SERVICE-LEARNING METHODOLOGY REINFORCES LONG-TERM SKILLS ACQUISITION

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Abstract

Service-learning (SL) is a methodology that contributes to the formation of values and the citizenship of university students, who can acquire a relevant role in the construction of a more dignified, inclusive, cohesive and equitable citizenship. The objective of the work is to quantify how the SL methodology implemented in a subject improves the competences of the students in the same course of implementation and after one year of implementation. Four experimental groups were formed: a) group SL-course 2017-2018; b) group NO-SL-course 2017-2018; c) group SL-course 2018-2019; d) group NO-SL-course 2018-2019. Each one of the groups was evaluated during the academic year 2018-2019 in the objectives developed in the subject Clinical Neurology applied to the speech therapist where the SL project is implemented. The results were compared by means of a t-Student and Anova. The results showed that the SL-course 2018-2019 group of students obtained significantly higher grades than the NO-LS-course 2018-2019 group. Surprisingly, this result was maintained during the academic year 2018-2019, in the students where the LS project had been implemented in the academic year 2017-2018, so that the SL- course 2017-2018 group continued to maintain higher and significantly higher grades than the NO-SL- course 2017-2018.

Keywords: speech therapy, service-learning, senior citizens, clinical propaedeutic, evaluation.

1 INTRODUCTION

The SL methodology has been implemented in the course "Clinical Neurology Applied to Speech Therapy" of the Degree in Speech Therapy since the academic year 2017-2018. In the project the students apply their knowledge of neurology in the early detection of dementias and alterations of the cranial pairs. The solidarity practice is aimed at a group of 20 elderly people in a situation of family and/or economic helplessness who are assisted by the Cruz Roja.

Higher education currently focuses on competency-based learning and has represented a change in the educational model. In the competency-based model, students become the protagonists of their training and must "learn to be competent"[1]. From this perspective, SL is a pedagogical methodology that encourages the learning of skills through their active participation in experiences associated with community service. In this way, the methodology used allows the student to be directly involved with those to whom it offers a service, adapting to their needs and to a reality that is often very different from the one they live in the classroom. At the same time, you allow them to develop specific as well as transversal or generic competences.

The ability to make decisions, the management of stress, flexibility, initiative, motivation, in definitive are transversal competences that have been worked on are those characteristics that the worker possesses and that allow him to develop in an organizational environment, beyond the technical knowledge.

The general objective of the work is to quantify the improvement in the acquisition of skills over students generated by the implementation of an SL project. As specific objectives, it is intended:

- To evaluate and compare the skills acquired by students participating in an SL project.
- To evaluate and compare the competences acquired by students who participated in an SL project one year ago.

2 METHODOLOGY

After the implementation of the SL project in the academic year 2018-2019, an evaluation of the objectives studied in the course Clinical Neurology Applied to Speech Therapy was carried out on students participating and not participating in the SL project in the academic year 2018-2019 and in the academic year 2017-2018 [2-3]. To this end, the students were classified into four groups:
a) A group of students who participated in the course 2017-2018 in the SL project (SL-2018);
b) A group of students who did not participate in the SL project (NO-SL-2018) in the 2017-2018 academic year;
c) A group of students who participated in the SL project (SL-2019) in the academic year 2018-2019;
d) A group of students who did not participate in the SL project (NO-SL-2019) in the academic year 2018-2019

Once the groups were done, all the students were summoned and the evaluation was carried out, where a maximum time of 20 minutes was pre-fixed to carry out the test. The test contained 8 questions related to reinforced competences during the implementation of the SL project and 2 competence questions from the Clinical Neurology Applied to Speech Therapy subject not reinforced in the SL project.

**Statistical analysis of the data**

The data were expressed as group mean ± SEM (n ≥ 15 in all groups) and compared by one-way ANOVA variance analysis corrected with Newman-Keuls test for multiple comparisons or by missing Student t test (Graph-Pad Sotware 6.0). If the P-value is <0.05, the differences between null hypothesis and alternative are considered as significant.

**Ethical Approval**

Informed consent was obtained from all students.

3 RESULTS

3.1 Students who participate in the SL project improve on the objectives reinforced during the implementation of the project

In order to know the acquisition of skills related to the subject associated with the SL project, the results of the evaluation were compared between students who had participated and control students (not participants of the same course). The results showed that the students who had received the theoretical classes in the same implementation course of the SL project (academic year 2018-2019) presented superior and significant evaluations with respect to their control group (Fig. 1a). After that, we wanted to know if this significant difference was due to the improvement of the reinforced competences during the implementation. To this end, questions related to non-enhanced objectives were introduced into the evaluation during the SL project. The separate study of reinforced and unreinforced objectives shows that it is the former that benefit most from the SL-2019 group obtaining significantly higher scores than the control group in these questions (Fig. 1b). On the other hand, no significant differences were observed between the SL-2019 group and NO-SL-2019 in competences not reinforced in the project (Fig. 1c).

![Fig. 1. Comparison of the grades obtained in students who participated or not in the SL project during the academic year 2018-2019. a) Evaluation of all objectives; b) Evaluation of reinforced objectives in the SL project; c) Evaluation of non-reinforced objectives in the SL project. The bars represent the average ± SEM of the group (n ≥ 15 in all groups). Significant differences vs NO-SL 2019 group are shown as *p<0.05 vs NO-SL 2019; **p<0.005 vs NO-SL 2019.](image-url)
3.2 The acquisition of reinforced skills during the implementation of the SL project is maintained one year after having participated in the project

In order to study the evolution of the students one year after their participation in the project, the SL and NO-SL students of the 2017-2018 academic year took the same exam as those of the 2018-2019 academic year. The results showed that the students who had received the theoretical classes and had participated in the project one year earlier (2017-2018) presented superior and significant evaluations with respect to their control group (Fig. 2a). Similarly, we analyzed whether these differences were due to reinforced objectives during the SL project, observing that parallel to the 2018-2019 academic year, the SL-2018 group had significantly higher grades than the control group in reinforced objectives (Fig. 2b) but not in non-reinforced objectives in the project (Fig. 2c).

In order to know if there were differences between the groups of the academic year 2017-2018 and the academic year 2018-2019 in terms of the score obtained, a statistical study was carried out in Anova where the four groups were introduced. The results show that there are no significant differences between the overall scores obtained by both SL groups (SL-2018 and SL-2019). Only significant differences were found between the Non-SL groups: the SL-2018 group scored higher than the SL-2019 group (Fig. 3a). However, when unreinforced questions were removed from the analysis during the project, the SL-2018 group was the group with the lowest scores compared to the rest of the groups (Fig. 3b). All this leads to the conclusion that the higher grade of the No-SL-2018 group with respect to the No-SL-2019 group was due to the non-reinforced competences and that, being students of a higher grade, they presented a greater number of competences.

Fig 2. Comparison of the grades obtained in students who participated or not in the SL project during the academic year 2017-2018. a) Evaluation of all competencies; b) Evaluation of reinforced competencies in the SL project; c) Evaluation of non-reinforced competencies in the SL project. The bars represent the average ± SEM of the group (n ≥ 15 in all groups). Significant differences vs NO-SL 2018 group are shown as **p<0.005 vs NO-SL 2018; ***p<0.001 vs NO-SL 2018.

Fig 3. Comparison of grades obtained in students who participated or not in the SL project. a) Evaluation of all objectives; b) Evaluation of reinforced objectives in the SL project. The bars represent the average ± SEM of the group (n ≥ 15 in all groups). Significant differences vs NO-SL 2018 group are shown as *p<0.05 vs NO-SL 2018; **p<0.005 vs NO-SL 2018.
4 CONCLUSIONS

The implementation of the SL project in Second Grade Speech Therapy students has reinforced their skills related to the subject Clinical Neurology Applied to Speech Therapy, especially those reinforced during the implementation of the project. This quantitative improvement was prolonged one year after the participation in the project. There are no significant differences between the grades of the SL-2018 and SL-2019 students reflecting the benefits of the implementation of the project. The skills not reinforced during implementation were not improved by the participation of the SL project. Upper grade students were able to improve the unreinforced competence in the SL certainly by reinforcement in other subjects.

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REFERENCES

