

THE USE OF OER IN SELF-DIRECTED INSTRUCTION

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Self-directed learning involves examining one's own knowledge, identifying areas for improvement, deciding on resources to use, and then putting those resources to use (Kyza, 2009). Studies suggest that specific OER can help teachers take more control of their classrooms and students to take more control of their scientific education (Miller et al., 2021). Scientific models, collaborative activities, and self-directed data exploration have shown beneficial in driving student knowledge integration in middle and high school science and creating self-directed scientific learners utilizing open educational resources in middle school and high school.

To assist students of all ages study science more effectively, we must find and provide high-quality open educational materials. Educators stressed the need of supplying students with the resources they need to be successful in the classroom. Since scientific education usually depends on text to obtain and transfer information, students' capacity to learn and express themselves may be constrained (Lee et. Al. , 2013). However, students were able to use OER that encouraged inquiry using scientific models to use diagrams and graphs to explain their understanding. Additionally, OER features that allow for peer discussion and collaborative exploration of dynamic models can stimulate the type of idea presentation and interchange that is crucial to learning and assessment.

The OER characteristics also made it possible for students to take the courses at their own speed. Students may be able to overcome logistical or linguistic challenges in the subject because of this adaptability. This might include using the Internet, looking up definitions for foreign terms or translating from one language to another. With proper

support and tailoring, teachers may advocate for OER that goes above and beyond the traditional transmission-oriented tactics.

When a learner is self-directed, he or she must be able to recognize and fill in knowledge gaps and questions, choose which resources would best promote their progress, and then use those resources to advance their knowledge. Extensive research suggests that certain OER can open up new routes for teacher agency and student-driven innovation and inquiry in science, in contrast to current computer-based resources (Miller et al., 2021). Middle and high school students' knowledge integration and self-directed science learners can be driven by OERs with scientific models, collaborative activities, as well as autonomous data research.

Here, high-quality open educational resources (OERs) are essential for all students to take care of their own scientific education. Teachers re-iterated their need for resources to assist all students succeed academically. Students' capacity to learn and express themselves creatively is limited by the usage of textbooks in scientific classrooms. The utilization of open educational resources (OER) that encouraged inquiry and the application of scientific models to that inquiry had improved student understanding. Learning and evaluation can be facilitated by OER components that encourage peer engagement and the study of dynamic models together.

The OER characteristics also made it possible for students to take the courses at their own speed. Setting students' own speed helps alleviate some of the material's most difficult problems. Some students may need time to access the Internet, look up unfamiliar words, or translate between languages. Supporting teachers in their attempts to begin with and customize OER in order to foster the type of student engagement they wish may motivate them to advocate for OER that go beyond standard transmission channels.

References:

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