

Theses about the use of computer algebra systems in the next decade

Hans-Georg Weigand, University of Würzburg, Germany

Advantages and disadvantages of the use of digital technologies and especially of computer algebra systems (CAS) in mathematics lessons are worldwide controversially discussed. What will be the meaning of CAS in the next years? What is the basis for an answer to this question and how might it be possible to get a vision of the possible development? A first aspect might be an evaluation of developments in the past. A second aspect is the evaluation of the present situation. The 17th ICMI Study “Mathematics Education and Technology – Rethinking the Terrain” (Hoyles & Lagrange 2010) gives an evaluation of the present situation especially concerning the use of CAS and it wants to give a basis or a vision for the development in the upcoming years. Based on this ICMI Study a critical reflection of the past and the actual development will give five hypotheses of possible, gainful developments in the future. It is especially emphasized that we have to develop a competence model to evaluate students’ abilities while working with the CAS, we have to develop criteria for adequate representations of “CAS-solutions”, and we need a global concept of teaching and learning with new technologies in relation to traditional styles.