamwork among students	4.50	0.67	Always
perceived ease of use of digital communication tools that influence the intentions to use these tools	4.46	0.69	Always
participate in professional development opportunities to enhance their digital communication skills and confidence	4.43	0.69	Always
enhance my digital communication skills through professional development and training	4.57	0.65	Always
Grand Mean	*4.50*		
SD	*0.67*		
Verbal Interpretation	*Very High*		

Table 11 represents the level of students' digital skills in terms of Digital communication in many aspects the mean of 4.43 and SD of 0.69 indicating that teachers face some challenges in consistently participating in professional development to enhance their digital communications skills and confidence, despite recognizing their importance. in addition to, a mean score of 4.47 and a standard deviation of 0.65, Enhancing digital communication skills of teachers' strong value and benefits from professional development and training in digital communication that leads to advance skills that expand their instructional practices.

The very high grand mean (4.50) indicates that teachers are effectively using digital communication tools, which positively influence students' learning environment where

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digital tools are used with confidence to support collaboration and enhance educational outcomes.

Level of Students Digital Skills in terms of Information Literacy

Table 12 implies the level of students' digital skills in terms of information literacy in many aspects, a mean score 4.56 indicates that students are more capable of using digital problem-solving strategies to overcome common challenges in navigating and managing digital information. This may show that teachers are always observing students efficiently managing digital complexity.

A grand mean score of 4.49 and a standard deviation of 0.65 with a very high verbal interpretation indicates a strong collective performance in information literacy skills, signifying that students prove a very high level of information literacy skills, consistently using digital tools and resources effectively in their academic work.

Significant Relationship Between the Challenges in ICT Instruction and Student's Learning Skills

To test the significant relationship between Significant Relationship Between the Challenges in ICT Instruction and Student's Learning Skills data were treated statistically using Minitab 14 using Pearsons R. The major findings were presented in the following table.

TABLE 12. *Level of Students Digital Skills in terms of Information Literacy*

STATEMENT	Mean	SD	Remarks
As a teacher, I was able to…			
use what to determine the scope and depth of information required for various assignments.	4.43	0.71	Always
formulate search queries to locate relevant information online.	4.44	0.67	Always
experience the challenges in accessing digital resources, such as databases, e-books, and academic journals.	4.50	0.65	Always
stay updated with new digital tools and technologies relevant to their academic work.	4.54	0.60	Always
find ways to problem-solving strategies employ when faced with digital challenges, such as navigating information overload or addressing technical issues.	4.56	0.60	Always
Grand Mean	*4.49*		
SD	*0.65*		
Verbal Interpretation	*Very High*		

Based on the results of Table 13, there is a statistically significant association between ICT teaching challenges and learning skills of students, as shown by all the correlation coefficients becoming significant at $p < .05$.

TABLE 13. *Significant Relationship Between the Challenges in ICT Instruction and Student's Learning Skills*

Challenges in ICT Instruction (IV)	Student's Learning Skills (DV)			
	Interest in the Subject	Peer Interaction	Homework Completion	Growth Mindset
Rapid Technology Changes:				
Pearson Correlation	0.389	0.518	0.475	0.412
p-value	0.001*	0.000*	0.000*	0.000*
N	70	70	70	70
Resource Limitation:				
Pearson Correlation	0.304	0.377	0.441	0.315
p-value	0.011*	0.001*	0.000*	0.008*
N	70	70	70	70
Curriculum updates:				
Pearson Correlation	0.335	0.476	0.424	0.251
p-value	0.005*	0.000*	0.000*	0.031*
N	70	70	70	70
Technical Support:				
Pearson Correlation	0.469	0.600	0.535	0.389
p-value	0.000*	0.000*	0.000*	0.001*
N	70	70	70	70
Time Constraints:				
Pearson Correlation	0.524	0.682	0.753	0.608
p-value	0.000*	0.000*	0.000*	0.001*
N	70	70	70	70

Note: * $p < .05$

Time and technical support deficiencies were found to be the most important teaching barriers, showing the highest correlations across all the learning domains of the students, particularly peer interaction ($r = 0.682$) and completing homework ($r = 0.753$). These results suggest that time pressures or absence of technical support compromise teachers' ability to give responsive, engaging, and effective teaching, thereby negatively affecting the academic engagement of students, collaborative work, work completion, and learning attitude. Apart from enhancing the effectiveness of teaching, its remedy is central to facilitating the holistic development of students' learning skills in an increasingly digital educational landscape. A p-value less than 0.05, therefore there is a significant relationship between the variables indicated.

Significant Relationship Between the Challenges in ICT Instruction and Student's Digital Skills

To test the significant relationship between Significant Relationship Between the Challenges in ICT Instruction and Student's Digital Skills data were treated statistically using Minitab 14 using Pearsons R. The major findings were presented in the following table.

TABLE 14. *Significant Relationship Between the Challenges in ICT Instruction and Student's Digital Skills*

Challenges in ICT Instruction (IV)	Students' Digital Skills (DV)		
	Technical Skills	Digital Communication Skills	Information Literacy Skills
Rapid Technology Changes:			
Pearson Correlation	0.378	0.439	0.478
p-value	0.001*	0.000*	0.000*
N	70	70	70
Resource Limitation:			
Pearson Correlation	0.370	0.285	0.267
p-value	0.002*	0.017*	0.025*
N	70	70	70
Curriculum updates:			
Pearson Correlation	0.295	0.259	0.273
p-value	0.013*	0.030*	0.022*
N	70	70	70
Technical Support:			
Pearson Correlation	0.375	0.372	0.446
p-value	0.001*	0.002*	0.000*
N	70	70	70
Time Constraints:			
Pearson Correlation	0.552	0.607	0.610
p-value	0.000*	0.000*	0.000*
N	70	70	70

*Note: * $p < .05$*

The findings indicate significant correlations, as shown by the Pearson correlation values and p-values below 0.05 among these challenges is, time constraints have the strongest correlations across all three skill domains: technical skills (r = 0.552), digital communication skills (r = 0.607), and information literacy skills (r = 0.610). as indicated by Pearson correlation values and p-values these challenges indicating statistical significance. This further implies that there is a significant relationship between the challenges in ICT instruction and students' digital skills and the development of digital competencies is significantly affected by difficulties in ICT instruction such as time limitations, inadequate technical assistance, and the accelerating growth of technology. These results highlight the relationship between the outcomes of learners, the effectiveness of teachers, and the preparedness of the institutions in the context of digital learning.

IV. Conclusion and Recommendations

Based on the findings above, the following conclusions were hereby obtained:

There is a significant relationship between the challenges in ICT instruction and the students' learning skills. Therefore, the null hypothesis was rejected. This indicates that the students are adapting effectively in response to these challenges.

There is a significant relationship between the challenges in ICT instruction and the students' digital skills. Therefore, the null hypothesis was rejected. This indicates that the challenges in ICT instruction have significant influence on the improvement of students' digital skills, significantly conquering these barriers to enhance students' digital skills. Given the presented conclusions, the following recommendations are hereby determined.

1. Schools may focus on providing modern technology, utilizing low-cost digital tools, and encouraging peer-to-peer mentoring to provide equal access to learning resources for all to counter the effect of scarce resources on IT skills, especially information literacy.
2. Educational institutions may provide targeted professional development and adequate ICT resources for teachers to reduce instructional challenges and enhance students' learning skills.
3. Secondary public schools in Laguna may invest in continuous ICT training programs for teachers focused on digital tools and pedagogies, to reduce instructional barriers and effectively support the development of students' digital skills.

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