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Service-learning activity: a memory box for the social participation of older adults living with dementia and their informal caregivers

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ABSTRACT

This paper presents a service-learning activity by gerontological social work students with older adults with dementia and their informal caregivers. Students built memory boxes for older adults by collecting significant objects, music, pictures and scents to reconstruct the older adult's biography, thereby establishing intergenerational relationships and facilitating mechanisms for the social inclusion of older adults with dementia. The paper is based on in-class observations and thematic analyses of students' reflexive diaries. This service-learning activity helped older adults connect with their memories and life trajectories and enabled informal caregivers to see the significant biographies of their relatives. Students also learned through practice while implementing theoretical knowledge and conducting a real social intervention with older adults. This activity motivated students to learn more about gerontological social work and even consider working in it.

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1. Introduction

Aging populations are a worldwide phenomenon. It is predicted that by 2050 there will be 131.5 million more people living with dementia (Prince, 2015). This shift will require more professionals working in gerontological social work to meet their care needs, prevent ageist practices (Ayalon & Tesch-Römer, 2018), avoid a deterministic biomedical focus on the disease (Martorell, 2015), and provide methods for the social inclusion of older people with dementia. We present a memory box service-learning activity for older adults with dementia. The aim is to construct older adults' biographies and help them reconstruct their memories and life trajectories (to remember significant aspects of their lives) and stress their individuality through meaningful music, objects, scents and other features while enabling students to learn research techniques and implement a person-centered activity in dementia care. Activities that connect older adults with their past and

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involve caregivers have a positive impact on individuals with dementia (Holden et al., 2021).

Recent studies have highlighted the benefits of using autobiographical music for people with dementia. This approach both emphasizes their individuality (Connolly & Moss, 2021) and serves as a therapeutic measure that stimulates memory (Raglio et al., 2018). Music aids individuals to effortlessly recall lyrics and positively impacts their mood and engagement in nursing homes or care units. It also serves as a valuable reminiscence tool for people with moderate or severe dementia (Camerlynck et al., 2021; Cuddy & Duffin, 2005). Scents also stimulate learning-memory abilities, while changes in sense of smell are an initial sign of memory loss (Christensen et al., 2017; Liu et al., 2023; Serby et al., 1985).

Awareness is growing of the need for greater social inclusion of people with dementia (Hicks et al., 2021; Motta-Ochoa et al., 2021; Pinkert et al., 2021; Wray & Bergström, 2024) and for more dementia-friendly environments (Connell & Page, 2019; World Health Organisation [WHO], 2017). The first attempts at promoting social inclusion emerged from disability studies, particularly regarding access to healthcare and especially for mental health (Pinkert et al., 2021). The social inclusion of people with dementia is a best practice for raising awareness of the issue and achieving positive outcomes in social interventions. Despite attempts to measure the human rights of older adults—such as the Older Persons' Human Rights Index (Doron et al., 2019)—the failure of human rights legislation for older adults is doubly affecting the most vulnerable individuals living with dementia.

Social work can mitigate these situations (Heekyung, 2017). Helping older adults with dementia to establish relationships and participate in social networks is key to including them in their communities (Pinkert et al., 2021). Studies in gerontological social work have gained importance owing to demographic changes and longer life expectancy. Therapeutic approaches for people with dementia (Ray et al., 2015; Yusta-Tirado et al., 2024) and demands for social justice have also increased and for gerontological studies to be increasingly incorporate it into the Social Work curriculum (Berg-Weger et al., 2007; 'Dementia': Keating, 2017; Ray et al., 2015).

Most memory box studies have focused on children's education (Chamberlain, 2017; Viljoen, 2004) rather than intergenerational relationships with older adults (Weber & Absher, 2003). The activity presented herein, however, acts on several levels: it facilitates the first contact between social work students and a nonprofit organization for older adults with dementia; it puts students in contact with older adults with dementia and their informal caregivers to develop an intergenerational learning relationship through the life stories of older adults; it assembles the collective memory of a generation and a period in life that includes cultural features and memories illustrative of their life experiences and a time in history; it enables students to identify potential difficulties (with older adults, their families, or both) during this social intervention, develops approaches for solving them, and strengthens practice in gerontological social work; and it has huge benefits for the families of these older adults, especially their informal caregivers.

Using culturally meaningful approaches and recognizing that cultural diversity is crucial to accepting dementia and overcoming stigmatization, which is essential for social inclusion (Motta-Ochoa et al., 2021). Some cultural groups perceive dementia

as natural to the aging process (Bilbeny de Fortuny, 2023). Acknowledging this can enable social workers involved in gerontological social work to engage with families and informal caregivers and prepare them for caregiving responsibilities. The limited recognition of dementia as a disease by some communities (often characterized as ‘ignorance’ or ‘lack of understanding’) is further compounded by stigmatization of the condition.

These factors further hinder the social inclusion of individuals with dementia (Motta-Ochoa et al., 2021). Some community-based interventions use art to overcome stigma and foster social inclusion (Phinney et al., 2023). Some initiatives in rural dementia-friendly communities promote the inclusion of older adults with dementia while recognizing and valuing their capacity for agency. These efforts aim to create supportive environments that enable individuals with dementia to actively participate in community life and maintain a sense of autonomy (Hicks et al., 2021).

Intergenerational relationships are a social intervention arena with enormous potential for achieving the social inclusion of older adults with dementia. Enhancing well-being through basic communication skills plays a significant role in combating social isolation. The ability to engage in meaningful communication fosters social connections that counteract loneliness and isolation in older adults, particularly those with dementia (Wray & Bergström, 2024). Intergenerational relationship-building, fostering empathy toward older adults with dementia, enhancing a sense of community, and increasing knowledge of the disease are benefits of these activities for younger generations (Gerritzen et al., 2020). Simultaneously, such initiatives contribute to improving the self-esteem of older adults.

Most studies on intergenerational relationships are based on developing meaningful relationships that facilitate social inclusion (Canning et al., 2020). Less analyzed, however, is the potential for developing intergenerational learning activities with older adults with dementia and, by extension, with their relatives as a component of gerontological social work studies.

The intergenerational ethical learning potential of these activities is highlighted in environmental education studies (Hollingshead, 2017) and studies of the relationship between older adults, grandchildren and other family members (Cheng, 2024). These studies highlight the importance of learning from the experience and wisdom of older adults, promoting mutual understanding and support across age groups, caring, and fostering compassion and understanding.

Life stories and memory boxes have been used by student volunteers in co-design projects (Foley et al., 2020). However, they have not been used in social work service-learning activities and have not involved informal caregivers or other family members in an intergenerational learning process through biographies and life experiences of older adults. In social work studies, service learning innovatively combines practice with theoretical reflection and provides tools for conducting a social intervention and raising students’ awareness of social issues (Kusciati & Fatkhiyati, 2018).

Universities are often reluctant to incorporate aging-related activities owing to a lack of student interest (Niedens et al., 2023). This service-learning activity has become part of the social work curriculum at a time when aging studies and gerontological social work represent just 2% of social work textbook content (Niedens et al., 2023). This approach is also innovative in social work studies since it supplements lecture-style classes (Martínez-

Domínguez et al., 2013) and is in line with the need of social work students for more practical activities (Deck et al., 2017).

2. Methods I: design of the activity

'Memory boxes' are a service-learning activity conducted on the Gerontological Social Work course at University Rovira i Virgili. It combines learning procedures with community service to train students to become engaged and socially responsible professionals. As a first step we entered the University's online Social Projects Marketplace, which fosters collaboration between the University and social entities in Tarragona (Catalonia, Spain) (<https://www.urv.cat/en/about/structure/management-bodies/activity-support/social-engagement/service-learning/marketplace-historical/>). We then contacted the local Association of Families of People with Alzheimer's (AFA), which was seeking collaborators for a project employing music for older adults with dementia. The course instructor advised the Association to conduct a memory box activity, which includes a music search through participants' lives. This proposal was accepted.

2.1. Presentation of the activity and ethical requirements

The phases of the activity are described below.

This elective course typically comprises roughly 20 students, including fourth-year students, from the degree in Social Work. Students chose the course from a list of optional subjects offered by the Social Work Degree at University Rovira i Virgili. The activity is part of the assessment process, but students can express any disagreement or difficulty in following this service-learning activity practice. If this is the case and well justified, an alternative activity in the field of gerontological social work will be provided. We began the process by dividing the students into groups of five. The whole class collaborated to create an information sheet outlining the activity and draft an informed consent form for participants and their guardians. Students also signed a confidentiality agreement to ensure all information was used exclusively for pedagogical or research purposes. An image consent form was provided for the older adults and their relatives and a separate image consent form was signed by all individuals participating in video recordings.

Once all the information was collected, the Association selected the older adults and informal caregivers deemed suitable for the activity. The Association's therapeutic team explained the activity to the older adults and their families as an activity that can generate wellbeing by recalling pleasant past memories and is conducted by young Social Work students from the University. Patients with initial levels of dementia were selected according to GDS 1, 2 and 3 of the Global Deterioration Scale (GDS). The activity was then explained to the older adults and their main informal caregiver (usually their wife, husband, daughter or son) (Forlini, 2017). An information sheet about the activity was distributed, as was an informed consent form to be signed by the tutor and agreed by the older adult with dementia. Participants were able to stop the activity if they wished. However, this never occurred and after its completion all family members expressed their positive and emotional response to it.

After the ethical procedures were completed, the class visited the Association to meet its healthcare professionals (director, gerontologist and social workers). The gerontologist delivered a talk on dementia addressing both the biomedical and psychological perspectives to introduce students to the condition. The social worker then presented a list of participants and assigned one older adult with dementia and one informal to each group. Before visiting the Association and meeting the older adults and their informal caregivers, the students began their reflexive diary in which they documented their initial emotions before interacting with the service, end-users, and informal caregivers.

2.2. Execution phase and main product: the memory box

Before conducting the interviews with the older adults in order to write their life stories, the students prepared a script and discussed it in class. All items defining life stages were incorporated to ensure that all important moments in the older adult's life trajectory were included and all relevant information would be gathered in the interview. Items included the games they played in childhood and their marriage celebrations, hobbies, and music interests. Once the script was approved, each group contacted their assigned older adult and/or informal caregiver to arrange the interview. The interviews lasted roughly an hour and took place in a coffee shop, at the Association, or on campus, i.e. a public place that the older adults and their relatives found most convenient. The meeting was conducted in private and only students participating in the particular 'box of memories' were allowed to attend. During COVID-19, all interviews were conducted online to adhere to public health guidelines.

Once all relevant information was gathered at the initial interview, students drafted the older adult's life story and presented it in class for feedback. After receiving feedback from their instructor and peers, they could contact the informal caregiver again to collect missing information or clarify details. Before submitting their life story, students had the opportunity to validate it with their older adult with dementia and informal caregiver.

Students also had to answer the second question in their reflexive diary. This asked them to express their feelings before and after their meeting with their older adult and caregiver. In other words, after visiting the Association and interviewing their older adult, they reflected on their emotional response to their encounter: whether they felt excited about the project, whether they developed a bond with their older adult and family, how they defined the relationships they formed during the activity, and what they learned from this experience. They also had to complete their life story of the older adult using information they had collected in their interviews. After completing these tasks, the students handed them in.

Using information and materials from the life stories, each group designed a memory box containing meaningful objects, photographs, music and scents to create a personalized collection that holds significance for both the older adult and their relatives (see [Figure 1](#)).

2.3. Delivery phase

At the end of term, when all boxes had been completed, we held a 'Sharing Day' where students met up with their older adults and their relatives. The families were welcomed at the Association and seated at tables with the students who had created their memory box. At this event, the students presented their boxes to



Figure 1. An example of memory box.



Figure 2. Social work students delivering a memory box.

their older adults and their families. This was often a joyful and highly emotional moment. Each box was thoughtfully designed and closely connected to the older adult's life story. One group, for example, created a suitcase-shaped box to reflect the older adult's passion for travel and added a curtain to symbolize her love for theater (Figure 2).

After allowing time for students to present and discuss their boxes in detail with their older adults and their relatives, everyone moved to another room to listen to meaningful music from their lives and times. Close relatives—including children, grandchildren and spouses—were invited to participate at this time. The whole process—from the students’ work creating the boxes to their completion of the final product—was captured in a video produced by the Educational Services of University Rovira i Virgili: <https://www.youtube.com/watch?v=yEwR1rlz2ps&list=PL8yyYJSAXdwm26e1sQcI6-Mg1zbdjEaPb&index=3&pp=iAQB>

2.4. *The reflexive diary*

Each group was required to present its memory box in class before delivering it to the older adult with dementia and their family. Each group then submitted a joint report as outlined in Table 1. Finally, students submitted their individual reflexive diary (Part 2) in which they reflected on the experience and what they had learned from this service-learning activity. Table 2 contains several sections the students completed to help them reflect on their practice.

Table 1. Preliminary phase.

Activities
0) Ethical requirements
1) Begin your reflexive diary (Part 1).
2) Write the life story of an older adult with dementia.
3) Finish your reflexive diary (Part 1).
4) Collect songs that the older adult has liked during their life and that may suggest movement through dance.
5) Collect meaningful and attractive photographs from their life.
6) Collect objects that are important to them.
7) Collect other favorite objects such as plants, scents and pet-related items.
8) Create a personalized memory box containing these personal objects for your assigned older adult with dementia.
9) Deliver your memory box to the older adult with dementia and their relatives.
10) Write an essay about the activity.
11) Write your reflexive diary (Part 2).

Table 2. Reflexive diary.

Sections
1) Feelings prior to meeting the older adult with dementia: reflect on your initial emotions—fears, excitement, and expectations—before the encounter (Part 1).
2) Feelings after visiting the Association and meeting the older adults: describe your feelings after meeting the older adult with dementia and their informal caregiver. What was the first meeting like? What kind of bond was formed? How would you characterize the relationship? What have you learned from this relationship? (Part 1).
3) Impact of the service-learning activity on your knowledge of gerontological social work: reflect on how the activity enhanced your understanding of the course material. What did you learn that could be incorporated into the course? How would you define the type of intervention you conducted? Did you encounter any critical or uncomfortable situations or ethical dilemmas? How has the experience impacted you personally? (Part 2).
4) Evaluation of the process involved in creating the memory box and meeting the relatives: reflect on your feelings about creating the box and interacting with the older adult’s relatives. What emotions did this process evoke? How did you feel about meeting their families? In what ways do you think your social intervention helped them? (Part 2).

3. Method II: data collection and qualitative analysis

The analytical method used in this paper was qualitative. Our findings are based on participant observations in class and the activities conducted, including creation of the memory boxes, visits to the Association of Families of People with Alzheimer, and, most importantly, insights from the individual reflexive diaries completed by each student. The 22 students who participated in this service-learning activity were divided into four groups of five or six. The reflexive diary, written individually, was divided into four sections (Table 2).

After the course, data from the reflexive diaries were analyzed thematically using Atlas.ti. This identified potential issues but student explanations provided valuable insights into their achievements and the challenges they faced (Alhojailan, 2012). It also identified similarities and differences between the participants (Nowell et al., 2017) and patterns among the students, especially regarding terms and concepts that were repeated across the reflexive diaries. Five categories of information comprising 77 codes in total were identified from information students provided in their reflexive diaries, in-class participant observations, and notes drafted after class from student comments on their experiences. This information was then analyzed thematically using an inductive approach, which produced four thematic categories: emotions during the process; personal and professional growth; intergenerational relationships; and gerontological social work (see Table 3).

Regarding specific ethical procedures for this research, the instructor performed the twin role of teacher and researcher. Participant observation was collected in class from students' exercises and the instructor's comments based on gerontologic social work training and research. Students had been informed beforehand that information from the classes would be used for research purposes after the course. Students consented to this

Table 3. Categories and codes.

Categories	Codes	
Emotions during the process	Compassion	5
	Excitement, worry and fear	13
	Insecurity	3
	Worry about meeting end-users	6
	Empathy	13
	Hope	9
Personal and professional growth	A moving and emotional encounter	4
	Personal challenge	13
	Rich experience	7
	Personal growth and maturity	5
Intergenerational Relationships	Excellent activity	5
	Creating a bond	20
	A moving and emotional encounter	4
	Openness and trust with informal caregivers	10
	Relationships with informal caregivers	10
Gerontological social work training and knowledge	Intergenerational relationships	11
	Learning with practice	17
	Gerontological social work	14
	Learning	16
	Learning through social work	5
	Intervention	5
	Relevant professional skills	5
	Person-Centered Care	5

since they found any feedback that served to improve their social intervention and research skills rewarding. All information gathered was anonymized. Thematic analysis of the reflexive diaries was also conducted anonymously after their work had been graded. This research was developed as a post-course task conducted by the instructor based on student reflections of the teaching activities and their analysis of the materials collected.

4. Results

As mentioned earlier, the perceptions, learning experiences and insights of students on this service-learning memory-box activity were documented in reflexive diaries developed during the process. The results are largely consistent across all students. The analysis below reflects the main aspects highlighted by students regarding this activity.

4.1. Emotions during the learning process

Before beginning the activity (before meeting the professionals at the Association and, importantly, before meeting the older adults with dementia and their informal caregivers), students discussed their worries, fears and insecurities and their hopes and excitement about this opportunity to engage in a ‘real social intervention’.

Before getting to know the service and its users, I was excited. I was also a little afraid since this would be my first time doing a real internship in this field. I was excited, too, about the personal experience this activity would bring me; now I’m more knowledgeable and more aware of the feelings of users and the situation they find themselves in. (Female third-year student)

Many students experienced a feeling of insecurity about working directly with older adults with dementia. The experience was a significant professional challenge for most as it was their first time engaging with this population and their informal caregivers:

Before getting to know the service and its users, I felt excited but also a little nervous since this was my first time doing hands-on work in this field. I was excited about the personal experience it would give me, like the emotions I’d feel and the new things I’d learn about the users and the situations they’re in. (Female second-year student)

It’s important to point out that everything new for me is a challenge that I will gradually lose my fear of. And if this new experience includes a vulnerable group, one I’ve never had any close relationship or previous experience with, it will make it much more difficult for me to adapt. However, the positive feelings and excitement about getting my first real taste of the world of social work outweigh that. (Male fourth-year student)

The students also described their curiosity about the adults with dementia and their informal caregivers and a desire to learn about their assigned adult’s life:

Before starting at the service, I felt a bit nervous and uneasy because you don’t know who you’re going to meet or how the interaction will go. At the same time, I was really curious to listen and learn from these people who have lived so much and to share a lot of experiences with them. (Female third-year student)

Students emphasized the importance of empathy in these types of interventions, noting how they developed this quality along the process:

We've learned the importance of empathy and sensitivity in social work, as it's a field that is fully focused on caring for individuals. It's crucial, therefore, to be mindful in order to build and strengthen the connection and provide thorough, attentive care. (Female fourth-year student)

One of the main skills students had to develop was empathy with end-users and their informal caregivers:

On a personal level, it's helped me develop a sense of empathy and understanding toward family caregivers and recognize the huge importance of family. (Female third-year student)

4.2. Students' personal and professional growth

Students stressed that the activity was also rewarding as it contributed to their personal and professional growth and helped them acquire professional skills:

This practicum has had a big impact on my personal and professional growth. It has helped me develop communication skills, empathy, and patience. Now, I have a different perspective on older adults and the importance of gerontological social work. (Female second-year student)

Students also emphasized the rewarding feelings they experienced after participating in the activity, which they described as being closely associated with the aim of helping older adults with dementia:

Personally, it has made me feel much more fulfilled because I think it's really beautiful and special to have been a part of this project. I've contributed my small part and my enthusiasm, and it makes me proud to know that, in some way, I've been able to help our client. I really hope that someone will make a box like this for me at some point in my life. (Female third-year student)

Through the activity and their interactions with older adults and their families, students learned valuable lessons about life itself while recognizing that aging is also an existential experience:

During the service-learning experience, I've learned a lot of things, like the importance of appreciating what we have. Just having good health and your family and friends healthy and happy means you already have a lot. It's important to cherish the small moments with your loved ones. (Male fourth-year student)

Students also expressed the importance of these types of activities and recommended that they should be replicated in other courses:

Personally, I think this project should be carried out in more places because it's so important to preserve the knowledge of older people. Many times, we aren't aware of everything they've lived through and how much they have to teach us. (Female first-year student)

4.3. Creating bonds with support from informal caregivers and intergenerational learning

Sharing life stories fostered a sense of closeness and intimacy while also bringing joy to the informal caregivers as they revisited the stories of their relatives or partners:

Thanks to the days we spent with the client and contact person, who in our case was her husband, we were able to form a meaningful bond with them. During our meetings, we got to know the client and her life in great detail, and I'm very grateful for the kindness they showed us throughout. (Male fourth-year student)

The experience also fostered intergenerational relationships:

I think it's personally very enriching to be able to talk to people older than us because they can teach us a lot and offer a different perspective from our own. At the same time, I believe it can also be beneficial for them to get a more current and youthful point of view. I think intergenerational relationships are really good for both sides involved. (Female second-year student)

In class the students explained the friendship they had developed with the families. Some had meals together to celebrate the traditional *Castanyada*, a festival held in Catalonia on 1st November. Others planned trips to the countryside to collect wild mushrooms, a hobby of one older adult with dementia who promised to teach them how to pick them.

The students' construction of the older adults' life stories also served to create bonds that may even endure after the activity has concluded, with meetings arranged for after the course. Students also provided support for the informal caregivers:

I believe there has been potential emotional support for the families that participated in this activity since they were able to open up to us without ever feeling judged. I think seeing their lives and moments reflected in a box can be really meaningful for them. (Female second-year student)

As for the client, unfortunately, we haven't been able to meet him yet, but we did have closer contact with his wife. We quickly established a bond of trust, which enabled us to discuss all the topics we needed to cover for our work. After the interview, we all stayed for lunch together and had some really interesting conversations about current events. (Male fourth-year student)

The encounters with end-users and their informal caregivers are often highly emotional and moving experiences. Students also recognized similarities between the older adults and their own grandparents, discovering shared experiences and connections with their families:

The meeting with my client's wife was very touching. At first she seemed nervous about how it would go since she came across as quite anxious and direct over the phone, but it was the opposite during the interview. I really enjoyed it and I found many commonalities in our personal experiences that moved me. We also shared a connection with the place they come from, which is familiar to my dad and which brought back memories of my grandparents. During that interview, I got a lump in my throat several times from the mix of emotions. With her, we've started a really nice bond because she opened up a lot to us, sharing many things. It felt like positive reinforcement for her; we believe she needed someone to listen to her. (Female third-year student)

4.4. Professional training in gerontological social work

The activity was highly valuable for students in providing practical knowledge of gerontological social work interventions. Engaging in this activity allowed students to learn by doing, gaining first-hand experience through working with real end-users and their families. Thanks to this practice, students have learned essential social work competencies, such as empathy and the ethics of care, as well as person-centered care practices:

We developed a person-centered approach. This experience has shown me the importance of focusing on the individual needs of Alzheimer clients. This personalized approach can be incorporated into the curriculum to highlight the significance of tailoring interventions to the unique characteristics and preferences of each individual. (Male fourth-year student)

Students also emphasized the value of learning by doing. Working collaboratively with end-users to share and create while applying their theoretical knowledge motivated students and made the experience rewarding:

This memory box project has been very interesting and exciting. The active collaboration of the family in this project has taught me the importance of participation and teamwork in designing interventions. I believe that incorporating practical cases and real projects during the course motivates students and shows us how to apply the knowledge we've gained in class to specific situations. (Female second-year student)

The concepts and theories taught in class were better understood and internalized through practical application, which enabled students to work with real end-users and their families rather than remaining solely at the theoretical level:

Through my participation in this service-learning experience, I have been able to expand my knowledge, which comes not only from the theory taught in class but also from its practical application with the residents. This experience has presented a fundamental opportunity to strengthen my communication skills and my interaction with this group, highlighting how empathy and respect become essential tools in this context. (Female third-year student)

The complexity of the reality experienced by end-users and their families and the service-learning activity itself also presented ethical dilemmas, which were discussed in class:

With regard to ethical dilemmas, I think we've all wondered whether it's ethical to conduct an interview on one of the most painful topics with someone who is in the midst of grief and coming to terms with an illness. Therefore, it's a very personal dilemma where each person experiences this process differently and adapts at their own pace. (Male fourth-year student)

Empathy, openness and trust with informal caregivers and older adults are essential for creating and strengthening this bond and for fostering a positive atmosphere for sharing life experiences:

After getting to know the center and the clients, I experienced a lot of feelings. Empathy was one of the strongest emotions I felt while talking with the daughter. Seeing the challenges they face every day helped me connect with the family, which allowed us to establish a trusting relationship. This was crucial for conducting the interview. (Female second-year student)

Students also considered the ethics of care during their interventions with caregivers as they encountered feelings of hope and compassion but also moments of sadness:

Before getting to know this service and the users it serves in depth, I was surrounded by a complex mix of feelings. Empathy and compassion were dominant, as the loss of my grandmother left me with deep anger for those suffering from this illness and for their families. (Female third-year student)

One unforeseen outcome was the positive effect this activity had on the informal caregivers, since it gave them an opportunity to talk, express their feelings, and share their life experience:

In this intervention it was more useful for [name of family member] than for the user, since during these meetings she was able to express experiences and emotions. The interviews were almost aimed at her since when we asked her about [name of client] she always ended up talking about her own experiences. (Female second-year student)

Most relationships with the informal caregivers were positive and characterized by openness and trust as they narrated the life stories of their relatives or shared their own experiences:

I found that in the initial calls, she was a bit reluctant to open up. She seemed somewhat distant and not very participative. However, once we met in person, it was a different story. As we continued to meet, she started to gain more confidence and our conversations became more dynamic. She shared a lot about her life, which was also important because it has been a significant part of our client's life. It's true that during the second interviews, we wanted to delve deeper into the characteristics of the man, but that led to some reflection and debate among all of us. It was also a moment for her to release her feelings; it was necessary to talk because she probably needed that time with us to 'vent' mentally and emotionally. (Female third-year student)

The activity focused on primary caregivers as well as end-users. It aimed to help students understand family dynamics and how family members navigate the challenges of dementia. The intervention emphasizes providing support to informal caregivers while also facilitating the social inclusion of people with dementia.

Students developed gerontological social work skills, with some even expressing a desire to specialize in this field:

This experience awakened feelings of empathy in me and has helped me to be more understanding of people who are going through similar situations. Similarly, it has been a way to understand that working with people in the gerontological field is very delicate and requires careful consideration of many factors. However, despite this, I've discovered that it's a field that fulfills me, and I would like to pursue it in the future. (Female third-year student)

Some students' perspectives on aging have changed after participating in this activity. They report having a new outlook, changing from having no interest in gerontological social work to contemplating this field as their future area of specialization:

I've always rejected the idea of working with older adults, believing that I didn't have enough patience or desire to be with them. However, over the past year, when I had to choose my optional subjects, I thought about it a lot and realized it would be a good opportunity to get closer to older people and open up more pathways into the professional world. As a social worker, I believe it's essential to have knowledge of all groups. (Female fourth-year student)

Students gained valuable skills and knowledge in gerontological social work, particularly through their work with older adults. This experience has given them the confidence to carry out social interventions that focus on the personal needs of end-users and demonstrate how their precise and targeted actions can transform and create well-being:

This experience has provided me with a comprehensive view of the daily life of older people and their daily needs. I have learned to appreciate the small things that can make a big difference in their well-being and come to understand the importance of developing good interventions to respond appropriately to their individual needs. (Female first-year student)

Students developed a new perspective on older adults with dementia that reinforced their interest in social work as a profession and deepened their commitment to the field of gerontological social work:

On a personal level, this service-learning activity has brought me significant growth. It has given me a deeper understanding of the value of social work in people's lives and strengthened my dedication to this profession. It has also provided me with a human and realistic perspective on the complexities and rewards of working with people with Alzheimer's. This personal knowledge has become a source of inspiration that I can share to motivate other students and prepare them for the realities of gerontological social work. (Female fourth-year student)

No pretests were administered to assess students' knowledge of gerontological social work before the activity nor were posttests conducted at its conclusion. However, ongoing monitoring along the course and the reflexive diaries revealed an improvement in students' understanding of aging-related concepts as well as their ability to conduct social interventions with older adults with dementia. A final examination confirmed their progress in these areas.

5. Discussion and conclusions

This paper demonstrates that an intergenerational service-learning activity contributes to the teaching of gerontological social work and stimulates students' interest in pursuing an area of study that has always been secondary or residual in the social work curriculum (Niedens et al., 2023).

An activity conducted by students in nursing homes focused on the co-design of 'memory boxes' by students and older adults with dementia from a psychological perspective. These boxes serve as a tool for reminiscence, helping individuals with dementia recall and reflect on life experiences (Foley et al., 2020). The emphasis on fostering intergenerational learning relationships through a person-centered care approach promotes the social inclusion and participation not only of older adults with dementia but also of family members. This experience also helps students to learn from the life experiences and wisdom of older adults and to increase their personal growth. Involvement from family members, especially informal caregivers, is significant as it gives students the opportunity to conduct social interventions at the family level in cases involving older adults with dementia. These elements are key, distinctive features of this service-learning activity.

'Memory boxes' are not only a person-centered care activity but also an intergenerational learning activity that positively impacts social work students, older adults with

dementia, and their informal caregivers and relatives. Intergenerational relationships with individuals with dementia are shown to benefit both older adults with dementia and young people and to serve as a means to alleviate social isolation. Young people can act as companions while assisting older adults in meaningful ways.

Research indicates that students' understanding of dementia improves significantly after a training course on the topic (Niedens et al., 2023) and that this engagement helps combat stigma and promote social inclusion (Phinney et al., 2023) while also enhancing students' empathy and fostering positive attitudes toward people with dementia (Gerritzen et al., 2020). This service-learning activity also equips students with qualitative techniques for social work research as they conduct interviews to write life stories. All feedback from students' comments and evaluations on the activity were positive and the experience was described as highly enriching.

We conclude from this study that gerontological social work is a powerful practice whose social focus complements the proven biomedical healthcare approach (Yusta-Tirado et al., 2024). This study has shown that simple interventions from an intergenerational learning perspective can have a societal impact by improving health and wellbeing (UN Sustainable Development Goal 3). Gerontological social work can ameliorate feelings of loneliness and isolation felt by older adults with dementia by helping them create social bonds and participate in social activities as much as possible.

Our study demonstrates how this service-learning activity can cultivate students' interest in gerontological social work practice and person-centered care activities. Students also improved their social intervention skills by helping informal caregivers and other family members to connect and maintain their relationship with the older adult with dementia. Relatives often perceive that older adults are not what they used to be and are losing their identity but with this activity their loved ones' biographies and life trajectories are made visible through meaningful objects and other identity features. Students even identified systemic relationships such as overprotection by informal caregivers or a need for them to talk about themselves and become protagonists of the situation and the activity.

This service-learning activity has connected theory with practice, enabled students to experience a social intervention with older adults with dementia and informal caregivers, and fulfilled a need for research that utilizes students' reflexive journals (Gerritzen et al., 2020). As highlighted in their reflexive diaries, this pedagogical approach sparked a professional interest among students to pursue a career in the growing field of gerontological social work, while also fostering community participation and strengthening connections with older adults with dementia.

The role of social workers in this field is crucial for the social inclusion of older adults with dementia in community-based services. In countries such as Spain, where social workers and social services are responsible for providing care for the aging, this is fundamental. Moreover, this type of practice can be scaled up and replicated in other countries. There is interest, for example, from the Aurora Universities Alliance and the Federal University of Santa Caterina in Brazil. This activity can be implemented in developing countries or among ethnic minorities and/or disadvantaged populations since it requires minimal resources (Ellenbogen et al., 2017). It is also less intrusive than traditional biomedical practices since it treats patients as more than just an illness and emphasizes collaboration with both the individuals and their informal caregivers. This method also enhances training and practice, boosts students' confidence, and increases their interest in

the field as a potential area of specialization. The boxes serve not only as memory tools for older adults and learning tools for students (Foley et al., 2020) but also as a resource that involves all caregiving actors, both professional and informal. This approach values the biographies and identities of older adults within a person-centered care intervention.

Another important aspect in relation to older adults with dementia is the growing need for community support for informal caregivers. While students often have limited opportunities for engaging with them (Choi & Park, 2017), our activity puts students in direct contact with them, which enhances their reflexive practice on social work interventions. Since these interactions are discussed in class, students are able to analyze the wide range of cases, family situations, and attitudes toward managing them.

Our memory box activity serves a dual purpose since it also supports informal caregivers. The process involved in constructing the older adult's life story helps informal caregivers experience something that may be considered unexpected, which is the notion of 'premature bereavement'. Some informal caregivers even express a desire to retain the memory box after the death of their relative because they are witnessing the gradual fading of their loved one's identity as represented in the contents of the box. The box allows caregivers to reflect on the cohesiveness of their relative's life story. Moreover, the creativity displayed in the students' diaries suggests that students went beyond merely reproducing what they believed their instructor expected. As already mentioned, this experience also inspired several students to consider dedicating their careers to this field.

This activity enabled older adults with dementia to reconnect with meaningful aspects of their lives, helping them rebuild their identities and life trajectories. One limitation of this study, however, is that we were unable to analyze sociocultural or diversity aspects. Nevertheless, this activity has succeeded in fostering communication and promoting learning while putting older adults with dementia at the center of the process despite their biomedical diagnosis. Creating the memory boxes also served as an expression of love, since students and informal caregivers collaborated to craft a meaningful representation of the individual's life before presenting it to them as a symbolic gift. This process embodied teaching, caring and love as students and caregivers cooperated to create meaningful objects, provide support, and strengthen bonds through shared care and compassion.

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