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Teaching online programming courses using collaborative methods.

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Summary: In recent years, web-based online teaching has grown substantially in many disciplines including Mathematical Sciences. Online courses in variety of subjects are being offered in many institutions. Offering online courses in Mathematics, Computer Science and other natural sciences disciplines posed a greater hardship on the developer because of the nature of the subject areas where more visual and face-to-face interaction are essential. An understanding of the student success factors of online collaborative programming can help alleviate the challenges encountered by the course developers. Adding the hands-on activities, tutorials, and cooperative learning experience in web courses can almost simulate the classroom environment to a great extent. This paper focuses on current literature review of successful pedagogical methods in providing quality online cooperative programming. Specifically, the paper reviews current literature on collaborative methods, programming and distance education, collaborative learning and online education, and the lessons learned from teaching online programming using cooperative learning methods. The authors' implementation of the various success factors identified from the literature review in their online cooperative programming course was also provided.

Classification: Q60 Q80 P50 R30

Keywords: Online courses; course management system; programming; collaborative learning
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