

# SERVICE-LEARNING AND GAMES AS A STRATEGY FOR THE TRANSFER OF MATHEMATICAL KNOWLEDGE

Cristina Sánchez-Cruzado, Álvaro Raya-Fernández, Silvia-Natividad Moral-Sánchez,  
and María Teresa Sánchez-Compañá

University of Málaga

4 researcher-professors and 168 students 2<sup>nd</sup> year of Primary Education Degree at the University of Malaga, subject Didactics of Arithmetic, carried out a Service-Learning experience. The objective was to design and develop games with manipulative materials, which were taken to two Public Primary Education centers. We wanted to show how Service-Learning promoted greater practical training and formation of values in future teachers who will have a key role in society (Rodríguez-Gallego, 2014), and to assess the groups' opinion. According to Alsina (2011), the game is a symbolic content activity, through which students carry out a process of adaptation to reality and solve problems that they could not do with real content in the real world. Games and the handling of materials promote mathematical skills development.

The university students organized themselves into 32 groups of 4 to 6 people. They went to the schools with mathematical games adapted to the different primary levels. They took some traditional materials, such as Cuisenaire rods, vertical abacuses, tables of 100 number and Multibase Arithmetic Blocks. Furthermore, the university students made some of the materials by hand, and some of them were also customized with different themes. In addition, they adapted traditional games such as Monopoly (called "Mathpoly"), Bingo, dominoes, roulette and cards with numerical operations, among many others. These university students showed the pupils from primary schools how to play and played with them. Finally, they left the different elaborated games and materials at schools for them to continue using. The four researcher-professors analysed the students' participation in the Forum after the experience, as well as some of the interviews, in which we can see that this practice was received well and did facilitate a better approach to the reality. They also felt that their workshops were useful, connecting theoretical content with practice. The students at school also improve their learning while they enjoyed themselves. Finally, this experience can be considered a good methodological strategy that favours curricular, personal and social development from university students and students in school.

## References

- Alsina, A. (2011). *Desarrollo de competencias matemáticas con recursos lúdico-manipulativos para niños y niñas de 6 a 12 años*. Narcea Ediciones.
- Rodríguez-Gallego, M. R. (2014). El Aprendizaje-Servicio como estrategia metodológica en la Universidad. *Revista Complutense de Educación*, 25(1), 95-113.