



History of education

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ABOUT THE STUDY

Strong information literacy, collaboration, and argumentation skills are critical to the success of Problem-Based Learning (PBL). Computer-based scaffolding can help students improve these skills during PBL. In this study, we investigated the predictors of the quality of arguments written by high school environmental science students in support of their solutions to PBL problems. Specifically, we use Bayesian regression to examine how information literacy, collaboration and time spent, and word counts in various parts of the scaffolding combine to predict the quality of the argument. Significant positive predictors of argument quality are the information literacy score after the test, personal working hours, and the number of words written in response to the information literacy part of the stent. Significant negative predictors are team work time, the number of words written in response to the prompts in the "defining problem" section of the scaffolding, and the time spent in the "defining problem" and "construction parameters" sections of the scaffolding. We use a hybrid approach to identify high school students' concepts and misunderstandings about energy in the health and fitness fields. We selected a total of 24 secondary schools from six school districts in one state in the southeastern United States through stratified sampling. Students first undergo standardized knowledge tests to determine their membership in the health and fitness fields. A sample of 291 students from 24 schools was selected for semi-structured interviews on their understanding of energy and the consequences of excess energy in sports activities. Analysis of interview data identified various energy misunderstandings by grade and knowledge level. Different concept change theories are adopted to form four themes to explain the misunderstandings that have been identified. We discussed the implications of teaching that can help resolve misunderstandings within and outside the health and fitness fields.

This study investigated a literacy program targeting students who are most at risk for dyslexia in kindergarten and early grades in 12 Swedish schools. The program uses a multisensory learning method, focusing on phonological awareness and phonology, and a teacher will deliver 30-35 lessons in a one-to-one or one-to-two setting over a 10-week period. A total of 161 students between the ages of 6 and 7 were randomly assigned to either the treatment group or the waiting list control group. Compared to the control group, the treatment group showed significant improvement in two pre-recorded main outcome indicators: standardized test for decoding have also increased significantly, but improvements in enjoyment and motivation have not. Compared to other training programs, this program appears to be profitable. Limited research on freshman writing has led to the development and implementation of interventions for students who are performing below expectations. Ten students participated in a writing intervention for 11-13 weeks. The multiple baseline design in the three teaching units focuses on (a) paragraph structure, (b) sentence structure and handwriting, and (c) vocabulary and spelling to allow analysis of the effects of the intervention. Treatment effect can be seen from visual analysis, non-overlapping statistics, and multi-level modeling. Descriptive data on literacy measures collected before and after the intervention also showed growth. Educators' scoring and social validity surveys of student writing provide additional evidence that the improvement of student writing is obvious. The students also gave praise. These results indicate the plasticity of the writing behavior of risky first-year students. Although the initial findings are promising, iterative development will help improve this intervention and determine its effectiveness in a larger sample of students.