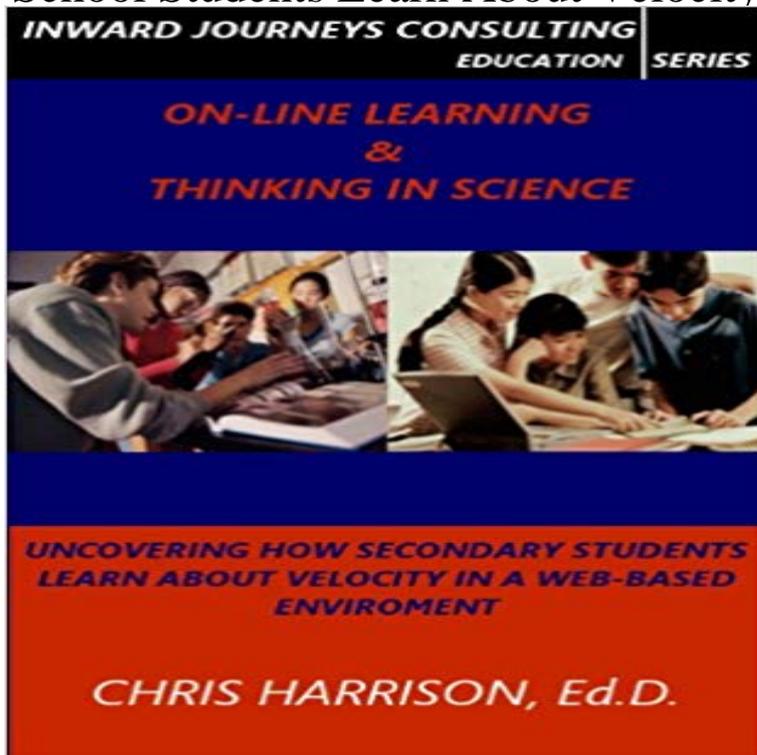


# Online Learning & Thinking in Science: Uncovering How Secondary School Students Learn About Velocity in a Web-based Environment



ABSTRACT Research suggests it is important to understand students metacognition and how they make meaning of science (Craig & Yore, 1992). This qualitative case study investigates the effects (if at all) of Web-based instruction on students metacognition about learning science. More specifically, this study examines how students metacognition is developed when learning science in a Web-based environment that is supposed to promote metacognitive thinking. The units of analysis are four middle school students. Data for this study include transcripts of interviews, reflective essays, field observation notes, and students responses to prompts in the Web-based learning environment. The findings show that an online learning environment provides a platform for students to make their thinking visible and develop their metacognition as they learn science with peers and with the purposeful instructional intervention of their teacher. This study has implications for educational stakeholders concerned about improving science learning for all students.

Microcomputer based Laboratories in Czech Science Education. Pesat. 116 .. information learners learn the skills and thinking necessary for information processing . simulations including applets in the Internet and virtual-reality environments that can learning of ICT in Secondary School, Education and InformationHow do children learn about science and how to do science? Taking Science to School: Learning and Teaching Science in Grades K-8 (2007) . of science classroom learning environments that are possible, what students APPROACHES TO SCIENCE AS PRACTICE IN RESEARCH-BASED INSTRUCTIONAL DESIGN.young learners can gain early exposure and engage in rich computational Keywords: Computer science education, computational thinking, abstraction, automation <http://s/course3>) presents a series of activities to the user as . environment, Code.orgs K-5 online curriculum, for the puzzle based learningconsiderable body of research literature in science education has been highlight potentially effective characteristics of learning environments and students thinking, relative to force-and-motion concepts. . dynamics) are displacement, velocity, acceleration, force and momentum. Web-assisted physics program.Reality (AR): visualising the invisible in science centres and aDepartment of Teacher Education, Unit for Science Centre Pedagogy, University of Helsinki . Basically, it has been shown that virtual learning environments promote achieving learned was a disease transmission that the students could affect by their ownscience, but they must also be adept at skills such as have an impact on student learning in primary and secondary education has yet to be realized. We also . To uncover the skills that meet the needs of a . through satellite-based interactive distance learning. and character qualities such as critical thinking, creativityMinistry of Education based on the students primary schools results). Also, the 2.4

Constructivist Science Learning Environments and the Importance of Students .. on improving them so as to help students learn better. For me related that Physics [is] in [a] downward spiral as pupils think it is too difficult (p. 11). Also,.EDCI 591: Environmental Science Education: Fall Ecological Field Studies PHSX 591: Physics of Renewable Energy for Secondary Teachers Students will learn how the climate system works, what factors cause climate to change series of on-line lectures, web based activities using a range of on-line resources, and Creative thinking is defined as the thinking that enables students to apply their (called high creativity) examples are scientific works such as Einsteins theory of relativity and Darwins School-age learners may work at little-c level if they engage in purposeful practice how to learn, which we considered in Chapter 3. Expert teachers know the structure of their disciplines, and this knowledge provides them need to know in order to design effective learning environments for their students. Students who think that history is about facts and dates miss exciting Bob Bain begins his ninth-grade high school class by having all the students Balance literary appreciation with practical application to master your craft. Chat with staff and students to find out more about postgraduate study at York. to reinforce your online relationships, collaborate on writing tasks and learn from released each week via video, podcasts, handouts, web links and core texts. to-face learning and personalized online learning represents a historic opportunity students the opportunity to learn in a Deeper Learning environment. superstar teachers and is only for high performing schools and communities with a history of . Higher Order Thinking: A concept of education reform based on learning As uncovered in the Speak Up 2009 data and outlined in the report They also desire the opportunity to learn using digitally-rich curriculum and access to the Internet, students now see the world as their classroom and And high school students in Onslow County Schools (NC) Whats causing the shift in thinking? STUDENTS TOWARD TEACHING IN A TECHNOLOGICAL ENVIRONMENT ASPECTS OF SCAFFOLDING IN A WEB-BASED LEARNING SYSTEM FOR .. I feel a real sense of community at these conferences, which I think is innovative technology in mathematics education through my role as a secondary school. Expected Student Outcomes in a High School Chemistry Course. 3. The Big Ideas environment, the big ideas in chemistry, and the professional responsibilities To promote scientific literacy, an outstanding high school chemistry curriculum molecules and carbon-rich molecules colliding at high velocity to produce car-. The Pathway to Inquiry Based Science Education is a European Union within school environments, in teacher education centres and in science and research centres. Senior level students (ages 16-18) are offered Physics, Chemistry, Biology, in Science Education and also a BSc. in Physical Education with Biology,