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TECH FATIGUE AND INSTRUCTIONAL EFFICACY OF TEACHERS

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Abstract: **This study is aimed to find out the relationship between tech fatigue and instructional efficacy of teachers. This study utilized the non-experimental quantitative research design using descriptive technique involving teachers in Davao Occidental Division, Philippines. The study was conducted on the second semester of School Year 2025-2026. Research instruments on tech fatigue and instructional efficacy of teachers were used as source of data. Using mean and pearson-r as statistical tools to treat the data, the study showed the following results: The study found to exhibit a very high level of tech fatigue. This means that the provisions relating to tech fatigue is oftentimes observed. The study revealed a high level of instructional efficacy of teachers. This indicates that the provisions relating to instructional efficacy of teachers are embodied in the item is oftentimes observed. The results of the study also confirm that there is a significant relationship between tech fatigue and instructional efficacy of teachers. This implies that the lower the tech fatigue, the higher is the instructional efficacy of teachers. Thus, the null hypothesis of no significant relationship between tech fatigue and instructional efficacy of teachers was rejected.**

Keywords: **tech fatigue, instructional efficacy of teachers, school administration and supervision, quantitative research.**

I. INTRODUCTION

The instructional efficacy of teachers refers to their ability to deliver lessons in a way that effectively promotes student learning, understanding, and academic success. It involves skills such as lesson planning, classroom management, instructional strategies, student engagement, and the use of assessments to guide instruction. However, a growing problem in many schools is the variation or decline in instructional efficacy among teachers, which can negatively affect student performance and overall classroom outcomes. This issue is especially critical in contexts where teacher preparation, resources, and ongoing support are lacking (Alanoglu, 2022).

In India, particularly Telangana Region, a recent study by the State Council of Educational Research and Training (SCERT) in examined 600 trainee teachers across 73 institutions. The key findings include over 40% demonstrated only moderate competence in crucial areas like lesson planning, classroom management, and pedagogical strategies. The finding also pointed out that 35% reported inadequate practical training and internships while merely 26% actively pursued continuous professional development (Khan, Preeti & Gupta, 2024). South Sudan also face crisis in terms of instructional efficacy of teachers as the country's classrooms are burdened by teacher absenteeism, unqualified educators, and overcrowded learning spaces, up to 129 students per class. These conditions severely hamper the ability to deliver effective instruction and personalize learning (Soforon, Sikko & Tesfamicael, 2023).

Meanwhile, in South Africa, teachers face a range of challenges with ICT integration due to limited digital skills and discomfort using technology, severe resource constraints, such as only 25 computers for over 40 students in many classes, and poor infrastructure, including unreliable electricity and internet access, particularly in rural schools, dampening modern instructional practices (Makeleni, Mutongoza, Linake & Ndu, 2023).

In the Philippines, problems on instructional efficacy of teachers is depicted in various forms. One of these is taken from a 2021 World Bank report linked high levels of learning poverty to ineffective teaching practices, lack of mastery, and teacher absenteeism (Cho, Avalos, Kawasoe Johnson & Rodriguez, 2021). Meanwhile, adding to the issue on poor instructional efficacy of teachers has been linked to Licensure Exam (LET) passing rates which are are starkly low, that is only around 33% for elementary and 40% for secondary teachers between 2009–2023, which indicating systemic gaps in teacher preparation.

To add, there is 62% of high school teachers are assigned subjects they didn't major in and there is 54% of schools lack a principal. With these pressing issues, teachers remain burdened with excessive administrative responsibilities, diluting instructional focus. In addition, research also point out challenges such as poor time management, ineffective pedagogy, and weak classroom management among teachers in struggling schools (Generalao, Ducanes, Yee & David, 2022).

There is seems to be no better way to capture issues on instructional efficacy of teachers than the recent data which dictates that the overall percentage of Grade 4-6 learners in English, only 8.54% is tagged as grade ready, while there is 38.39% labeled as two levels down, and 53.07% three levels down.

The advent of innovations in school including adoption of various programs particularly digital transformation is seen to reverse the issues brought by low instructional efficacy among teachers. However, tech fatigue seemed to give an impression that links to a lower instructional efficacy among teachers in which this study is proposed in order to find out its relevance. This study seeks to underscore the relationship between tech fatigue and instructional efficacy of teachers to ascertain the relationship between the two variables. Today, the researcher has rarely come across with a study on the study regarding these two variables. It is in this context that the researcher prompted to conduct this study to address evidence gap.

II. BODY OF ARTICLE

Statement of the Problem

This study is aimed to find out the relationship between tech fatigue and instructional efficacy of teachers. Specifically, this study sought to answer the following objectives:

1. What is the level of tech fatigue in terms of:

1.1 Techno-complexity;

1.2 Techno-uncertainty;

1.3 Techno-invasion;

1.4 Techno-overload, and

1.5 Techno-insecurity?

2. What is the level of instructional efficacy of teachers in terms of:

2.1 Commitment;

2.2 Independent Learning;

2.3 Knowledge of the Subject Matter, and

2.4 Management of Learning?

3. Is there a significant relationship between tech fatigue and instructional efficacy of teachers?

Hypothesis

Ho1. There is no significant relationship between tech fatigue and instructional efficacy of teachers

III. METHODOLOGY

Research Design

This study will adopt a quantitative correlational research design to examine the relationship between teachers' digital transformation skills and students' internal drive aptitude. The quantitative approach allows for statistical analysis of the strength and direction of associations between variables, providing empirical evidence on how teacher competencies in digital technology influence students' motivation and learning behavior.

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Non-experimental correlational research is a research design used to determine whether and to what degree a relationship exists between two or more quantifiable variables, without establishing cause and effect in which in this study, it will look into the relationship between tech fatigue and instructional efficacy of teachers

Statistical Treatment

The following statistical tools were used in the analysis of data.

Mean. This will be used to determine the level of tech fatigue and instructional efficacy of teachers.

Pearson r. This will be used to determine the significance of the relationship between tech fatigue and instructional efficacy of teachers

IV. RESULTS AND DISCUSSION

Level of Tech Fatigue

Shown in Table 1 is the level of tech fatigue with an overall mean of 3.63 with a descriptive equivalent of high indicating that all enumerated indicators were oftentimes observed. The overall mean was the result obtained from the mean of the indicators for the specific items from the questionnaire intended for this particular indicator which was appended in this study.

Among the enumerated indicators, techno-invasion has the highest mean rating with a mean score of 3.67 or high, techno-uncertainty, 3.64 or high, techno-overload, 3.63 or high, techno-insecurity, 3.63 or high, and techno-complexity, 3.62 or high.

Table 1. Tech Fatigue

Indicators	Mean	Descriptive Levels
Techno-complexity	3.62	High
Techno-uncertainty	3.64	High
Techno-invasion	3.67	High
Techno-overload	3.63	High
Techno-insecurity	3.63	High
Overall	**3.63**	**High**

The result of the study corresponds with the statement of Almutairi (2025) who verifies that teacher tech fatigue has become an increasingly common challenge in modern education, as educators are expected to constantly adapt to new digital tools, platforms, and expectations. While technology promises efficiency and innovation, the rapid pace of change often leaves teachers feeling overwhelmed. Many must learn multiple systems at once, grading software, communication apps, learning management systems, while still meeting the core demands of lesson planning and student engagement. This constant need to keep up can lead to mental exhaustion, especially when adequate training or support is lacking.

The result of the study is consistent with the statement of Gungon, Trajera, Roberts & Zuo (2024) who validates that another major contributor to tech fatigue is the blurring of boundaries between work and personal life. Digital tools make it easier for teachers to be accessible at all hours, whether responding to emails, updating online gradebooks, or troubleshooting student issues. Over time, this always-on expectation can erode downtime and increase stress levels. Additionally, when technology fails, as it inevitably does, it often falls on teachers to problem-solve in real time, adding frustration and disrupting instructional flow.

The result of the study supports the statement of Al Mulhım (2023) who affirms that addressing teacher tech fatigue requires a more thoughtful and balanced approach to integrating technology in schools. Professional development should focus not just on how to use tools, but on when and why they are effective. Schools can also reduce overload by streamlining platforms and prioritizing quality over quantity. Most importantly, giving teachers a voice in technology decisions and respecting their time can help restore a sense of control and sustainability, allowing technology to serve as a support rather than a source of burnout.

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Level of Instructional Efficacy of Teachers

Shown in Table 2 is the level of instructional efficacy of teachers with an overall mean of 4.19 with a descriptive equivalent of high indicating that all enumerated indicators were oftentimes observed. The overall mean was the result obtained from the mean of the indicators for the specific items from the questionnaire intended for this particular indicator which was appended in this study.

Among the enumerated indicators, management of learning has the highest mean score of 4.25 or very high, commitment, 4.22 or very high, knowledge of the subject matter, 4.18 or high, and independent learning, 4.14 or high.

The result of the study reinforces the statement of Alanoglu (2022) who attests that instructional efficacy of teachers refers to their belief in their own ability to effectively teach and positively influence student learning outcomes. It is rooted in the broader concept of teacher self-efficacy, which emphasizes confidence in planning lessons, delivering content, managing classrooms, and adapting instruction to meet diverse student needs. Teachers with high instructional efficacy are more likely to use innovative strategies, persist through challenges, and maintain high expectations for all students, which in turn supports stronger academic achievement.

Table 2. Instructional Efficacy of Teachers

Indicators	Mean	Descriptive Levels
Commitment	4.22	Very High
Independent Learning	4.14	High
Knowledge of the Subject Matter	4.18	High
Management of Learning	4.25	Very High
Overall	**4.19**	**High**

The result of the study resonates with the statement of Ma & Marion (2021) who supports the claim that this sense of efficacy directly impacts classroom practices and student engagement. Teachers who feel capable tend to create more organized, supportive, and responsive learning environments. They are better able to adjust instruction based on student feedback, incorporate different teaching methods, and provide meaningful feedback. In contrast, low instructional efficacy can lead to rigid teaching, reduced effort, and a tendency to attribute student difficulties to external factors rather than instructional approaches.

The result of the study corresponds with the statement of Hussain, Khan & Bidar (2022) who establishes that instructional efficacy is influenced by several factors, including professional development, prior teaching experiences, administrative support, and access to resources. Positive experiences, such as successfully helping students improve, strengthen efficacy, while repeated challenges without support can weaken it. Schools can enhance instructional efficacy by fostering collaboration, providing targeted training, and recognizing teacher successes. When teachers believe in their instructional impact, they are more motivated, resilient, and effective in promoting student learning.

Significance on the Relationship between Tech Fatigue and Instructional Efficacy of Teachers

Illustrated in Table 3 were the results of the test of relationship between variables involved in the study. The overall correlation had a computed value of 0.305 with a probability value of $p<0.01$ which is significant at 0.05 level. Hence the null hypothesis which states that there is no significant relationship between tech fatigue and instructional efficacy of teachers is rejected.

Table 3. Significance on the Relationship between Tech Fatigue and Instructional Efficacy of Teachers

Pair	Variables	Correlation Coefficient	p-value	Decision on Ho
IV and DV	Tech Fatigue and Instructional Efficacy of Teachers	0.305	0.000	Reject

The result of the study is in agreement with the statement of Almutairi, (2025) who supports the claim that The relationship between teacher tech fatigue and instructional efficacy is closely intertwined, with each influencing the other in significant ways. Teacher tech fatigue, resulting from techno-complexity, techno-overload, techno-invasion, techno-uncertainty, and

techno-insecurity, can reduce a teacher's confidence in their ability to plan, deliver, and manage instruction effectively. When educators feel overwhelmed or stressed by digital tools, they may struggle to integrate technology in ways that enhance learning, which can undermine their sense of instructional efficacy. Essentially, fatigue acts as a barrier to teachers fully exercising their skills and judgment in the classroom.

The result of the study reflects the statement of Chen & Qin (2024) who establishes that instructional efficacy can moderate the effects of tech fatigue. Teachers with high instructional efficacy are often better able to adapt to technological challenges, troubleshoot problems, and selectively integrate digital tools to support student learning. Their confidence in their teaching abilities may buffer the negative impact of technology-related stress, allowing them to maintain effective lesson planning, classroom management, and student engagement despite the pressures of digital demands. However, even highly efficacious teachers can experience fatigue when technology demands are excessive or poorly supported, highlighting the need for balanced implementation.

The result of the study confirms the statement of Yang & Du (2024) who demonstrates that research suggests a cyclical relationship: persistent tech fatigue can erode instructional efficacy over time, leading to decreased motivation, reduced innovation, and lower student outcomes, while diminished instructional efficacy can exacerbate feelings of stress and overwhelm when using technology. Addressing this relationship requires interventions that both reduce teacher tech fatigue, through training, support, and manageable workloads, and strengthen instructional efficacy by providing professional development, resources, and collaborative opportunities. Supporting teachers in both domains ensures that technology serves as a facilitator of learning rather than a source of burnout.

V. CONCLUSION

Based from the findings of the study, conclusions are drawn in this section. The study found to exhibit a very high level of tech fatigue. This means that the provisions relating to tech fatigue is oftentimes observed.

The study revealed a high level of instructional efficacy of teachers. This indicates that the provisions relating to instructional efficacy of teachers are embodied in the item is oftentimes observed.

The results of the study also confirm that there is a significant relationship between tech fatigue and instructional efficacy of teachers. This implies that the lower the tech fatigue, the higher is the instructional efficacy of teachers. Thus, the null hypothesis of no significant relationship between tech fatigue and instructional efficacy of teachers was rejected.

VI. RECOMMENDATIONS

The study found to exhibit a very high level of tech fatigue. The researcher recommends that teachers may balance tech and traditional methods by mixing digital tools with hands-on or face-to-face activities to avoid continuous screen use and using technology purposefully, only when it adds value to learning, not as a default; set time limits for tech use by breaking lessons into segments that alternate between digital and non-digital tasks; simplify tools and platforms by using user-friendly platforms that require minimal troubleshooting to reduce stress;plan ahead and prepare resources by having clear instructions, templates, or pre-loaded digital content ready to save time during lessons; promote mindful tech use by encouraging reflection on what tools truly help learning and which may cause unnecessary strain, and seek support and collaborate by sharing tips, templates, and troubleshooting strategies with colleagues and attending brief workshops or online sessions to refresh skills without overloading yourself.

The study revealed a high level of instructional efficacy of teachers. The researcher recommends that teachers may improve in the area of independent learning as this has the lowest mean rating among all indicators. The teachers may design active learning strategies by incorporating activities, projects, and exercises that allow students to apply concepts in real-life or simulated contexts; build student confidence by recognizing effort and achievement publicly and privately to enhance self-esteem; promote student-led learning by allowing students to design mini-projects or learning modules with clear objectives and realistic goals; foster independent thinking by encouraging students to explore multiple approaches to problems and make informed decisions; encourage beyond-the-book learning by motivate students to explore topics outside the standard curriculum, providing guidance on reliable resources and practical applications and connecting classroom concepts to real-world examples to show relevance and inspire curiosity.

The results of the study also confirm that there is a significant relationship between tech fatigue and instructional efficacy of teachers. The reearcher recommends that teachers may balance tech use by integrating technology purposefully, alternating with hands-on, collaborative, or discussion-based activities; simplify tools by using a manageable number of platforms or apps to avoid cognitive overload, and reflect and adjust: by monitoring how tech affects your energy and lesson flow; adjust strategies accordingly.

Principals may support professional development by providing focused, practical tech training that builds confidence without overwhelming teachers; promote a healthy tech culture by encouraging balanced tech use in classrooms and model mindful practices at the administrative level.

District supervisors may provide clear guidelines by setting standards for purposeful tech integration rather than excessive tool adoption; allocate resources wisely by ensuring teachers have access to user-friendly platforms, troubleshooting support, and time for skill development, and evaluate impact by assessing how technology implementation affects teacher workload, engagement, and instructional effectiveness, and adjust policies accordingly.

The researcher also recommends to future researchers to conduct similar study and explore some indicators that are not included in this study in another setting in order to uncover new knowledge relevant to the topics presented in this study.

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