SWIPE, LIKE, LEARN: THE SOCIAL MEDIA TAKEOVER OF SCIENCE EDUCATION

by:
Melissa Jean R. Nazareno, MAN
SHS Teacher III, E.C. Bernabe National High School

In today's digital era, science classrooms are expanding beyond textbooks into the vibrant worlds of TikTok, YouTube, and Instagram. For senior high school students, these platforms offer bite-sized, engaging science content that feels both fun and relevant. Social media–based learning has been shown to encourage active engagement and collaboration, which in turn boosts motivation and performance in academic contexts (Radin & Light, 2022). This means that what once seemed like distractions can actually support meaningful classroom learning when guided by teachers.

Accessibility is one of social media's biggest benefits. Visuals, animations, and popular formats have made it possible to explain scientific ideas that once seemed far away in a matter of seconds. Particularly in schools with limited access to lab supplies, educators are ingeniously demonstrating concepts like kinetic energy or chemical processes via TikTok films (Novriadi & Fitria, 2023). This effectively bridges the gap between classroom learning and real-world experiences by making science more accessible to kids who are already surrounded by digital culture.

Immediacy is another draw; pupils no longer have to wait for structured instruction to pique their interest. Learning on demand is offered by a brief TikTok film that illustrates a physics phenomena or chemical reaction. By incorporating these videos into their classes, teachers provide students the chance to speculate and debate before providing formal explanations, transforming passive viewing into chances for critical thinking (Purwanto et al., 2021). Social media will become a tool for exploration rather than just amusement thanks to this type of participatory use.

Social media's capacity for collaboration is just as fascinating. Students can develop, consume, and comment on science-related content on online platforms that function as learning communities. This is in line with social constructivist and connectivist learning theories, which highlight how peer interaction and collective meaning-making are the most effective ways to build knowledge (Avram et al., 2020). Since senior high school students are both creators and consumers of knowledge, this collaborative environment might inspire them to take charge of their education.

But there are dangers associated with the proliferation of "easy science" content. According to Grant (2025), short-form movies frequently give pupils the appearance of expertise, making them feel informed but lacking in depth. This might be troublesome for scientific classrooms in late high school if students presume fluency without critically interacting with the material. Therefore, after exposing students to social media science topics, teachers should promote introspection and further in-depth research.

The entertainment-driven paradigm of social media frequently oversimplifies complicated concepts, which is another drawback. Even if a 30-second film can successfully capture viewers' attention, it might leave out crucial information required for true understanding. To guarantee that students gain both curiosity and accuracy in their scientific understanding, teachers should combine these videos with books, class discussions, and organized activities (Radin & Light, 2022).

Notwithstanding these reservations, social media integration done well can improve education. TikTok, for instance, has been effectively utilized in flipped classrooms, where instructors play quick science videos prior to class so that students are ready for more in-depth conversations (Frontiers in Education, 2025). This method gives students the freedom to study at their own speed, go over material again as needed, and use class time for experimentation, analysis, and teamwork.

The fact that today's students are digital natives is ultimately reflected in the "Swipe, Like, Learn" culture. Social media has expanded the ways in which students engage with science, not replaced it. Platforms like YouTube and TikTok can pique students' interest, hone their critical thinking skills, and make learning as dynamic as the rapidly evolving digital environments they already occupy—all with the right direction. This offers science programs in senior high school a great chance to meet students where they are and turn their digital habits into impactful learning opportunities.

References:

Avram, M., Micallef, N., Patil, S., & Menczer, F. (2020). Exposure to social engagement metrics increases vulnerability to misinformation. Computers in Human Behavior, 111, 106-108. https://doi.org/10.1016/j.chb.2020.106412

Frontiers in Education. (2025). TikTok-based flipped classroom enhances learning experience in science education. Frontiers in Education. https://doi.org/10.3389/feduc.2025.1546026

Grant, A. (2025, August 20). Wharton professor calls out illusive "TikTok science": Says, 'Beware of mistaking familiarity for fluency'. The Economic Times. https://economictimes.indiatimes.com/magazines/panache/

Novriadi, F., & Fitria, Y. (2023). Use of the TikTok app as a learning tool for science: The effect of style on objects. International Conference on Elementary Education, 5(1), 226–233.

Purwanto, A., Fahmi, K., & Cahyono, Y. (2021). The benefits of using social media in the learning process in the Education 4.0 era. Journal of Information Systems and Management, 2(2), 87–95. https://doi.org/10.4444/jisma.v2i2.296

Radin, A. G. B., & Light, C. J. (2022). TikTok: An emergent opportunity for teaching and learning science communication online. Journal of Microbiology & Biology Education, 23(1), e00236-21. https://doi.org/10.1128/jmbe.00236-21