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Getting the Picture

Grgurina, Nataša

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Getting the Picture

Modeling and Simulation in Secondary Computer Science Education

1. Secondary students are capable of successfully engaging in the practices of computational modeling. (This thesis)
2. For students, expressing the problem at hand in computational terms in order to construct a computational solution is one of the most difficult aspects of computational modeling. (This thesis)
3. Assessment instruments based on the SOLO taxonomy are well suited to assess students' learning of CS in complex projects. (This thesis)
4. The Dutch CS teachers have successful strategies to teach subject matter they are not familiar with. (This thesis)
5. Stressing the aspects of the process rather than the quality of the product is one of the ways CS teachers deal with teaching subject matter they are not familiar with. (This thesis)
6. Lack of a national exam (Dutch: centraal schriftelijk examen) for the elective CS course in HAVO and VWO is both a curse and a blessing. (This thesis)
7. Computational modeling allows students to own the problems they solve. (This thesis)
8. Teachers must help students to become independent thinkers who come up with original solutions.
9. All science teachers must be trained to incorporate computational modeling into their teaching practice.
10. In order to combat the shortage of CS teachers in the Netherlands, the competent candidates not meeting the formal admission criteria for the pre-service teacher training at universities should be admitted nevertheless. (cf. Perfect is the enemy of the good - "Give them the third best to go on with; the second best comes too late, the best never comes.", L Brown (1999), *Technical and Military Imperatives: A Radar History of World War 2*, p. 64, ISBN 9781420050660)
11. Those who don't program are missing out big time!
12. Everyone should spend some time living in a foreign country.