
Lego – the Building Blocks for Understanding Object-Oriented Programming

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In the second semester of first year Computer Science, students are introduced to Object-Oriented (OO) Programming, which has an entirely different paradigm to the languages they encountered within their first semester. While still very early in their degree, they are introduced to OO by learning the Java programming language. Java and OO are popular in industry, making this module important to Computer Science as a subject and profession. OO has been identified as a potential Threshold Concept or 'light bulb moment' in Computer Science, we are therefore exploring new ways of helping the students understand this crucial concept.

Students take part in weekly small-group tutorials to reinforce concepts explored during lectures and workshops. A new approach has been introduced to the tutorials this year: using Lego Serious Play to explore the idea of objects and how they relate. Lego Serious Play is a methodology designed for playful exploration of innovation and business performance. Using a variety of Lego pieces, participants construct a representation of the problem and explore ideas together. Lego allows for fast prototyping and the analysis of links between items, making it possible to quickly change things and try new ideas.

We analyse the reception of the tutorials and investigate whether they had a positive effect on the students' perception and understanding of OO.