

Assessing the societal value of a service-learning project in information studies during the COVID-19 pandemic

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The purpose of this work is to assess the societal value of a Service-Learning (SL) project carried out during the Covid-19 pandemic by the Faculty of Information Science of the Complutense University of Madrid (UCM) in collaboration with two Senior Centers of the City of Madrid. The aim of the project was to support elderly's integration in the online activities carried out during the Covid-19 pandemic and to train them in the use of Information and Communication Technologies (ICT). The analysis of societal value is based on a case study and a varied range of data whose purpose is to provide multiple insights into the experience, emphasizing communicative processes. The results corroborate the educational value of experiential learning for students, although the impact on the community appears limited by the role of consumers of a service that participating elderly ended up playing. The evaluation of the project by the faculty leading the activities was corroborated by the institutional partner and provides evidence of the capacity for societal transformation of higher education institutions.

Keywords: Service-learning, Library and Information Science, societal value, higher education institutions, elderly, Information and Communication Technologies (ICT)

1. Introduction

1.1. Service-Learning in Library and Information Science

Service-Learning (SL) is a type of experiential education in which students engage with real-world problems, providing a service to the community (Riddle, 2003). As a pedagogical tool, in addition to its experiential character, it implies reciprocity, collaboration and mutual learning between students and communities, promotes civic education and the development of a sense of societal responsibility (Lim & Bloomquist, 2015), and requires reflecting on the experiences that it affords (Angel, 2016). In Library and Information Science (LIS), SL has been used as a teaching strategy in graduate and postgraduate education and as an alternative to curricular internships (Most, 2011; Roy et al., 2009; Montesi et al., 2021), and, according to

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31 Scott (2020), SL could be found in the first models of LIS education. SL initiatives
32 have also been undertaken from academic libraries in collaboration with faculty, in
33 order to accomplish libraries' mission of supporting the development of university
34 curricula (Nutefall, 2016; Scripps-Hoekstra, 2020). According to Caspe and Lopez's
35 survey (2018), experiential and connected learning methodologies provide students
36 with knowledge about families and communities, develop relationship building skills
37 and encourage a mindset of professionalism. On the other hand, some authors invite to
38 look at experiential learning methodologies beyond SL, criticizing the unidirectional
39 character of SL and its emphasis on the dysfunctionalities of the communities that
40 are often deprived of their own agency and capacity of reflection (Poole, 2021). In
41 LIS, the alternatives range from *community engagement* to *Asset-Based Community*
42 *Development*, whose aim is to stress the resources and strengths of communities
43 (Stevenson, 2020).

44 1.2. The different dimensions of SL impact

45 Much research on SL has assessed the impact of community engagement on
46 students, leaving aside the impact on institutions, faculty and especially communities
47 (James & Logan, 2016). The impact of SL on communities is apparently the least
48 studied dimension (Gelmon et al., 2018; Mironesco, 2018), although little attention
49 has also been paid to the role of institutions in articulating the guiding values of SL
50 interventions (Chupp & Joseph, 2010). However, SL settles on *civic engagement*
51 and a complex social network, which brings together universities, faculty, research,
52 students, professionals, and communities, and thus its potential for impact goes
53 beyond the purely educational dimension (Thompson & Hood, 2017). The difficulties
54 of assessing the impact on the community derive in part from the lack of definition of
55 the very concept of community (Gelmon et al., 2018). If Frank and Sieh (2016: 514)
56 understand community as "a group of people with direct and immediate interest in
57 a particular place, and who have been identified with that place", James and Logan
58 (2016) support a concept of community as a *network* of individuals. From the point
59 of view of Ngui (2020), communities can be defined by geographical proximity,
60 interaction and relationships between individuals, and identity or unity in the pursuit
61 of a common goal. On the other hand, Gelmon et al. (2018) consider that it may be a
62 mistake to conceive of the community as a unitary and definable notion and suggest
63 attending instead to the processes of collaboration among community members.

64 The scant prior research on the impact on communities has addressed mainly the
65 institutional partners' willingness to participate again in SL projects, their satisfaction
66 with the work performed by students, and the benefits for the organization. In the
67 follow-up report of the 27 SL courses held at the *Virginia Commonwealth University*
68 in 2017 (Jettner et al., 2017), partners considered that SL made its greatest contri-
69 bution by enhancing organizational capacity, though it also brought social benefits,
70 increasing social connections, and finally economic benefits. The qualitative and
71 dialogical nature of the evaluation revealed issues that are difficult to measure, such

72 as the importance of relationships and collaboration, as well as the intangible results
73 derived from these initiatives, especially at the social level. The intangible nature
74 of SL impact is also pointed out by James and Logan (2016), when they report the
75 practical absence of references to the economic dimension of the impact in the project
76 that they carried out with a secondary school. Mironesco (2018) defends intangibility
77 when assessing SL impact, because civic engagement requires developing a person's
78 ability to understand her community and her role within it, and proposes evaluation
79 strategies that, without neglecting indicators and quantitative measurements, seek to
80 honestly collect the voices of the participating communities. SL returns for higher
81 education institutions are just as intangible, and SL initiatives foster trust and credi-
82 bility in local communities whilst enabling universities to act as transformative agents
83 (Thompson & Hood, 2017). The intangible dimension of SL impact on communities
84 highlights the limitations of Gelmon et al. (2018) triple assessment scheme for part-
85 ners (organizational capacity, economic benefits, and social benefits), since it restricts
86 the possibilities of impact to these three dimensions, without taking into account
87 any participatory mechanism of evaluation. Finally, according to Mtawa (2019), the
88 emphasis on instrumental and tangible results over societal and community values in
89 the evaluation processes of SL leads to an epistemological injustice, a fact that would
90 limit its capacity for transformation and to reduce inequalities.

91 *1.3. SL in the framework of institutional activities*

92 In this paper, we understand that SL assessment should be contextualized within
93 the framework of institutional activities and should take advantage of research aimed
94 at measuring the societal impact of institutional activities. Impact measurement is a
95 necessary strategy to demonstrate the societal and scientific legitimacy of all actions
96 aimed at collaboration between universities and communities, including SL initiatives
97 (Trencher et al., 2015). Typically, the classic assessment of higher education and
98 research institutions activities leads to university rankings that fundamentally take
99 into account the capacity of production of scientific knowledge in journals indexed in
100 WoS or Scopus and, additionally, in some cases, the quality of teaching or capacity for
101 technology transfer (Fauzi et al., 2020; Fernández-Cano et al., 2018; Johnes, 2018).
102 From the societal point of view, institutional rankings completely disregard the impact
103 of higher education institutions in dimensions such as culture or social welfare (Daraio
104 & Bonaccorsi, 2017). The question of the societal impact of scientific activity arises as
105 a consequence of an enlarged system of scientific communication that admits not only
106 purely academic actors, but also political and economic actors and citizens (Tuunainen
107 & Kantasalmi, 2017). Even if the interest in societal impact was initially conceived as a
108 strategy to assess the returns of government R&D investments (Miettinen et al., 2015),
109 it also covers the societal benefits of research in social, cultural, and environmental
110 dimensions and also sustainability (Bornmann, 2013). Smit and Hessels (2021) prefer
111 to use the concept of *societal value* instead of the *societal impact*, in order to more
112 easily accommodate non-tangible results. According to Trencher et al. (2013), there is

113 still a very strong economic conception of what is understood as the societal mission
114 of the university. Assessing impact from an economic and quantitative perspective
115 causes such problems as causation and attribution, as it is difficult to detect cause-
116 and-effect relationships and attribute certain results to specific actors or interventions
117 (Temple et al., 2018). Alternatively, Temple et al. (2018) propose to move from the
118 notion of attribution to the notion of *contribution*, underlining the participation of
119 different stakeholders in innovation processes. The most popular evaluation strategy
120 of societal impact are case studies (Tahamtan & Bornmann, 2020). According to
121 Lauronen (2020), case studies as other impact assessment methods, cannot easily
122 address sociopolitical aims due a problem known in anthropology as *liminality*,
123 referring to the different interpretations that the academic community and political
124 and social actors can give of the notion of impact. On the other hand, Heyeres et al.'s
125 (2019) review of case studies as impact assessment tools reveals that little attention
126 is usually given to the needs of target populations and to the economic value of
127 research, claiming major transparency in the way in which resources are used. Finally,
128 the 10 assessment methods that Smit and Hessels (2021) gather differ in the very
129 concept of societal value, and especially in the types and roles of supporting actors in
130 knowledge production processes and in the mechanisms of interaction that promote
131 the transfer of knowledge. With its limitations, case studies have the advantage of
132 adjusting to the great diversity of scenarios and social actors that can intervene in
133 generating impact, even in the same field of knowledge (Janker & Mann, 2018). In
134 the evaluation of the societal impact of higher education institutions, Montesi and
135 Villaseñor Rodríguez (2018) bet on sufficiently indeterminate schemes capable of
136 adjusting to the specificities of each university and propose a framework articulated in
137 four the dimensions: 1) people and groups, 2) agreements and relationships, 3) events,
138 interaction, and *engagement*, and 4) processes. As for the essential elements in the
139 processes of societal evaluation, apart from the environments and the people, groups
140 and actors involved, Wolf et al. (2013) suggest also highlighting the disciplines and
141 specialties involved, as well as the modalities of information exchange, with emphasis
142 on communicative processes.

143 1.4. Case study objective

144 The aim of this paper is to evaluate the results of a SL project carried out in collabor-
145 ation between the Faculty of Information Science of the Complutense University
146 of Madrid and two Senior Centers of the City of Madrid, both depending on the
147 same management team. The inter-institutional collaboration exists since the 2017–18
148 academic year (Montesi et al., 2019; Cristóbal Querol et al., 2020; Montesi et al.,
149 2021), with educational and societal purposes, and in 2020–21 it was adapted to
150 the extraordinary circumstances of the Covid-19 pandemic. The situation of elderly
151 after the first months of the pandemic was clearly exposed in a United Nations report
152 published in May 2020 (United Nations, 2020), which pointed not only to the highest

153 mortality rates for this population group, but also to the consequences of distanc-
154 ing measures on mental health, neglect and abuse, and the trauma of stigmas and
155 discrimination. On the other hand, elderly presented a specific information behavior
156 during the pandemic, preferring as information sources radio, television and personal
157 communication and being in many cases in situations of digital exclusion (de Maio
158 Nascimento, 2020), whilst community connections among generations have been
159 proposed among the other actions aimed at promoting the inclusion and integration
160 of the elderly (Pentaris et al., 2020). Madrid Senior Centers pursue active ageing
161 and lifelong learning, supporting social relationships and the establishment of in-
162 terpersonal connections (Madrid City Council, 2021). However, their face-to-face
163 activities were interrupted in March 2020 and in June 2021 they had still not resumed.
164 In collaboration with the management team of the two senior centers, a program of
165 telephone calls was launched, and the students of the degree in Information Science
166 of the UCM contacted by telephone a sample of preselected elderly whose contact
167 details had been provided by the Senior Centers. Their purpose was to provide tech-
168 nical support and training with Information and Communication Technologies (ICT)
169 and/or moral support, asking about their situation and collecting information about
170 the impact of the pandemic on the daily life of these people.

171 In previous editions of the project, it had been impossible to collect data on societal
172 outreach, among the other things, due to difficulties in engaging the elderly in the
173 assessment process (Montesi et al., 2021). However, this edition has emphasized
174 precisely the “societal value” of the project, as it is conceived in (Smit & Hessels,
175 2021), encompassing intangible results not necessarily embodied in behavioral or
176 practical changes. According to the literature mentioned in the introduction and
177 with the intention of emphasizing intangibility, the collaborative character and the
178 *liminality* of societal value, we have designed a case study that allows to see the
179 project from different perspectives and contributions. In this way, we hope to obtain
180 a multidimensional vision of the project societal value, giving special attention to
181 communicative processes, the interactions between the various participants and their
182 different points of view.

183 2. Methodology

184 The case study was chosen as the research methodology, following McDonough
185 et al. (2017) model and because it allows to adjust the evaluation to the specific
186 characteristics of the project and reflect the different perspectives of all participants.
187 An intrinsic difficulty in the evaluation of societal value concerns the way differ-
188 ent stakeholders may be integrated in the evaluation processes. The modalities of
189 intervention and the channels of representation of broad groups may not be clear,
190 while there may be no common and shared conception of the key concepts under
191 evaluation (Faure et al., 2020). Thus, we opted for the case study in order to inte-
192 grate the different perspectives of all the participants in the project, emphasizing

Table 1
Summary of data handled in the project

Data collected	Frequency
Emails exchanged with students	157
Reflective reports (telephonic tutoring)	10
Global word count of the reflective reports (telephonic tutoring)	17678
Control Group reports	9
Emails exchanged with the Senior Center	88
Telephone and face-to-face meetings with the Senior Center	18
Follow-up interviews with elderly	62

193 the communicative processes between them and exploiting different sources of data.
 194 Firstly, from the point of view of students, we analyze the 157 emails exchanged
 195 with them during the development of the project between October 2020 and March
 196 2021, and 10 reflective reports that the participating students handed in to reflect on
 197 the experience, published in (Montesi et al., forthcoming). The emails allowed to
 198 reconstruct the history of the project and have been used to check the information
 199 of other sources, whereas the literal extracts reproduced in the results come from
 200 the 10 reports and are included without explicit reference to the authors, although
 201 they can be verified in the aforementioned monograph (Montesi et al., forthcoming).
 202 Nine additional reports were included as a control group, corresponding to students
 203 who participated in the project but carried out activities that did not require direct
 204 interaction with elderly. These two corpora of students' reports were compared with
 205 Lingmotif (<https://lml.uma.es/>), a sentiment analysis tool, that returns for each text
 206 analyzed a sentiment score, sentiment intensity, as well as the number of positive,
 207 negative, and neutral sentences. Lingmotif's main features include a shifter system
 208 that accounts for valence modification by context, being in this way adequate for a
 209 varied range of texts (Moreno-Ortiz & Pérez-Hernández, 2018). Statistical differ-
 210 ences between the two groups in terms of Sentiment Score, Sentiment Intensity and
 211 percentage of neutral sentences were calculated with IBM SPSS Statistics 25.

212 Secondly, the perspective of the Senior Center counted with an additional set of
 213 data, including the 88 emails exchanged between faculty and the Center itself in the
 214 period August 2020 to March 2021, which reflected and summarized much of what
 215 was discussed and agreed in the 20 face-to-face meetings and telephone interactions.
 216 The 20 meetings with the Senior Center include a final meeting whose purpose was
 217 to assess project results and that was held on June 4th, 2021, with the attendance of
 218 two faculty members, the Senior Centers director, and a social worker, lasting about
 219 one hour. This last meeting was the only one to be recorded.

220 Finally, the point of view of the elderly was gathered through brief telephone inter-
 221 views conducted by the Center's staff according to a semi-structured set of questions
 222 agreed on with the faculty. The interviews were carried out between March and April
 223 2021 and were immediately transcribed or summarized. Both the interviews with the
 224 elderly and the reflective reports of the students have been analyzed, highlighting
 225 the most outstanding topics, and always comparing one with another and with other

Table 2
Summary of telephone tutorials

Participants	Frequency	%
Elderly selected by the Senior Center	89	
Male elderly	21	23.6%
Female elderly	68	76.4%
Elderly assigned to students	81	
Students participating in the project	73	
Students participating in the telephone tutoring program	22	30.1%
Average number of elderly per student	3.7	

Table 3
Tutorials data

Tutorials activity	Frequency	%
Total number of elderly selected by the Senior Center	89	100%
Elderly interviewed after the closure of the project	62	69.7%
Elderly that could not be reached after the closure of the project	27	30.3%
Contacts established by students	58	65.2%
Successful tutorials	20	22.5%
Cases of conflict between what students and elderly said	19	

226 sources of data. Excerpts in the text are authors' translations and the original texts are
227 appended in an annex to the paper.

228 3. Results

229 3.1. Global project data

230 According to Table 2, 89 elderlies were selected by the Senior Center to take part in
231 the project, being the vast majority of them women (76.4%). While the Senior Center
232 was responsible for selecting and notifying the participating elderly, the academic
233 team of the project assigned each elderly to a student, though 8 of them could not be
234 assigned. Twenty-two students opted for the telephone tutoring program on a voluntary
235 basis, as alternatives were available when the activity was mandatory, representing
236 30.1% of all students participating in the project. This group also included students
237 with some kind of disability or speaking Spanish as a second language.

238 Data regarding the telephone tutoring program in Table 3 were obtained by com-
239 paring the information gathered from the interviews with the elderly, the emails with
240 the students and their reflective reports. In Table 3, "established contacts" refer to
241 those cases that counted on evidence of an attempt to get in touch, according to the
242 emails exchanged with the students and/or the reflective reports, while, in a total of
243 19 cases, that are classified as "conflictive", elderly denied having been contacted.
244 According to communications with the Senior Center, these cases can be explained
245 because of elderly's cognitive problems. The cases of "successful tutoring" refer to all
246 contacts that resulted in a positive experience for both parties (students and elderly),
247 according once again to the interviews and the reflective reports.

248 3.2. Follow-up interviews with elderly

249 The most prominent theme emerging from the interviews with the elderly was that
250 they conceived their participation in the project in terms of *receptors of a service*
251 delivered by students, and, whilst this posture allowed some to reject the “service”,
252 others expressed their discomfort with this role and demanded greater autonomy.

253 a. Refusal of students' assistance

254 The follow-up interviews with the elderly confirm students' attempts to contact,
255 though many times the elderly reject the help offered with technology, for different
256 reasons. Often, a relative (nephews, grandchildren, children, partner) has helped
257 before:

258 *“He called me, very kind. What happens is that my son had come a couple of days*
259 *before and he had put it on Zoom in my tablet . . . ”* (1)

260 Other times, they are not interested in taking up online courses and long for face-
261 to-face activities:

262 *“ . . . I don't clear my mind up with this system. I haven't connected because I'm*
263 *not interested in online.”* (2)

264 They can sometimes give up the tutoring because of physical, language or psycho-
265 logical difficulties:

266 *“She called and I told her no, I wasn't going to do it on the phone . . . for me it is*
267 *complicated. I don't have a computer, I know some French, but I have to see how*
268 *people move their lips and I don't use the Internet or the phone.”* (3)

269 *“Well, she got in touch because I had signed up for English: but I told her I appre-*
270 *ciated it very much, but I have a hearing problem and foreign languages . . . with*
271 *the hearing aid . . . I don't hear very well. So very friendly, but I didn't need it.”*
272 (4)

273 *“Well, my daughter has been ill, and I've been disconnected from everything. I'm*
274 *in the choir, in French, in taichi. I needed someone to help me with the internet,*
275 *but I don't remember if he called me. I am on medication . . . ”* (5)

276 In some cases, they may not be willing to invest in new e-devices.

277 *“My computer is very old, I am at odds with new technologies, and I was not*
278 *interested, and I am still not interested.”* (6)

279 Also, they may ask for something more according to their personal needs, such as
280 private lessons, that students, for time and schedule, cannot provide.

281 Sometimes, the rejection of tutorials sums up to a feeling of distrust, mediated by
282 fear or the recommendations of relatives who seek to protect their elders and often
283 are not aware of the project, and the participating elderly do not answer WhatsApp
284 messages or hung up the phone.

285 *“At first, I had two calls, but they were from a foreigner, and I didn’t understand it*
286 *and hung up, but it was because of my fear . . . I got a WhatsApp and I deleted it,*
287 *because I have a daughter who is a little hysterical and says: “Don’t have anyone*
288 *on WhatsApp that you don’t know” . . . It was my fault, out of mistrust I deleted*
289 *it.” (7)*

290 In other cases, communication does not flow because of shame or embarrassment
291 on the elderly’s part.

292 *“They sent me a message, I read it and I forgot about it. When I read it again, I*
293 *was embarrassed . . . ” (8)*

294 Elderly may also have forgotten the Senior Center’s communications about the
295 project or the students’ calls.

296 *“Well, I don’t remember . . . I don’t think anyone called. I can’t remember. I receive*
297 *so many calls from doctors and such . . . If I doubt anything, I tell my daughter.”*
298 *(9)*

299 *b. Service expectations and complaints*

300 In addition to the frequent rejection of student’s attempts, another consequence
301 of elderly conceiving of students’ calls as a service is that they feel entitled to
302 complain about them, and they may criticize the “lack of precision of the questions”
303 or the informality of the contact. Complaints also occur when students show certain
304 difficulties in interpersonal communication, because questions are not well prepared,
305 well presented, or expressed in a way appropriate enough for the target audience.

306 *“He showed a lot of interest, but he got confused a lot. He mistook us with each*
307 *other, he was a guy who didn’t get by very well talking to older people.” (10)*

308 *c. Elderly’s claims for autonomy*

309 On the other hand, some elders claim more autonomy, make their capacities very
310 clear and propose their participation in terms of collaboration, taking up an au-
311 tonomous role different from that of the “consumer” of the service offered.

312 *“Yes, I did an interview, she was very kind. I told her I’d take part as long as it*
313 *wasn’t to research on me. She didn’t ask me very personal questions and well . . . I*
314 *made myself available to collaborate.” (11)*

315 *“I will cooperate if you explain to me who is going to read it . . . To talk about the*
316 *pandemic and new technologies, I have friends. They’re not talking to Grandpa.”*
317 *(12)*

318 *“Yes, he called me, he helped me, all amazing . . . though I’m not very clumsy, I*
319 *understand a lot of technology.” (13)*

320 *d. Students’ interpersonal skills*

321 Complaints about students’ interpersonal skills highlight the importance that elderly
322 attribute to these, as it is possible to appreciate when the elderly have positive feedback

323 about students. In these cases, qualities such as empathy, affection or patience are
324 highly valued.

325 *“She asked me if I had cried. It was what impressed me the most. I’m not doing*
326 *well but thanking God that I’m not sick.” (14)*

327 *“Yes, it was very good, very nice, great. She taught me how to connect through*
328 *Meet, and then she left me her phone number and then my kids helped me. The*
329 *main base was her. Lovely, very nice with a lot of patience.” (15)*

330 *“I enjoyed talking to him, affectionate, very polite . . . I can’t tell you more. It was*
331 *useful to me and I thank you for it. Now I’m more focused, I take my walks . . . ”*
332 *(16)*

333 When the tutorial takes place, elderly value what they highlighted in face-to-face
334 workshops taught in previous editions: emotional support to get out of the problems
335 encountered (Montesi et al., 2021).

336 *“I was with a very kind boy: he got me out of the quagmire. I didn’t know how to*
337 *get into Zoom.” (17)*

338 *“He called me, amazing. I loved it. He explained to me. The problem was that my*
339 *PC is from a long time ago and I had to update it . . . I couldn’t solve it. What I*
340 *do through Meet, it’s on my phone, but I was satisfied. He left me his contact and*
341 *helped me to lose my fear.” (18)*

342 3.3. Students’ reports

343 The students’ reflective reports allow to see the impact of the project from the
344 educational point of view, complementing the vision of the elderly.

345 a. Emotional roller coasters

346 A recurring theme of the reflective reports is the despondency many students feel
347 at the beginning of the project, for the difficulties of getting in touch with unknown
348 people, and, even more, for the rejection of many elderly after their attempts to
349 contact. Following the first rejections, some students put the project on hold for long
350 periods and in some cases tried to abandon it, as confirmed by the emails. Once they
351 manage to get in touch and give their training, despondency gives way to enthusiasm
352 and a feeling of success, producing an emotional “roller coaster” effect, as it was
353 defined by one of the students.

354 *“This whole experience, the truth is, it was a hard blow, but I kept hoping . . . I*
355 *told all this to the teacher, who was also affected, since they were two “noes”*
356 *in a row, although she passed me two new contacts, to see if this time I had*
357 *more luck. Nothing could be further from the truth. I tried with the sixth contact*
358 *that the teacher had provided me with and wrote a text explaining a new way*
359 *of approaching this new tutorial. That message was also received and read, but*
360 *not replied to. Again, the curse came back, all seemed lost until, at about 18:00,*

361 *I received a call. After that interview, I felt better about myself, I had gotten*
362 *someone who said “yes” and I had learned. The previous negative responses had*
363 *been worth it with the experience I gained with the last one.” (19)*

364 In this process, the ability to empathize becomes a tool to understand, turn the page
365 and make sense of the rejection, inspiring appropriate communication strategies.

366 *“After a couple of messages, I understood that that person could not or did not*
367 *want to have the conversation, so I stopped insisting” (20)*

368 *“With Juana Antonia, something similar happened to me as with Teresa, she was*
369 *a little disoriented at the beginning of the conversation since she did not know*
370 *why I had called her. To put her in place, I explained to her who I was, where I*
371 *studied, how I had gotten her number, until she finally agreed to talk to me and*
372 *tell me how she had passed this last year of COVID-19.” (21)*

373 *b. Supervision and autonomy*

374 Supervision received from the project faculty team helps to overcome rejections
375 and despondency, offering emotional support and instructions to face rejections and
376 to engage in conversations with elderly, though students finally manage to make their
377 own decisions autonomously.

378 *“I tried to contact more people at the Senior Center, but there was no way to*
379 *talk to them, they didn’t answer my messages. Faced with such a problem, I*
380 *repeatedly asked my teacher, [. . .], what I could do. To avoid that I would fall*
381 *apart, she provided me with more people contact details, and she gave me a*
382 *different mission, to talk to the elderly asking them about themselves, about how*
383 *they had handled COVID-19. I thought this idea was a very good one, and I*
384 *decided to keep contacting them. Seeing that on WhatsApp my messages were still*
385 *unanswered, I decided to call them directly, and thus explain who I was and the*
386 *reason for the call.” (22)*

387 *“Our spirits regarding the project were decreasing, but, after a conversation with*
388 *the teacher [. . .], we were offered two more contacts to talk to.” (23)*

389 The rejection of the elderly makes students question, encouraging self-criticism.

390 *“Three, three people in a row denying my desire to teach and help people who*
391 *have difficulties with technology. My family and friends were already desperate*
392 *because nothing went well, since all this happened in the same week. I didn’t*
393 *know if the problem was me or my way of explaining, but I was starting to despair*
394 *about it.” (24)*

395 However, other times, it is the elderly’ unconditional acceptance and lack of
396 complaints that encourage self-criticism and the desire to improve.

397 *“Another relevant aspect may be (or for us, it has been) the absence of complaints.*
398 *At no time have we received one. We, as a group, after the sessions saw many*

399 aspects in which we could improve and we tried to do so in future meetings,
400 but on the part of the attendees or the people who asked us for help personally,
401 there was never any criticism, but rather the opposite, always good words, and
402 congratulations. This not only helped us to understand our flaws, but also to be
403 able to understand them without being told in a clear way, encouraging, and
404 learning self-criticism in a truthful way, that self-criticism that is nothing more
405 than a way to improve and from which, however, on many occasions we tried to
406 escape.” (25)

407 Finally, the training tasks performed by students are supported by the elderly’s
408 desire to learn and allow some students to discover themselves in new roles.

409 “. . . it has all been a matter of wanting to teach the people of the Senior Center
410 and their desire to learn and to always know more has excited and encouraged
411 me a lot to do this work.” (26)

412 “The day before, I was with my groupmate going over everything that Google
413 Meet could offer, and when it was my turn to expose that idea to my “student”,
414 it all went smooth and I explained everything in detail, which rarely happens to
415 me.” (27)

416 c. Acquisition of general and professional competencies

417 The experience allows participating students to acquire several skills, both general
418 and professional or related to the discipline. In some reports, it is natural to place
419 the project in the context of the pandemic to justify the need for the tutorials and to
420 understand the meaning of the participation and those skills that the situation forced
421 them to make use of. In some cases, the story begins to be told from the previous
422 academic year, when the projects that the students had planned could not be carried
423 out due to different measures adopted after the onset of the pandemic in March 2020,
424 underscoring resilience as a general competency.

425 “It was at that moment that the center, our university, our professors and we
426 organized to see how we could help.” (28)

427 “It made me quite pleased to have been able to carry out this activity, as the
428 elderly have been severely punished during the pandemic and, above all, for the
429 distancing measures.” (29)

430 If, on the one hand, this situation highlights students’ resilience and capacity to
431 adapt, as a general competence, on the other, when they contextualize the project
432 within the pandemic, they make use of terminology from the natural and health
433 sciences, such as *Sars-CoV-2*, *comorbidity*, *COPD*, *immunosenescence* or *chronic*
434 *inflammation*, integrating in such a way interdisciplinary elements.

435 Directly or indirectly, several reports highlight communication as a competency
436 developed in the project, even through less common means and despite the idleness
437 brought about by the isolation of the pandemic.

438 “At first I didn’t feel comfortable talking to someone I couldn’t see. In the end,
439 I’m more used to communicating by message than by phone call, it seems more
440 personal to me.” (30)

441 Communicative skills are perceived to be related to empathy in the interaction with
442 other people, and the importance of working with the human and not just the purely
443 intellectual is highlighted.

444 “Being able to write a work that is not of research and that is not so much of an
445 intellectual nature, but is of a human nature and of empathy, makes us approach it
446 in a more relaxed way focusing more on people than on information. [. . .] Thanks
447 to this experience, we had to develop our empathy to perform this task, a skill that
448 is paid little attention when it comes to training professionals for jobs that require
449 some kind of attention to the public, but that is very important.” (31)

450 As for the acquisition of educational and professional skills, in addition to re-
451 silience, communicative skills and empathy, the reports present a wide range of
452 results. Students touch with their hands issues related to the discipline, such as the
453 ability of reading to entertain, transmit knowledge and support during the pandemic
454 and lockdowns, a topic that emerges from numerous reports as a result of the interac-
455 tion with elderly. Students also learn to value different sources of information and,
456 in the excerpt below, the authors reflect on personal communication as a source of
457 information different from the “objective” and distant information transmitted by the
458 media.

459 “The media only shows us objective news, there have been few times when they
460 really showed how this generation has coped with the Coronavirus.” (32)

461 Those who tutored in the use of technologies gained experience in the resolution of
462 basic computer incidents.

463 “The problem came when I asked myself how I was going to teach using Google
464 Meet if I didn’t know how to use it. And as they say that every problem has a
465 solution, I set out to find it. The solution came quickly because the internet has a
466 large assortment of video tutorials on how to use it . . . the tablet she used was of
467 Apple, so it has a different operating system from the one I’m used to. This meant
468 that we had to investigate what its use was like.” (33)

469 Finally, by relating to the reality of the elderly, some students develop inquisitive
470 abilities, coming to define authentic research problems. In this sense, it is meaningful
471 the case of three students who discovered important gender differences in the group
472 of elderly they trained, constituted mainly by women. Faced with such disparity and
473 the requests of many women to invite their respective husbands, they managed to
474 encourage many men to take part and at the same time document the reasons for their
475 hesitation, that settled fundamentally on stereotypes and prejudices, on the one hand,
476 and on emotions such as shame, on the other.

477 *d. The “snowball” effect: Results occurred where they were not expected*

478 One of the most surprising results from the perspective of the students has been the
479 ability of some initiatives to reach beyond the people who participated directly in the
480 project, creating a domino or “snowball” effect, as reflected in the fragment below.

481 *“After the Gran Nevada [the Heavy Snowfall], we put up a group with two people*
482 *who needed help. [...], after this, the link was passed via email so that 5 more*
483 *people could join the group and via WhatsApp to the general group that consisted*
484 *of 45 people, and finally the members of the group shared it also via SMS. The*
485 *group has almost ninety people today, and the curious thing about it is that, when*
486 *they have been asking for help, it has been the members of the group themselves*
487 *who have solved the problem.” (34)*

488 From the perspective of the societal value, this experience evidences the unexpected
489 nature of certain results, that, in this specific case, occurred in people who were not
490 part of the project, going beyond the initially defined nucleus of participants.

491 *e. Breaking down stereotypes*

492 Just as the interaction with elderly leads students to know themselves better, it
493 also allows them to discover a reality that they were not aware of, that their lives and
494 elderly’s have much in common, dismantling in this way the stereotype of opposing
495 generational poles.

496 *“... like ours, their classes were online, so if they did not know how to use the*
497 *right technological tools, they could not take their classes.” (35)*

498 *“So, we set out to help them and, without realizing it, they helped us too, because*
499 *we have been able to observe from another perspective many of the problems that*
500 *have arisen as a result of the Coronavirus.” (36)*

501 The awareness that the elderly’s reality and their own have much in common ends
502 up demolishing other prejudices and stereotypes, including some related to gender,
503 the supposed elderly’s ineptitude at technologies, the stereotype of dependence or
504 other generalizations about this stage of life.

505 *“In addition, we have been able to take away from our minds that image that*
506 *they have given us of the elderly, that image of a dependent person who barely*
507 *understands what is happening around.” (37)*

508 *“Some of these people are passionate about technologies and what their evolution*
509 *will be like in the future and like to be updated at all times. However, others not*
510 *so much, and they are content with the little knowledge they have.” (38)*

511 *“[...] I believe that the technological capabilities of older people should not be*
512 *underestimated [...].” (39)*

513 In some cases, students help elderly themselves overcome their own prejudices.

514 *“In this sense, it was mainly women’s spouses in the group who did not want*
515 *to participate in the workshop because they were ashamed. That view was very*

516 *common among male participants, who mentioned stereotypes such as, “Those*
517 *things only serve to gossip” and “That’s women’s stuff.” Or “How am I going*
518 *to go to a Senior Center? Are we crazy?” “Yes, I’m sure I’m the only man.” And*
519 *some more stereotypes that we have been collecting from the different talks that*
520 *we had with them.” (40)*

521 *3.3.1. Sentiment analysis of reflective reports*

522 As mentioned before, in the students’ reports reflection and self-criticism occurred
523 as a consequence of both positive and negative emotional responses in the interaction
524 with the elderly. In this section, we present the data related to sentiment analysis of
525 the 10 reflective reports analyzed previously and of 9 reports of a control group who
526 carried out other activities related to the project that did not require direct interaction
527 with the elderly. The null hypothesis of equality between the two sets could be
528 rejected only for sentiment intensity, that turned out to be significantly higher for
529 the reports corresponding to the telephone tutorials (Student T = 2,188; *p*-value =
530 0.042). Lingmotif also returns a score between 0 and 100%, with the values closest to
531 zero corresponding to a negative sentiment, those closest to one hundred to a positive
532 sentiment and the intermediate values to a neutral feeling. In this sense, the two sets of
533 reports did not differ significantly, with the average of the tutoring group being 53.7%,
534 and the control group 47.4%. However, it is worth noting a not significantly higher
535 percentage of neutral sentences in the control group’s reports (54.5%) compared to
536 the telephone tutorials reports (40.1%), partly corroborating the idea of the emotional
537 rollercoaster that emerges from the reports.

538 *3.4. Interactions with the Senior Center*

539 The emails exchanged with the Senior Center attest to a difficult and often cut
540 off communication, that at times failed for several different reasons including those
541 related to the pandemic or to the integration of new less experienced staff, partly
542 confirming the communication dynamics of previous editions of the project. At one
543 point at the end of October 2020, the elderly contact details initially provided by the
544 Center and shared with Faculty through online documents were withdrawn, because
545 the elderly were not being tutored by students as quickly as the situation demanded.
546 The incident was solved by the Center who appointed a single social worker, well
547 informed about the project, to coordinate the collaboration with the university and
548 sent reassuring messages: “... *we have met and commented on what you have told us*
549 *[...], and, first of all, we want to convey a message of calm, because we have seniors*
550 *to train all the year round... However, what do you think if we firm it up in a meeting*
551 *the next Tuesday...?”* This atypical incident in the relationship between the Center
552 and the university supports the tendency of some partner employees to conceive of
553 students’ participation in terms of increasing organizational capacity, emphasizing the
554 tangible versus non-tangible value of collaboration, though other intangible benefits
555 are also valued. These two tendencies coexist in employees of the same organization

556 that shows, on some occasions more than in others, a not homogeneous and fluid
557 profile. The meetings held both in person and by telephone with the Center allowed
558 to agree on all the decisions necessary for the implementation of the project, to verify
559 elderly's and students' accounts, and to clarify incidents. One additional issue that
560 needed clarification was the cases of conflict between the elderly's and students'
561 accounts, as often they did not report the same experiences. At the final evaluation
562 meeting, the Center's representatives emphasized the peculiarity of a year in which
563 the center's main task had been to provide emotional support to a population deeply
564 affected by the pandemic, with few and limited possibilities for face-to-face meetings.
565 The cases of conflicts between elderly's and students' account and the progressive
566 loss of contact with some elderly were explained as a consequence of the cognitive
567 decline suffered by many elderly and the authentic "invasion" of telephone calls they
568 received throughout the year from social services, city council, NGOs, and many
569 other organizations. In a positive way, the Center highly valued the students' initiative
570 to reach beyond the contacts provided, stretching out to elderly not even linked to the
571 Center, and the fact that they fostered the elderly's capacity for mutual support and
572 autonomy. Likewise, the results of the evaluation carried out by the Faculty team and
573 based on the students' reports and the interviews with elderly were confirmed.

574 **4. Discussion and conclusions**

575 In this case study, we have summarized different data obtained in the execution of
576 a SL project in the Faculty of Information Science of the Complutense University
577 of Madrid in collaboration with two Senior Centers. The experience reported from
578 different perspectives confirms experiential learning as a powerful formative tool for
579 students who, according to the reports provided, advanced in terms of autonomy,
580 development of light competencies and other professional competencies, empathy
581 and civic values, and dismantled prejudices and stereotypes. On the other hand,
582 only 30.1% of the students participating in the project chose to interact directly
583 with the elderly through telephone calls, while the remaining 69.9% preferred to
584 carry out other activities linked to the project or not to participate. In general, the
585 participation in the project has contributed to the training of students in those light
586 competencies that, according to Saunders' survey (2019), are highly valued by active
587 library staff, in particular interpersonal communication, teamwork, customer service
588 skills, interaction with diverse communities, and the ability to exercise professional
589 practice according to reflection based on the values of diversity and inclusion. It
590 has also trained students for the library programming functions that Norlander et al.
591 (2020) envisage for today's libraries as "centers for lifelong experiential learning,
592 hubs for civic and cultural gatherings, and partners in community-wide innovation"
593 (p. 188).

594 As for societal impact, only 22.5% of the participating elderly completed their
595 participation in the project by positively evaluating the interaction with students. Even

596 if some students managed to reach elderly beyond those formally included in the
597 project and, in this sense, the breath of the project may have been larger, the impact
598 achieved may appear relatively small and costly. Follow-up interviews conducted with
599 the elderly indicate that this limited success likely depends on elderly's expectation
600 of service, conditioned by the SL own methodology, which emphasizes "service"
601 and the dysfunctional aspects of the communities, and by the partner mission itself,
602 the Senior Center. By conceiving the collaboration with UCM students in terms of
603 "service", many elderly felt authorized to reject, for different reasons, the students'
604 attempts to offer training or to complain about them, assuming a role of consumers
605 and recipients of a service, rather than collaborators and autonomous participants in
606 the project. McDonough et al. (2017) also detect that community members of their SL
607 project take on a "consumer" role, worrying about students' end products. If we adopt
608 the suggestion of Frank and Sieh (2016) to take into account the concept of role to
609 determine the impact of any strategy based on experiential learning, we can say that
610 the relative failure of the project may be due to the role of recipients of a service that
611 has been assigned to the elderly. In this sense, the interviews also hint at a demand for
612 greater autonomy of many elderly who claim a relationship of equality and that they
613 should be considered for their real capacities in the relationship with the students.
614 In the specific context of the pandemic, Pentaris et al. (2020) note that the message
615 that all people over the age of 70 are more vulnerable and in need of protection has
616 reinforced ageist messages at the expense of recognizing their strengths and resources,
617 denying their right to autonomous decisions, and ignoring the contribution that many
618 of them have made to resolving the Covid-19 crisis.

619 The fact that the content analysis and assessment of the project carried out by the
620 Faculty team has been corroborated by the partner reveals another dimension of the
621 societal value of this type of actions undertaken by higher education institutions.
622 Specifically, in this case, the process of evaluation and reasoned criticism led by the
623 university and based on the perceptions of students and elderly has pointed out the
624 limitations of a collaboration based on asymmetric and unidirectional relationships,
625 conditioned by the very concept of service, and enacted through uncomfortable roles,
626 especially for the elderly, but not only. A feeling of discomfort also emerges from
627 the educational perspective in the reports analyzed in this case study, in the form of
628 an emotional rollercoaster and greater emotional intensity of the reports related to
629 telephone tutorials versus those based on classroom tasks. McDonough et al. (2017)
630 consider that, in their project, it was a feeling of discomfort to push students beyond
631 their comfort zone, functioning as a motivational element. On the other hand, in this
632 project the emotional rollercoaster produces a work of self-criticism and reflection
633 that, together with the supervision received by the direction of the project and drawing
634 on students' capacity to empathize, leads to autonomous decisions especially when
635 it comes to devising appropriate communicative strategies. In this sense, emotional
636 factors should be considered more clearly when evaluating the educational results
637 of SL in its connection with students' behavior because, according to Gelmon et al.
638 (2018), they have been measured from the cognitive, affective, and psychological

639 point of view, attending mainly to psychological aspects and treating little behavioral
640 aspects.

641 References

- 642 Angel, C.M. (2016). Collaboration among faculty members and community partners: increasing the quality
643 of online library and information science graduate programs through academic service-learning.
644 *Journal of Library & Information Services in Distance Learning*, 10(1-2), 4-14.
- 645 Bornmann, L. (2013). What is societal impact of research and how can it be assessed? A literature survey.
646 *Journal of the American Society of Information Science and Technology*, 64(2), 217-233.
- 647 Caspe, M., & Lopez, M.E. (2018). Preparing the next generation of librarians for family and community
648 engagement. *Journal of Education for Library and Information Science*, 59(4), 157-178.
- 649 Chupp, M.G., & Joseph, M.L. (2010). Getting the most out of service learning: maximizing student,
650 university and community impact. *Journal of Community Practice*, 18(2-3), 190-212.
- 651 Cronley, C., Madden, E., & Davis, J.B. (2015). Making service-learning partnerships work: listening and
652 responding to community partners. *Journal of Community Practice*, 23(2), 274-289.
- 653 Cristóbal Querol, G.D., García Moreno, M., Montesi, M., Ovalle Perandones, M., Portela Filgueiras,
654 I., Ramírez Martín, S.M., Ramos Simón, F., Rázquin Zazpe, P., & Villaseñor Rodríguez, I. (2020).
655 Experiencia Aprendizaje y Servicio en el Grado en Información y Documentación. Available at: [https://](https://eprints.ucm.es/id/eprint/62031/1/EXPERIENCIA,%20APRENDIZAJE%20Y%20SERVICIO.pdf)
656 eprints.ucm.es/id/eprint/62031/1/EXPERIENCIA,%20APRENDIZAJE%20Y%20SERVICIO.pdf [Re-
657 trieved June 21st, 2021].
- 658 Daraio, C., & Bonaccorsi, A. (2017). Beyond university rankings? Generating new indicators on universities
659 by linking data in open platforms. *Journal of the Association for Information Science and Technology*,
660 68(2), 508-529.
- 661 de Maio Nascimento, M. (2020). Covid-19: U3A students' report on the impacts of social isolation on
662 physical and mental health and access to information about the virus during the pandemic. *Educational*
663 *Gerontology*, 46(9), 499-511.
- 664 Faure, G., Blundo-Canto, G., Devaux-Spatarakis, A., Le Guerroué, J.L., Mathé, S., Temple, L., Toillier, A.,
665 Triomphe, B., & Hainzelin, E. (2020). A participatory method to assess the contribution of agricultural
666 research to societal changes in developing countries. *Research Evaluation*, 29(2), 158-170.
- 667 Fauzi, M.A., Tan, C.N.L., Daud, M., & Awalludin, M.M.N. (2020). University rankings: a review of
668 methodological flaws. *Issues in Educational Research*, 30(1), 79-96.
- 669 Fernández-Cano, A., Curiel-Marin, E., Torralbo-Rodríguez, M., & Vallejo-Ruiz, M. (2018). Questioning
670 the Shanghai Ranking methodology as a tool for the evaluation of universities: an integrative review.
671 *Scientometrics*, 116(3), 2069-2083.
- 672 Frank, A.I., & Sieh, L. (2016). Multiversity of the twenty-first century-examining opportunities for
673 integrating community engagement in planning curricula. *Planning Practice & Research*, 31(5),
674 513-532.
- 675 Gelmon, S.B., Holland, B.A., & Spring, A. (2018). *Assessing service-learning and civic engagement:*
676 *Principles and techniques*. Boston, Massachusetts: Campus Compact.
- 677 Heyeres, M., Tsey, K., Yang, Y., Yan, L., & Jiang, H. (2019). The characteristics and reporting quality of
678 research impact case studies: a systematic review. *Evaluation and Program Planning*, 73, 10-23.
- 679 James, J.H., & Logan, K. (2016). Documenting the community impact of service-learning coursework:
680 theoretical and practical considerations. *Partnerships: A Journal of Service-Learning and Civic*
681 *Engagement*, 7(2), 17-36.
- 682 Janker, J., & Mann, S. (2018). Understanding the social dimension of sustainability in agriculture: a
683 critical review of sustainability assessment tools. *Environment, Development and Sustainability*, 22,
684 1671-1691.
- 685 Jettner, J., Pelco, L., & Elliott, K. (2017). Service-Learning Community Partner Impact Assessment Report.
686 Virginia Commonwealth University, Richmond, VA. Available at [https://scholarscompass.vcu.edu/](https://scholarscompass.vcu.edu/community_resources/75/)
687 [community_resources/75/](https://scholarscompass.vcu.edu/community_resources/75/) [Retrieved June 21st, 2021].
- 688 Iohnes, I. (2018). University rankings: what do they really show? *Scientometrics*, 115(1), 585-606.

- 689 Lauronen, J.P. (2020). The dilemmas and uncertainties in assessing the societal impact of research. *Science*
690 *and Public Policy*, 47(2), 207-218.
- 691 Lim, S., & Bloomquist, C. (2015). Distinguishing service learning from other types of experiential learning.
692 *Education for Information*, 31(4), 195-207.
- 693 *** City Council (2021). *Carta de Servicios de los Centros Municipales de Mayores*. Available at: ***
694 [Retrieved June 21st, 2021].
- 695 Marullo, S., & Edwards, B. (2000). From charity to justice: the potential of university-community collabo-
696 ration for social change. *American Behavioral Scientist*, 43(5), 895-912.
- 697 McDonough, M.L., Marks, L., & Harris, L. (2017). "A truly inspiring notion:" a case-study of project-based
698 graduate service-learning. *Partnerships: A Journal of Service-Learning and Civic Engagement*, 8(2),
699 63-78.
- 700 Miettinen, R., Tuunainen, J., & Esko, T. (2015). Epistemological, artefactual and interactional-institutional
701 foundations of social impact of academic research. *Minerva*, 53(3), 257-277.
- 702 Mironesco, M. (2018). Community Partner Voices: Service-Learning Perspectives from Hawai'i. *eJEP:*
703 *eJournal of Education Policy*, Spring. Available at: [https://in.nau.edu/wp-content/uploads/sites/135/](https://in.nau.edu/wp-content/uploads/sites/135/2019/01/Mironesco.pdf)
704 [2019/01/Mironesco.pdf](https://in.nau.edu/wp-content/uploads/sites/135/2019/01/Mironesco.pdf) [Retrieved June 21st, 2021].
- 705 Montesi, M., Álvarez Bornstein, B., Cuevas Cerveró, A., Fernández Bajón, M.T., García Moreno, M.A.,
706 Ovalle Perandones, M.A., Ramos Simón, F., Sacristán Sánchez, M., & Villaseñor Rodríguez, I.
707 (forthcoming). Aprendizaje y Servicio en el Grado en Información y Documentación en tiempos de
708 Covid-19. Madrid: Facultad de Ciencias de la Documentación, Universidad Complutense de Madrid.
- 709 Montesi, M., Portela Filgueira, I., Ramírez Martín, S., & Villaseñor Rodríguez, I. (2019). Aprendizaje
710 y Servicio (ApS) en los estudios de Información y Documentación: resultados preliminares de un
711 proyecto UCM. En: Simeão, E., Cuevas Cerveró, A., Botelho, R., & Gómez-Hernández, J.A. (eds.).
712 *Competência em Informação e Políticas para a Educação Superior. Estudos Hispano-Brasileiros*,
713 pp. 162-175. Available at: <https://eprints.ucm.es/id/eprint/59952/25/volumen1.pdf> [Retrieved June
714 21st, 2021].
- 715 Montesi, M., & Rodríguez, I.V. (2018). El impacto social de las instituciones de educación superior: un
716 estudio de caso con la Universidad Complutense de Madrid. *Información, Cultura y Sociedad: Revista*
717 *del Instituto de Investigaciones Bibliotecológicas*, 39, 37-60.
- 718 Montesi, M., Villaseñor Rodríguez, I., & García Moreno, M.A. (2021). Aprendizaje-Servicio en los estudios
719 de Información y Documentación: una experiencia con personas mayores. *Informatio*, 26(1), 280-312.
720 doi: 10.35643/Info.26.1.14.
- 721 Moreno-Ortiz, A., & Pérez-Hernández, C. (2018, May). "Lingmotif-lex: a Wide-coverage, State-of-the-
722 art Lexicon for Sentiment Analysis". In: *Proceedings of the Eleventh International Conference on*
723 *Language Resources and Evaluation (LREC 2018)*, pp. 2653-2659. Available at: [https://www.aclweb.](https://www.aclweb.org/anthology/L18-1420.pdf)
724 [org/anthology/L18-1420.pdf](https://www.aclweb.org/anthology/L18-1420.pdf) [Retrieved June 21st, 2021].
- 725 Most, L.R. (2011). Hands on from a distance: the community-embedded learning model contextualizes
726 online student coursework. *Journal of Education for Library and Information Science*, 52(4), 295-304.
- 727 Mtawa, N.N. (2019). *Human Development and Community Engagement through Service-Learning*. Cham,
728 Switzerland Palgrave Macmillan.
- 729 Ngui, E.M. (2020). "How to Engage Communities in Research". In: Weiss Roberts, L. (ed.), *Roberts*
730 *Academic Medicine Handbook*, Cham, Switzerland: Springer Nature, pp. 347-359.
- 731 Norlander, R.J., Barchas-Lichtenstein, J., Fraser, J., Davis Fournier, M., Voiklis, J., & Danter, E. (2020).
732 Getting consensus about competencies: what's needed for effective library programs. *Journal of*
733 *Education for Library and Information Science*, 61(2), 188-211.
- 734 Nutefall, J.E. (ed.). (2016). *Service learning, information literacy, and libraries*. Santa Barbara, California:
735 ABC-CLIO.
- 736 Pentaris, P., Willis, P., Ray, M., Deusdad, B., Lonbay, S., Niemi, M., & Donnelly, S. (2020). Older people
737 in the context of COVID-19: a european perspective. *Journal of Gerontological Social Work*, 63(8),
738 736-742.
- 739 Poole, A.H. (2021). Promoting Diversity, Equity, and Inclusion in Library and Information Science through
740 Community-Based Learning. In *Diversity, Divergence, Dialogue: 16th International Conference, iCon-*

- 741 *ference 2021, Proceedings, Part I 16 Beijing, China, March 17–31*. Springer International Publishing,
742 pp. 529-540.
- 743 Riddle, J.S. (2003). Where's the library in service learning?: models for engaged library instruction. *The*
744 *Journal of Academic Librarianship*, 29(2), 71-81.
- 745 Roy, L., Jensen, K., & Meyers, A.H. (ed.). (2009). *Service learning: Linking library education and practice*.
746 Chicago: American Library Association.
- 747 Samuel, G.N., & Derrick, G.E. (2015). Societal impact evaluation: exploring evaluator perceptions of the
748 characterization of impact under the REF2014. *Research Evaluation*, 24(3), 229-241.
- 749 Saunders, L. (2019). Core and more: Examining foundational and specialized content in library and
750 information science. *Journal of Education for Library and Information Science*, 60(1), 3-34.
- 751 Scott, E.M. (2020). Redefining the pedagogy: service-learning in libraries and archives. *Pennsylvania*
752 *Libraries: Research & Practice*, 8(1), 37-48.
- 753 Scripps-Hoekstra, L. (2020). "Taking the Campus into the Community: Information Literacy Instruction
754 and Service Learning". In: Schaub, G., McClure, H. (eds.), *Engaging Students through Campus*
755 *Libraries: High-Impact Learning Models*. Santa Barbara, California: Libraries Unlimited, pp. 123-133.
- 756 Smit, J.P., & Hessels, L.K. (2021). The production of scientific and societal value in research evaluation: a
757 review of societal impact assessment methods. *ResearchEvaluation*, rvab002, doi: 10.1093/reseval/
758 rvab002.
- 759 Stevenson, S. (2020). "Community-Led Librarianship Demands an Asset-Based Community Development
760 Approach". In: *ALISE 2020 Proceedings*, pp. 195-202. <http://hdl.handle.net/2142/108812>.
- 761 Tahamtan, I., & Bornmann, L. (2020). Altmetrics and societal impact measurements: match or mismatch?
762 A literature review. *El Profesional de la Información (EPI)*, 29(1).
- 763 Temple, L., Barret, D., Blundo Canto, G., Dabat, M.H., Devaux-Spatarakis, A., Faure, G., Hainzelin,
764 E., Mathié, S., Toillier, A., & Triomphe, B. (2018). Assessing impacts of agricultural research for
765 development: a systemic model focusing on outcomes. *Research Evaluation*, 27(2), 157-170.
- 766 Thompson, V.L.S., & Hood, S.M. (2017). "Academic and Community Partnerships and Social Change".
767 In: Tate, W.F., Staudt, N., Macrander, A. (eds.), *The Crisis of Race in Higher Education: A Day of*
768 *Discovery and Dialogue*. Bingley: Emerald Group Publishing Limited, pp. 127-149.
- 769 Trencher, G., Terada, T., & Yarime, M. (2015). Student participation in the co-creation of knowledge and
770 social experiments for advancing sustainability: experiences from the University of Tokyo. *Current*
771 *Opinion in Environmental Sustainability*, 16, 56-63.
- 772 Trencher, G., Yarime, M., McCormick, K.B., Doll, C.N., & Kraines, S.B. (2013). Beyond the third mission:
773 exploring the emerging university function of co-creation for sustainability. *Science and Public Policy*,
774 41(2), 151-179.
- 775 Tuunainen, J., & Kantasalmi, K. (2017). Advancing Understanding about the Relationship between Science,
776 University and Society-An Introduction [Guest Editorial]. *Science & technology studies*, 30(2), 2-13.
- 777 United Nations (2020). *Policy Brief: The Impact of COVID-19 on older persons*. Available at: [https://](https://unsdg.un.org/sites/default/files/2020-05/Policy-Brief-The-Impact-of-COVID-19-on-Older-Persons.pdf)
778 [unsdg.un.org/sites/default/files/2020-05/Policy-Brief-The-Impact-of-COVID-19-on-Older-Persons.](https://unsdg.un.org/sites/default/files/2020-05/Policy-Brief-The-Impact-of-COVID-19-on-Older-Persons.pdf)
779 [pdf](https://unsdg.un.org/sites/default/files/2020-05/Policy-Brief-The-Impact-of-COVID-19-on-Older-Persons.pdf) [Retrieved June 21st, 2021].
- 780 Wolf, B., Lindenthal, T., Szerencsits, M., Holbrook, J.B., & Heß, J. (2013). Evaluating research beyond
781 scientific impact. How to include criteria for productive interactions and impact on practice and society.
782 *GAIA-Ecological Perspectives for Science and Society*, 22(2), 104-114.