## Collaboration and Automatic Tutoring as a Learning Strategy: A Case Study in Programming Courses

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Abstract : Students attending classrooms nowadays are habituated to use digital devices all the time and for multiple things. They have been familiar with digital technology throughout their lives so they have developed skills that should be naturally adopted as part of their study strategies. New learning styles require taking in consideration the use of models that support and promote student motivation for learning and development of their creative thinking skills. To achieve student learning in programming courses, different strategies are used. One of them is a collaboration between students, which is a tool which faculty can take advantage of when teaching these kinds of courses. Moreover, cooperation is an essential skill that society should reinforce in order to promote a healthy social environment and cohabitation. Nevertheless, students will still require support and advice to get a complete and correct programming solution to successfully address and solve the problems given throughout the course. This paper present a model where collaboration between students is associated with an automatic tutoring platform providing an excellent approach for the individual learning in collaborative activities in programming courses, and also motivates students to increase their knowledge regarding the topics covered in the classroom.

Keywords : automatic tutoring, collaboration learning, creative thinking, motivation

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