

“The Silent Strain Behind the Screen: Unveiling the Hidden Burden of Science Educators in the Digital Era”

Perly L. Cortes, MAEd

Biliran Province State University-Biliran Campus, Naval, Biliran 6566, Philippines

Corresponding Email: perlycortes@bipsu.edu.ph

The shift to online and technology-driven teaching has transformed educators' roles, especially science teachers who rely on hands-on instruction. Yang and Du (2024) found that teachers in digital environments experience emotional exhaustion and burnout due to increased workload and platform management demands, highlighting emotional regulation as a key challenge and revealing the hidden emotional strain affecting teachers' well-being and performance.

Similarly, Mosleh et al. (2022) emphasize that the shift to online teaching caused significant psychological stress among educators, with reports of fatigue, anxiety, and emotional pressure while adapting to digital tools and remote instruction. They also struggled to maintain teaching quality while learning new technologies, showing that the transition created both instructional difficulties and emotional strain affecting overall effectiveness.

Phan and Pham (2023) further support these findings by highlighting the emotional complexity experienced by teachers in online learning environments. Their study reveals that educators often face anxiety, frustration, and stress caused by technological limitations and reduced student interaction. They also note that teachers must constantly regulate their emotions while adapting their instructional strategies to suit virtual platforms. This continuous emotional adjustment contributes to a “silent strain” that is often unnoticed but deeply felt in professional practice.

In science education, McPherson and Pearce (2022) found that science teachers face challenges in conducting lab activities, redesigning lessons for online platforms, and sustaining student engagement, alongside emotional tension such as uncertainty and frustration. Similarly, DeCoito and Estaiteyeh (2022) report that STEM teachers struggle with curriculum adaptation, assessment, and student participation, as well as stress caused by the sudden shift and lack of preparation.

In conclusion, the literature consistently shows that science teachers face a combination of emotional and professional challenges in online and technology-driven teaching environments. Across all studies, common emotional struggles include stress, anxiety, burnout, and frustration, while professional difficulties involve adapting instructional methods, managing digital tools, and maintaining effective science education delivery. These findings emphasize that the “silent strain behind the screen” is a real and persistent issue that affects educators' well-being and teaching performance. Addressing these challenges requires institutional support, proper training, and sustainable digital teaching strategies to ensure that science educators are not overwhelmed in the evolving digital era.

References

Yang, X., & Du, J. (2024). The effect of teacher self-efficacy, online pedagogical and content knowledge, and emotion regulation on teacher digital burnout: a mediation model. *BMC psychology*, 12(1), 51.

Mosleh, S. M., Kasasbeha, M. A., Aljawarneh, Y. M., Alrimawi, I., & Saifan, A. R. (2022). The impact of online teaching on stress and burnout of academics during the transition to remote teaching from home. *BMC Medical Education*, 22(1), 475.

Phan, A. N. Q., & Pham, L. T. T. (2023). Online teaching during the COVID-19 pandemic: Vietnamese language teachers' emotions, regulation strategies and institutional policy and management. *Policy futures in education*, 21(4), 405-422.

McPherson, H., & Pearce, R. (2022). The shifting educational landscape: science teachers' practice during the COVID-19 pandemic through an activity theory lens. *Disciplinary and interdisciplinary science education research*, 4(1), 19.

DeCoito, I., & Estaiteyeh, M. (2022). Transitioning to online teaching during the COVID-19 pandemic: An exploration of STEM teachers' views, successes, and challenges. *Journal of science education and technology*, 31(3), 340-356.

ARTICLE DETAILS

EIR-0000068; Received: May 30, 2026; Accepted: June 02, 2026; Published: June 05, 2026

CITATION:

Cortes, Perly L. (2026) *The Silent Strain Behind the Screen: Unveiling the Hidden Burden of Science Educators in the Digital Era: Essays and Critiques*. DOI: 10.62596/eir.93gcy212

COPYRIGHT

Copyright © 2026 by author(s). *Education and Industry Review: Essays and Critiques* is published by Stratworks Research Inc. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<https://creativecommons.org/licenses/by/4.0/>), allowing redistribution and reproduction in any format or medium, provided the original work is cited or recognized.