

Chapter 11

The Past and Present of Service Learning in Biology Education

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ABSTRACT

In this study, firstly, the meaning, benefits and difficulties of service learning are explained and the development of the perspective and deficiencies on this subject are tried to be revealed with selections from the research published on service learning in biology education since the year 2000, marking the onset of the 21st century. In addition, it was discussed and suggestions were made about how biology issues, which are particularly prominent with their socio-scientific aspects and are important for society, can be addressed in service learning projects and how studies on this subject can be made more effective. As a result, the past and present of service learning in biology education were discussed and a study was presented as a guide for researchers who want to work in this field in the future.

WHAT IS SERVICE LEARNING?

Although the foundations of the concept of service learning (SL) date back much further, Robert Sigmon (1979) described the main principles of service learning as follows: (1) those being served control the services provided, (2) those being served learn to serve and be served by their own actions, and (3) those who serve are learners and have significant control over what is expected to be learned. Actually, this concept, which needs to be evaluated as a pedagogical approach, is sometimes used interchangeably with terms such as community service practices, field education, and internships. However, SL is different. In the concepts of volunteering, community service practices, internships, and field education, the emphasis is seen on the benefit of the service recipient or the service provider, or on the service or learning. Of course, students can also learn from volunteer service and community service applications. These are valuable experiences for students and contribute to their personal development and active participation in society. However, the primary focus of these activities is not learning but service, and the intended beneficiaries are not the students but the service recipients. All field education and intern-

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ships provide valuable services to communities, but their primary purpose is the learning of the student. For example, pre-service teachers spend time in the classroom to improve their teaching skills. In this process, pre-service teachers also provide a service, but the primary beneficiaries are the pre-service teachers who develop their professional skills. On the other hand, in SL, both the service provider and the service recipient benefit equally, and equal emphasis is placed on both service and planned learning (Furco, 1996). For these to happen, some academic connections need to be established, and the service needs to support and enhance learning, and learning needs to support and enhance service. SL is a teaching and learning methodology that links classroom learning with community service. Through SL, students go beyond traditional classroom education and gain learning experience while performing volunteer services to benefit society. At this point, it is an important gain for society that the students provide services in the areas that the society really needs while they are learning. Hence, in SL, there is a strong mutual relationship between the service provider and the service recipient, where they benefit equally. The essence of this relationship is based on the principle of "I serve in order that I may learn from you." (Kennell, 2000). Different definitions have been made over time to emphasize this distinction regarding the concept of SL. Pitcahard and Whitehead (2004) defined SL in its simplest form as "a teaching-learning approach that integrates community service and academic studies to enrich learning, teach civic responsibility, and strengthen society." The National Youth Leadership Council (NYLC, 2023) defines SL as "an approach to teaching and learning in which students use their academic knowledge and skills to meet real community needs." In this process, students explore the real needs in society, the root causes of these needs, and where and from whom they can learn more and how they can contribute to the solution. NYLC (2023) gives the following example to provide a better understanding of what SL is: "Collecting garbage on the riverbank is service. Examining a water sample under a microscope is learning. When science students collect and analyze water samples, report their results, and present their findings to a local pollution control agency, this is SL." While there are numerous definitions of SL in the literature, it is commonly regarded as an approach (Furco, 1996; Sigmon, 1979), a strategy (Wade & Anderson, 1996), a pedagogy (Bringle & Hatcher, 1995; Butin, 2005), or a method/technique (Anderson, 1998). The common point of the definitions is that they emphasize 4 components of SL: Student, society, academic achievement, learning/teaching approach. However, when the definitions are analyzed, it is seen that it includes components such as a focus on the needs of society, serving the student, being course-based, containing reflection, providing academic achievement, and being a teaching/learning approach. Therefore, the desired goal is achieved when SL is integrated into an academic course in a manner that provides equal benefit to both the service provider and the recipient, and emphasizes both the quality of the service and the learning process.

Positive and Negative Outcomes of Service Learning in Higher Education

Interest in SL in higher education increased especially in the 90s and began to be seen as "a vital force in educational change" (Liu, 1999). The main reason for this might be that this pedagogical approach has responded to some criticisms directed towards higher education, such as the disconnect between the academic teaching process in universities and daily life and society. Furthermore, it is important that the distinct benefits of SL have been identified, setting it apart from similar practices. SL has been recognized as a strong pedagogy to enhance student learning, promote student engagement in the classroom, and develop students' sense of civic responsibility in general (Ehrlich, 2000). This approach, which integrates university learning with community life, reveals different benefits for the stakeholders involved in the

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