Analyzing students’ emotional states during problem solving using automatic emotion recognition software and screen recordings.


Summary: Emotions play important part in mathematical problem solving, yet the theories of their role are still at their preliminary stages. In our study, we introduce a method, where screen recordings and automatic emotion recognition software are used to study the emotional states of five upper secondary school students during a solitary GeoGebra problem solving session. Common emotional states during problem solving were neutral (40% of time), sad (34% of time), happy (15% of time) and angry (8% of time). Different phases of problem solving were emotionally different, non-neutral emotional states being most prevalent during decision points such as using the undo button. The method used opens possibilities for new kinds of research designs for studying the role of emotions in problem solving.

Classification: C24 D54

Keywords: emotions; problem solving; role of emotions