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Articles

“I felt very accomplished’: Effects of Service-Learning Practice on Preservice Teachers’ Training

“Me sentí muy realizado/a”: Efectos de la práctica de aprendizaje-servicio en la formación de docentes en formación

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Abstract

There has been an increased interest in understanding the relevance and impact of Service Learning as a pedagogical and training tool for preservice teachers. Service Learning combines academic coursework with community engagement. Despite its growing adoption in teacher education programs, there is a lack of research that bridges inclusive practices and work with individuals with disabilities. The aim of this study was to understand the effects of a Service-Learning methodology on the academic training of preservice teachers, through a motor intervention involving individuals with intellectual disabilities. From a qualitative study perspective involving a total of 21 pre-service college students, 1 professor, 29 individuals with intellectual disabilities, and the lead teacher. Data was collected through several sources: reflective journals, semi-structured interviews, and focus groups. An emergent design based on grounded theory guided the data analysis. Three main categories of impact: (a) academic satisfaction and professional identity; (b) personal growth; and (c) knowledge acquisition. The SL experience significantly contributed to the preservice teachers' academic formation, challenging personal beliefs and promoting professional development. This study highlights the transformative potential of Service Learning in preservice teacher training by disrupting assumptions, provoking discomfort, and opening space for meaningful learning.

Keywords: Service-Learning, Physical Activity, Preservice Teachers, Pedagogical Tools.

Resumen

Ha habido un creciente interés por comprender la relevancia e impacto del Aprendizaje-Servicio como una herramienta pedagógica y formativa para docentes en formación. El Aprendizaje-Servicio combina el trabajo académico con la participación comunitaria. Aun de su creciente interés, existe poca investigación vinculando la relación de prácticas inclusivas con personas con discapacidades. El objetivo de este estudio fue comprender los efectos de una metodología de Aprendizaje-Servicio en la formación académica de docentes en formación, a través de una intervención motriz con personas con discapacidad intelectual. Fue un estudio cualitativo donde participaron 21 estudiantes universitarios, un profesor, 29 personas con discapacidad intelectual y una docente. La recolección de datos fue mediante: diarios reflexivos, entrevistas semiestructuradas y grupos focales. El análisis de datos se guió por un diseño emergente basado en la teoría fundamentada. Tres categorías principales de impacto: (a) satisfacción académica e identidad profesional; (b) crecimiento personal; y (c) adquisición de conocimientos. La experiencia de Aprendizaje-Servicio contribuyó significativamente a la formación académica de los futuros docentes, desafiando creencias personales y promoviendo el desarrollo profesional. Este estudio resalta el potencial transformador del Aprendizaje-Servicio en la formación docente al cuestionar supuestos, generar incomodidad y abrir espacios para un aprendizaje significativo.

Palabras clave: Aprendizaje-Servicio, Actividad Física, Futuros Docentes, Herramientas Pedagógicas.

Introduction

The current educational system in the United States and Mexico is built around a constructivist learning perspective (Gagnon & Collay, 2001). Current research shows that the academic training of physical education and related professionals in Mexico has significant room for improvement in the development and acquisition of competencies, teaching strategies, and learning assessment (González-Rivas et al., 2019; Zueck et al., 2023). Therefore, the use of teaching methodologies in which the student takes an active role during their learning process is recommended (García-Álvarez et al., 2022). What this means is that it can be characterized by the interaction between individuals and the environment in which knowledge is acquired. According to Dewey (1986) for the existence of significant and lasting learning the student must learn through experience. Similarly, Kolb (2014) contributed to building this paradigm through his proposal of the cycle of experiential learning., Dewey and Kolb highlighted the importance of reflection throughout what is known as hands-on experiences, which shares common tenets with Service Learning (SL).

According to Yori and Ye (2012), SL can be defined as a pedagogy that allows student development of competencies and reflection through service in the community. SL is based on the constructivist paradigm, in which reflection enables understanding of what has been learned and the solution of problems in different situations (Kendall, 1990). SL is the combination of both academic practicums and community service, as it emphasizes organized service activities that have academic processes and social objectives. In other words, with SL, the course contents must be met while the teacher evaluates and provides feedback on the performance of the students who develop competencies through the community service (Franco-Sola & Figueras, 2020; Romack & Hsu, 2011).

From a critical and pedagogic perspective SL has the following characteristics: a) Link between research and education, with the aim of designing educational activities that respond to social needs; b) Examine in detail the characteristics of the community, through stories, dialogues and interviews; (c) Contribute significantly to education in the identification of social causes and problems, through activities for the benefit of the community; d) Use academic knowledge for the benefit of problem solving, through reflective dialogue and action; and e) Promote the participation of educational institutions in the community, seeking linkage and creation of service strategies for and with the community (Brown, 2001). Research suggests that SL is a pedagogy that helps preservice teachers develop key skills due to hands-on experience in real environments (Chiva-Bartoll & Fernández-Rio, 2022; Miller, 2012; Pérez-Ordás et al., 2021). For a successful SL program, it is important to consider factors such as the curriculum, teacher and student experience, and the context in which the activities will be developed (Chiva-Bartoll & Fernández-Rio, 2022).

SL has been used in the preservice teacher's training within undergraduate courses such as physical education, sports and recreation, physical activity for health, among others, linking the university and the community (Chiva-Bartoll et al., 2021a). SL has been an increasingly used strategy and pedagogical tool in training of preservice teachers both in Spain and the United States (Douglas et al., 2019; Du Toit, 2019; Lamonedá, 2018; MacPhail & Sohun, 2019; Marttinen et al., 2020; Peralta et al., 2016; Ward et al., 2017). Based on the findings of several studies, SL contributes to the development of cognitive and attitudinal aspects, values, and growth of professional competencies and identity (An, 2021; Chiva-Bartoll et al., 2021b; Furco & Billig, 2002; García et al., 2023). These findings suggest that SL methodology strengthens the holistic preparation of professional in the field of physical activity.

Even though there is a precedent for the implementation of SL in teacher training programs, little research exists to examine the use of SL when working with preservice teachers who work with individuals with intellectual disabilities. In one example of such research, Woodruff and Sinelnikov (2015) designed a SL program to adapt a physical education course to 24 young adults with intellectual disabilities. Their findings suggest that the SL is an effective pedagogy to help preservice teachers and students with intellectual disabilities acquire knowledge and develop a variety of skills in a physical education setting. Similarly, Capella-Peris et al. (2020) designed an intervention program, in which 52 PETE students and 38 individuals with Down Syndrome participated. Their conclusions suggest that the SL had a positive effect in the PETE students' training and contributed to the development of a critical and inclusive education. While some research points to the positive impacts of SL on preservice teachers' development of skills when working with students with disabilities, more research needs to be conducted to better understand how such programs impact teacher candidates and students with intellectual disabilities.

Current literature review revealed limited scientific evidence on the use of the SL methodology within the Mexican socio-educational context, particularly in the academic preparation of professionals of physical activity. This gap limits the understanding of SL as a teaching methodology in Mexico and, consequently, restricts the ability to develop stronger and more effective pedagogical approaches that could enhance the educational process. Additionally, it reduces understanding of how academic competencies are acquired after the implementation of the SL methodology. The research question that led to this project was: What effects will the application of the SL methodology have on the training of physical education teachers? Therefore, the purpose of this study was to understand the effects of a SL program as a training methodology on pre-service teachers enrolled in a Physical Education Teacher Education program that served students with intellectual disabilities.

Methodology

This case study used a phenomenological approach to analyze preservice teachers' historical dimensions and human experiences, interpreting the actions carried out by Physical Education Teacher Education majors while working in a SL program (Laverty, 2003). In

combination with the case study, phenomenological understanding is relevant when the object of study is analyzed in its real context and the data are the result of everyday events (Yin, 1994), facilitating the understanding of reality in all its complexity (Sevillano, 2003). In this way, the case study was chosen to understand a unique phenomenon: the experience of the preservice teacher learning through the pedagogy of SL.

A total of 21 college students (12 females, 9 males) with an average of age between 19-20 years old, 1 college/university professor, and the lead teacher of the Warriors Group participated in this study. The Warriors Group is a physical activity center devoted to providing opportunities for people, ages 18-65, with intellectual disabilities to engage in quality physical activity. All college students were in their second year enrolled in the Human Motricity bachelor's degree at a university in northwestern Mexico. The university professor was a male (34 years old) with 5 years of experience in teaching at the university level with one year experience teaching the Motricity and Intellectual Disability course. The lead teacher for the Warriors group, (male, age 33), had a degree of Human Motricity, with a tenure of 2 years as lead teacher of the group. It is important to clarify that data collection for this study was completed with the college students.

The SL program implemented had two purposes, the first oriented towards preservice teachers' training which is divided in four goals: a) to identify the cognitive, social and communicative characteristics of individuals with intellectual disability; (b) distinguish disorders related to the intellectual disability; (c) differentiate motor aspects; and d) development of pedagogical knowledge and competencies to work with people with intellectual disabilities. The second purpose was related to social service and was divided in two goals: a) to promote physical activity of individuals with intellectual disabilities, and b) to be inclusive for all individuals with intellectual disabilities. The SL program lasted 12 weeks, with an intervention of four hours per week. Teacher candidates attended two hours, either on Wednesday or Friday evening for a total of 24 hours of service.

In this way, the SL components were aligned with the objectives established in this study. The activities carried out in real contexts facilitated the development of specific competencies related to the students' academic preparation. In addition, there were structured opportunities for reflection guided, both in group and individual levels. Data collection through focus groups and reflective journals allowed for an in-depth understanding of the college students' experiences. Together, these elements made it possible to explore how the SL experience contributed to academic satisfaction, personal growth, and knowledge acquisition, which is consistent with the purpose of this study.

The Warriors Group offered basketball and soccer on Wednesdays and dance and volleyball on Fridays. All sessions were led by the preservice teachers who were supervised by the lead teacher of the Warriors Group. Meanwhile, the university professor attended 40 of the 42 sessions in the roles of supervisor, counselor, and observer. At the end of each session, the professor and the preservice teachers engaged in reflective dialogues about critical incidents and the learning

process. Finally, the university professor and the preservice teachers planned the intervention, analyzing the course contents and adapting to the Warriors Group's needs.

This project was approved by the research and graduate department of the Autonomous University of Chihuahua (18102022-048), and all appropriate consent forms were obtained. Data collection included: reflexive journaling and focus group interviews. Reflexive journaling was used to document preservice teachers' reflections after each teaching session (Nolan, 2008). Students were encouraged to write any critical incident that they considered relevant. According to Schmidt and Brown (2016), to write any personal experience facilitates critical and reflexive thinking.

Focus group interviews were also implemented with 8 preservice teachers. These students were considered due to the fact that attended all sessions which was an inclusion criterion. The aim of the focus group interview was to identify the preservice teachers' experiences that were not expressed in the reflexive journals. Focus group interviews were held after the end of the service and one week before the end of the school semester and lasted approximately one hour and 30 minutes.

All focus group interviews were transcribed verbatim. All data were thematically analyzed according to Corbin and Strauss (1990) specifically, with a design that is characterized by being an inductive-deductive process, in which open and axial coding was implemented to validate the different categories through a constant comparison of the data collected (Glaser, 1992). In this way, the conceptual bases of grounded theory were taken, but not as the methodological design for this project. Right after, axial coding was used to find the relationship between the different categories. Atlas Ti software was used as a work tool.

Interpretive depth was ensured through an iterative analytic process with an inductive-deductive orientation. Reflective journals and focus group interviews were analyzed simultaneously using open and axial coding, which allowed for constant comparison within and across data sources. The criterion of theoretical saturation guided the data collection process and was considered reached when additional analysis no longer generated new conceptual elements, and when the categories demonstrated internal coherence, analytical richness, and empirical support across participants.

The scientific rigor of this study was demonstrated through the criteria of credibility, confirmability, triangulation, and auditability. Credibility was established through a detailed description of the socio-educational context, the use of verbatim quotations, and the depth of the analysis conducted. Confirmability was supported by an empirical and transparent research process, as well as by the researcher's reflexivity. Triangulation was ensured through the use of multiple data collection sources. Finally, auditability was supported by a detailed record of methodological decisions and data analysis procedures (Anney, 2014; Tracy, 2010).

Results

Findings of this research are highlighted in three categories (a) academic satisfaction and professional identity; (b) personal growth; (c) and knowledge acquisition. However, it is important to say SL served as a holistic and pedagogical tool to the training of preservice teachers. Each category will be discussed in detail, highlighting data from focus group interviews and reflexive journals.

Academic Satisfaction and Professional Identity

Academic satisfaction and professional identity were broken into three main sub-categories a) University professor's planning; b) social relevance and professional pride; and c) reality of future professional work. Preservice teachers tied their professional identity development to the profession's social relevance as seen by others and professional identity, defined as a sense of belonging and realities of teaching were described by pre-service teachers.

Academic satisfaction, as defined by the preservice teachers, included overall enjoyment during the class. A dedicated study schedule and course contents were identified as contributing to the preservice teachers' academic satisfaction. The importance of experiential learning in getting and learning concepts was highlighted in this excerpt "The truth is that I really liked seeing the theory before and then applying it in practice" (Student 3, Focus Group).

Preservice teachers found that applying foundational knowledge and developing necessary skills in their professional future was essential to their satisfaction. "I feel satisfied because I feel like I did a good job. I feel like I learned so much in every practice we had with people with disabilities." (Reflexive journal, student 9).

In the addition, the learning environment during the university sessions in the classroom was very important to the students, as mentioned by this preservice teacher.

I feel that this way we are more engraved in what we analyzed in the class, and we advance more. I really liked how the class was given, I think it was organized very well, because there was flexibility, the topics were divided well... (Student 3, Focus Group).

Social relevance and professional pride represented how the SL program helped to contribute to preservice teachers' professional identity as future graduates in Human Motricity. During the SL program, the preservice teachers became aware of the social impact of their academic training and importance of the work that they will perform in the future, "The truth was that this experience left me very happy and calm because I said to myself, we are making this to be noticed, we are making people realize that we can make changes in society" (Student 1, Focus Group). Preservice teachers went on to express their pride and internalization of the vision and mission of the academic training they received through the SL program. Furthermore, the SL program helped preservice teachers to experience the reality of their future professional work. This was important because, at the time of class enrollment, even during their first semesters of their

academic training, they did not have a clear idea about what would be their professional work. For example, one preservice teacher stated.

In my case, I entered this major, I liked it and everything but in itself I did not know what I was going to face; In other words, they tell us they are going to work with people with disabilities, with the elderly, with babies, but you say: what am I going to do? (Student 7, Focus Group)

I am very proud that today I put aside the fears I had the first time in the batting cages, I knew how to better handle the situation, the organization and the way to approach each one of them. I feel more comfortable... (Reflexive journal, student 10).

Similarly, the experience of engaging in a SL practicum helped preservice teachers identify the type of population with which they like to work. For this, the students carried out a process of self-reflection that a better understanding of professional identity.

What I took away from this whole experience is that it is great to work with individuals with disabilities, it is one of the most beautiful jobs because you learn new things, I really enjoyed this experience... (Reflexive journal, student 15).

Personal Growth

The second major theme, personal growth, encompassed two main areas, the development of values and attitudes, and the development of motivation to learn. Preservice teachers discussed how working and studying in the SL program facilitated their growth as future professionals in the field. Similarly, working in the SL program drove home the importance of the development of motivation to continually learn to the growth of the preservice teachers as future professionals.

Through the SL program the preservice teachers developed values and attitudes congruent with their teacher preparation such as empathy when they recognized the abilities and limitations of individuals with intellectual disabilities.

I have learned a lot about how to treat them, not that before I treated them badly, but I always wanted to treat them as if they were children. Now I realize that they are the same as us and therefore should be treated the same, even if they have a disability. (Student 6, Focus Group).

As a direct result of working with individuals with disabilities, preservice teachers noted that their appreciation and respect for those with intellectual disabilities grew over time which contributed to their development of joy and empathy. As stated by one participant:

I got great pleasure working with them, I feel that I became fond of it and it led me to be better, to work better, to inquire more. I think it made me grow more as a person, to give students' the treatment they deserve... (Student 5, Focus Group).

Along with the development of empathy, preservice teachers acknowledged the need for tolerance and patience when providing instructions and corrections to specific movements and techniques of the sports.

I took away many lessons from what we did. Now I feel more competent when teaching, about what we worked on and, above all, about how to act with them, always with respect and tolerance... (Reflexive journal, student 13).

In addition to developing professional values and attitudes, it was clear that for preservice teachers, having direct contact with individuals with intellectual disabilities helped them to acquire a different motivation to learn. Preservice teachers described how they were able to implement a knowledge-based approach and transfer it to 'real life' situations as mentioned by one preservice teacher, "I experienced and mentioned how the SL program influenced my training, specially to be motivated to be a better preservice teacher, a university student, thus, to be great in-service teacher in the future..." (Student 3, Focus Group). The hands-on experience of working with those with intellectual disabilities pushed preservice teachers to try to become better now and in the future.

One comment from a preservice teacher stands out when referring to how feelings of confidence and security to face real problems of his professional future were developed through his engagement in the SL program. In this way, the SL methodology generated a change that manifested itself in personal and professional growth.

I leave this practicum very satisfied, I feel different, at the beginning I was very nervous, I felt very confused. Right now, I feel excellent, I feel very well that I can implement and provide a good class without any problems, I feel very comfortable in the class... (Student 3, Focus Group).

Knowledge Acquisition

Participants discussed ways in which the SL program helped to foster the acquisition of knowledge necessary to successfully work with individuals with intellectual disabilities. Ways in which knowledge was acquired included (a) knowledge developed through critical and reflexive thinking in real life contexts; (b) knowledge developed through collaboration with peers; (c) knowledge gained through successful responses to critical incidents. Preservice teachers noted that the nature of SL allowed them to bridge the gap between theory learned in class and its practical applications when working with individuals with intellectual disabilities.

When I arrived at the group, I analyzed them and I could observe that most have mild intellectual disability, many of them are functional and are transported to their homes, jobs, and sports activities, most have Down syndrome, Fragile X and others do not have syndromes that can be clearly identified ... I focus on how their cognitive process was, looking at their attention span, perception, memory, and language. (Reflexive journal, student 4).

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While the concepts of cognitive processing, attention span, perception, memory, and language were discussed in the classroom, the real-life interactions that occurred in the SL program drove those concepts home for preservice teachers in meaningful ways.

I noticed that they had difficulty following certain instructions that we gave them at the time, perhaps because it is difficult for them to divide their attention between listening to the instructions and executing the movement that is asked of them... (Reflexive journal, student 11).

Preservice teachers developed pedagogical skills, specifically in planning motor intervention with individuals with intellectual disabilities through both critical and reflexive thinking that took place while working in the SL program. In one instance, reflexive thinking within the context was developed as preservice teachers were able to identify and understand the diversity in the motor, cognitive, social, and behavioral differences of each of the individuals with intellectual disabilities with whom they served.

I believe that I take the competence of knowing how to identify the need that must be met, that is, to identify what is needed in each person because they all had different skills, a different level of abilities. So, knowing how to treat and see which person requires more support in a certain activity and who they are in that same activity does not require support, but in others they do, and also know how to adapt it because you are working with a group and you can put the same activity to everyone, but each one, each one needs a differentiated attention. So, I think that's what led me, knowing how to really identify the area of opportunity of each person and how you can work on it... (Student 1, Focus Group).

This results in a better understanding of disability and how one can perform physical activity, but in a differentiated way in complexity and rhythm, according to the degree of disability and particular needs of each one. In this way, they learned to adjust the planning of the session. Similarly, this observation capacity allowed preservice teachers to identify risk situations during subsequent sessions. But also, to recognize the progress that their motor intervention had.

Once the preservice students observed the functional diversity of individuals with disabilities, they also developed analytical, critical, and reflective thinking about their motor intervention with individuals with intellectual disability. This helped preservice teachers to reflect more deeply on the type of activities, material resources, spaces, and specific adaptations. In this way, another important finding was that the university students contemplated that their class plans should be based on the needs and functional possibilities of individuals with intellectual disability.

The processes of reflexive and critical thinking were developed as a direct result of engaging in the SL program. The ability to work directly with individuals with intellectual disabilities provided preservice teachers with opportunities to reflect upon their practices regarding the impact the decisions they made had on the learning of those with which they worked. These

opportunities allowed for greater knowledge acquisition beyond what could be learned in the classroom alone.

Cooperative learning with peers also contributed to valuable knowledge acquisition. Understanding cooperative learning and collaboration, as a learning methodology, was evident when students became aware of the performance of their peers, in order to provide feedback to themselves, with the purpose of learning together.

....and especially because we are classmates and some even friends, it is as Edwin says: "I will never lie to you, nor will I tell you a lie, I will tell you things because I love you, because you are a friend because, I want you to correct this not so that you get upset and you are going to take it wrong". That's why as Yurem says we are a team and between us we must correct ourselves and try to be as good as possible... (Student 5, Focus Group)

There were participants who expressed that during the SL program they acquired skills and developed didactic competencies that allowed them to perform as professionals in training. They acquired a body of knowledge that made it easier to express their ideas and have control of the group needed to explain activities. As the university students gained experience and skills and got to know the students, their confidence to teach the classes increased.

I take many practical lessons, for example, that if I want to apply an exercise or an activity it is important to segment it from the simplest to the most difficult, in order to meet the objective, I believe that to have a better result it is good to go from less to more. For example, first throw the ball, then with a bounce, and then with 2, and then throw the ball, then running. I think that helped me a lot and not only in this class, but also in other classes. That is what left a stronger impact on me, because everything is learning, it can be applied in various areas of visual disability, for example... (Student 3, Focus Group)

It is important to highlight the importance of class practice instructions. Since students were exposed to real situations that they could face in the SL program. This contributed to the acquisition of learning and academic satisfaction, through the process of analyzing theory and putting that theory into practice. Preservice teachers noted that the SL program provided them with opportunities to practice what they learned in real situations, during the SL program. In this sense, the students found the link between what was learned in the classroom and its relevance, which, in some way, is also related to the feeling of satisfaction in his/her academics.

...Yes, the theory was very useful in the classroom and more so because on Friday we had class in the morning and in the afternoon, we went to "La deportiva", so we brought everything very fresh. It did happen to me on 2 occasions, for example: one day we explained about the types of behavior corrections and then the behavior happened in the afternoon "that the girl was trying to seek attention, so you (university professor) told us try to correct it in this way and we applied it and then if it turned out very well". (Student 2, focus Group).

Most participants said that in their first session they were nervous and distrustful about basic instructions and actions as in the organization of the group, as well as in the warm-up. In addition, they [preservice teachers] expressed that the principal reason for being afraid was making a major mistake that could affect the person with disabilities. In this way, the behavioral change was evident, as the preservice teachers were insecure in making decisions at first without the approval of the university professor and asking other classmates. As preservice teachers gained experience in the SL program their reliance on their professor diminished.

At the beginning of the teaching, I was a little scared because I was afraid to go and do something unfitting to the teaching expectations, because we [preservice teachers] are learning how to deal with them [individuals with disabilities]. Although, I know that I must treat them like everyone else, no expectations whatsoever. I was a little afraid to do something incorrectly (Reflexive journal, student 5).

Discussion

It is important to conduct research related to the training of physical activity professionals as such research allows for improvements in educational processes in Mexican Physical Education Teacher Education programs and context. Overall, findings from this study indicate that engaging in SL programs during teacher training resulted in a positive and thorough interaction. Additionally, our findings are consistent with the application of the SL methodology when engaging in the academic and learning process in the academic training of students in higher education.

First, findings suggest that SL is a relevant way to help preservice teachers develop essential skills when working with individuals with intellectual disability in physical activity. This is an indicator that there are similarities between SL and qualitative research such as reflecting on the link between learning and in-service experiences (Furco & Billig, 2002). Since students highlighted that planning and organization of the contents of the class syllabus, the laboratory sessions and their congruence with the service was a clear and beneficial way to understand in-depth the competency development during the SL. This is consistent with the findings of Coleman et al. (2023), where it was identified that for the success of the learning process, the intention of the professor is an essential component, which is structured in the planning process. Thus, it is important to say that facilitators within higher education and preservice teachers training can offer to maximize learning of content that is relevant for real life experiences.

Second, preservice teachers expressed that they were aware and proud of the social impact that their future professional performance shows, especially in their work with individuals with disabilities. These findings are consistent with the work of Chiva-Bartoll et al. (2021b), which suggests that the SL methodology in the training component within physical activity professionals facilitates students to be aware and acquire responsibility as a fundamental part of professional identity. Since we can say that by doing preservice teachers further expanded their own selves and

building stronger values, beliefs and principles. This is consistent with to Maya (2003) because professional identity is the result of human interaction, and the exposure of preservice teachers to real environments through SL helps facilitated the development of their professional identity.

Third, preservice teachers displayed a lack of confidence at the beginning of the class to work with people with disabilities, leading to a variety of feelings such as nervousness, sweaty palms and lack of communication. The lack of knowledge was a clear factor that affected the preservice teachers to fully engage with the individuals with disabilities. This is consistent with the work done by An (2021) and Woodruff and Sinelnikov (2015) identifying that one reason behind the lack of confidence was a perceived lack of knowledge of the motor, attitudinal and cognitive abilities of individuals with disabilities. Thus, during the SL program training preservice teachers helped them to develop a different understanding learning processes, which in fact provides an opportunity for future programs to provide different experiences that connect with the real world (An, 2021; Chiva-Bartoll et al., 2021b; Whitley et al., 2017).

Our findings suggest that by identifying an important personal growth and providing preservice teachers of different opportunities, the development of values and socio-emotional skills such as empathy, tolerance, responsibility allows a personal and professional identity to work together and to acknowledge different boundaries that need to further expand. This is consistent with An (2021); García et al. (2023); and Whitley et al. (2017) who found that when students acknowledge the development of different skills, leadership and teamwork become central components of their personal growth and professional identity. As such this indicates that the application of SL in higher education contributes to the acquisition of skills such as attitudes and values which are important when designing curricula-based programs in various contexts (Geller et al., 2016; Reed & Butler, 2015; Sass & Coll, 2015).

Thus, it can be said that reflection is a process of reconstructing meanings from lived experience, while reflecting on the personal and professional events. In this case, preservice teachers analyzed their own performance during the SL program helping them to develop a pedagogical and didactical competency that allowed them to adapt to the different situations and needs of individuals with intellectual disabilities. As such, the SL program made it easier for the preservice teachers to not only apply their learnings, but to also be aware of their progress and importunities for improvement becoming an important pedagogical tool for future training higher education programs.

Conclusion

The findings of this study indicate that the implementation of the SL methodology in the initial training of physical education preservice teachers in Mexico contributed meaningfully to their professional development. Particularly in contexts involving individuals with intellectual disabilities. More specifically, the SL experience fostered the development of pedagogical

competencies related to planning, adaptation, and decision-making in real instructional settings, as well as socio-emotional competencies such as empathy, responsibility, and reflective awareness.

Despite these contributions, this study also presents several limitations that must be acknowledged. The intentional and relatively sample restricts the transferability of the findings to other context or populations. Future research should address these limitations by incorporating larger and more diverse samples and research designs. Simultaneously, to use other pedagogical approaches such as a student-centered perspective to understand all participants' perspectives to modify the existing curriculum and the teacher education preparation in physical education programs from Latin-America.

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