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Service Learning and E-Service Learning as a Tool for Supporting Social Work Clients' Problem Solving in the Context of Sustainable Development

ABSTRACT

The aim of the present paper is to discover what experience higher education teachers have of service learning and e-service learning. The paper emphasizes the importance of anchoring the service learning in university education through its institutionalization. In addition, it presents the benefits and limitations of service learning in online education and, based on the students' and practitioners' feedback, reflects on the potentials of this method and strategy in enhancing the

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status of social work and supporting sustainable development, as an element of integration and social responsibility.

INTRODUCTION

Currently, in social work, the need to use approaches aimed at supporting communities is advocated. Social workers, referred to as "agents of change", are expected to fulfill a transformational role in communities since they support both the development and sustainability of communities, and thus improve their social functioning. Therefore, one needs community initiatives that address innovation, balanced development, inclusion and joint problem solving. In order to guarantee and support sustainable development, it is necessary to change the perspective from which the role of social work as a profession is viewed and start treating it as a profession which actively strives to achieve transformation in the above-mentioned issues. Therefore, educators' task is to enhance innovative teaching and learning methods and strategies that can be instrumental in effective training of future social workers who can bring about and enhance meaningful transformation, support communities, shape their role and support the collective image of social work consistent with its specifics and mission.

The following section addresses specific possibilities of enhancing the status of social work and sustainable development through social work undergraduate training while using service learning. In addition, we present the results of students' reflection, as well as analysis of evaluation questionnaires, feedback from community partners and analysis of guided group discussions with practitioners. In order to obtain a comprehensive overview of the impact of service learning and e-service learning on all

the agents involved, the section is based on secondary analysis of research data.

Institutionalization of service learning at higher education institutions

Service learning is a teaching/learning method and strategy that has been used at the Institute of Education and Social Work of the Faculty of Arts of the University of Prešov since 2012. Over those years, a number of projects have been implemented equally pursuing educational goals and the features of social work as a service. The abovementioned essential characteristics distinguish service learning from other forms of community involvement. Service learning is thus defined as

> an innovative pedagogical approach that integrates meaningful community service or engagement into the curriculum and offers students academic credit for the learning that derives from active engagement within community and work on a real world problem. Reflection and experiential learning strategies underpin the process and the service is linked to the academic discipline. (McIlrath et al., 2016, p. 5)

Service learning is a pedagogical approach and experiential didactic method through which students participate in activities that address human, social and environmental needs (Ribeiro et al., 2021). It encompasses civic involvement, reciprocity and reflection, the presence of which is inevitable throughout the entire process and consists of several stages (Skyba & Šoltésová, 2014).

Service learning is a strategy in teaching/learning that provides a lot of noticeable benefits for trainees, such as enhancement of academic achievement, personal growth and civic involvement; development of metacognitive competences; grasp of strategic planning; ability to extract vital information; enhancement of students' self-esteem, leadership competence and teamwork skills;

awareness of diversity and otherness; enhancement of global competences and multicultural competences, development of a sense of responsibility; enhancement of self-reflection, creativity and the ability to propose viable solutions; acquisition of knowledge pertaining new modes of working with clients, etc. (Astin et al., 2000; Conway et al., 2009; Simons & Cleary, 2006; Engberg & Fox, 2011; Einfeld & Collins, 2008). Service learning also contributes to establishing partnerships between the university and trainees, on the one side, and the community, on the other side, and aims at fulfilling the third mission of higher education institutions, namely engagement in activities supportive of building and developing civil society. Providing assistance to institutions or community partners in improving the quality of the service and in handling their everyday issues is another major asset.

In higher education, the significance of service learning primarily derives from the necessity to develop students' social responsibility, civic engagement and critical thinking. Universities are thus expected to create structures and suggest procedures for the institutionalization of service learning which would embody values with regard to inclusion, justice and equity. In 2021, in order to support the implementation of service learning, the European Association for Service Learning in Higher Education (EASLHE) conducted a research study. Researchers investigated the level of institutionalization of service learning in universities and defined it as "a social process that transforms institutional values and principles into action through specific professional work at the European higher education institutions" (Ribeiro et al., 2021, p. 8). We may add that the activity in question ought to target engaged students while relying on the institutional background. In such a manner, the activities will be beneficial for all the involved agents. The institutionalization of service learning occurs when all its particular areas are included and these were also taken into consideration when anchoring service learning in higher education institutions.

According to Ribeiro and colleagues (2021), the areas in question include institutional involvement (internal practices and experience supporting the implementation of service learning at higher education institution – volunteering, community involvement, community services, international cooperation, problem-based learning, community research, project-based learning, participatory action research, internships, etc.); using terminology resulting from the mission and principles of service learning; allocation of funding and applying financial strategies in order to achieve sustainability; supporting infrastructure – management coordination points, coordination of procedures, networking, promotion, opportunity mapping, interconnecting higher education institutions and the wider community, counseling; evaluating projects, courses, curricula, teaching portfolios and working conditions; development of international service learning projects; research on all stakeholders, partnership, societal needs and resources, joint/participatory research in collaboration with the community partners of a higher education institution; integration of didactic principles and specific requirements of service learning into course descriptions and consideration of schedule and other conditions for students in order for them to identify the causes justifying the need for their service; institutional support and marketing (course publicity, course offerings, support of conferences and other events, creating websites, online platforms, and databases of current and future projects); partnership with the community (partnership agreements that clarify the responsibilities and roles of each stakeholder), etc.

The results revealed diverse perceptions of the role of the university as well as the need for supporting this strategy, the implementation of which is not smooth. The process ought to be backed by policies that would assist in supporting the above-mentioned areas of institutionalization, eliminate restrictions and cope with the challenges arising from the implementation

procedure in higher education practice. One such challenge was the COVID-19 pandemic period.

The closure of university campuses due to the pandemic disrupted the courses based on the service learning method. Educators were thus faced with the daunting task of adapting course content to the new situation in order to help students meet the course requirements. In various countries, higher education institutions and departments pleaded with all responsible actors in the education institution and the community to decide on the best mode of completing community projects through project-based distance learning and indirect activities.

These included, for example, conducting research and gathering examples of best practices and other data requested by community partners; running virtual workshops for the community partners; using research outcomes, brainstorming and strategies that would be helpful in creating proposals for indirect support of volunteers involved; implementing virtual support for youth and adult education,[1] etc. (PHENND, 2020).

After the outbreak of the COVID-19 pandemic, a massive acceptance of distance learning and acknowledgment of its benefits was apparent (Ali, 2020). As illustrated, the circumstances related to the pandemic also affected the service learning-based courses in which students can reflect on their experience, extend the acquired knowledge and develop civic responsibility. Especially during that period, pursuit of effective forms of distance learning including service learning became dominant in improving the quality of undergraduate training.

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[1] IESP students of Service Learning and Field Social Work carried out a survey using the content analysis of community social service plans and thus brought relevant information beneficial also for the organizations in which the individual service learning activities were to be carried out. At the same time, they served as an argumentative platform for designing proposals for improving the quality of existing services for selected target groups.

E-service learning: benefits and limitations

E-service learning (e-SL) is an educational method in which service learning takes place online along with the application of various tools supporting and enabling online communication. E-service learning is considered an electronic form of experiential learning that takes place in an online environment.

It relies on the Internet and state-of-the-art technologies that enable all agents to collaborate and participate remotely in activities that are prearranged, experiential, that support civic responsibility, and focus on meeting community needs while aim at achieving educational goals (Malvey, 2006). There are four types of e-SL: online learning and on-site service, on-site learning and online service, learning and/or partly on-site and partly online service, and complete online service and learning. The first three types are referred to as hybrid (mixed) models, and the fourth one is a homogeneous (single-cast) model (Waldner et al., 2012).

A juxtaposition of service learning and e-SL yields interesting results. When evaluating the results of the students' reflection on the e-SL-based course, it became clear that the students improved in both knowledge and skills (Figuccio, 2020), which was observed in a better understanding of people with disabilities targeted by the project, their increased engagement, in gaining positive experience, being able to link their theoretical knowledge acquired in the course with practice, the positive impact of the acquired experience on their future decision-making in their professional practice. The students involved in the traditional project-based service learning did not manifest significant differences in any of the above-mentioned areas compared to e-SL students. In their reflection, the students involved in distance learning claimed that online interactions with people with developmental disabilities as well as their experience with e-services reduced their anxiety levels.

They also expressed greater satisfaction with the e-SL course than with the traditional service learning course, which requires

personal contact. In the assessment, the students specified that the form of e-SL and the assignments were more relevant for the course objectives, the teaching materials and aids were more useful and interesting compared to the feedback given by the students who completed service learning courses. Both groups had the same course teacher, followed identical course content, and were given evaluation. The difference was merely in the specific service learning activity.

Currently, there is no conclusive evidence on the effectiveness of e-SL. Despite this disadvantage, the benefits of this form of service learning are manifested in similar positive impacts evidenced by research on face-to-face service learning. Specifically, positive impact may be exemplified by the development of presentation skills, enhancement of self-confidence, greater awareness of social justice and citizenship, enhancement of leadership skills, greater life satisfaction, etc. (Lin & Shek, 2021; Culsaci, 2022; Wong & Lau, 2022). The advantages of e-SL, compared to its traditional face-to-face form, include environmental protection through the reduction of carbon dioxide emissions, which is explained by the fact that students do not need to commute. Energy costs and course-related expenditure are also brought down, which likewise contributes to economic sustainability (Caird et al., 2015; Versteijlen et al., 2017). On the other hand, the limitations of e-SL are documented by limited interaction between service providers and beneficiaries, insufficient communication between interested parties and a lower degree of direct checking of the students' service performance by teachers (Waldner et al., 2010; Wong & Lau, 2022).

Research study regarding the barriers and facilitators of e-service learning illustrate that students perceived an improvement in problem-solving skills (Yu et al., 2023). Further benefits may be seen in extending knowledge of the subject area, developing personal qualities (such as resilience and citizenship values) and developing positive emotions. Well-prepared e-SL teachers, who

play a key role in service delivery, were emphasized as facilitators of effective e-SL learning. Such teachers safeguard clear instructions and good course coordination; clear and logical sequence of actions, including appropriate timetables and effective procedures helpful for students in achieving their goals; activities aimed at increasing their cultural awareness and positive perception of the experience with e-services.

The following circumstances were considered to be major barriers that may hinder students from acquiring positive results (Yu et al., 2023): the lack of opportunities to perform practical activities on the site depriving students of the ability to apply acquired knowledge in real-life contexts; online communication issues between interested parties with a subsequent negative impact on the efficacy of the service, unstable Internet connection that disrupted the procedures and caused students' frustration.

With regard to the institutionalization of e-SL in higher education, in accordance with EASLHE research (Ribeiro et al., 2021), the following factors may be considered as limitations. Based on recent research studies, the above-mentioned authorities claim that most workplaces do not have websites, databases on initiatives in service learning. Another detected limitation was the lack of data regarding online domains intended for submitting students' and/or teachers' proposals for service learning projects.

No evidence of promoting service learning courses was found either. Institutional support for online collaborative platforms on which service learning providers, students, employers, and community members would convene in order to identify community needs was also underdeveloped. On the positive side, there are institutional initiatives in the higher education institutions intended to support service learning and all students' participation in service learning projects, regardless of their age, culture, race, and socioeconomic status. Openness to students coming from different backgrounds is also related to social sustainability since it enhances accessibility to resources, meeting the needs of

all people and integrating disadvantaged population segments into community life.

Supporting the status of social work and sustainable development through service learning and e-service learning
Service learning may be considered a tool for supporting the institutionalization of social work through social workers' development and engagement, initiative and interest in effectively solving partial problems of social work practice, and likewise a tool for supporting the practical training of social workers for the provision of services, namely in enhancing the effectiveness of interventions, responsibility and individual competencies essential for effective help to clients, for interprofessional cooperation and demonstration of the benefits of social work.

Years of experience in the field and the feedback obtained from community partners and our students' mentors have brought us to this conclusion. When preparing the courses, we have developed a methodology for evaluating the impact of service learning as viewed by tutors, mentors and students. In this section of the paper, we will present students' opinions on their progress in various domains, such as creativity, future profession, cognitive abilities, self-realization, etc. Students had the opportunity to experience service learning provided through traditional methods. In all areas, students evaluated the service learning method more positively than the traditional methods. The most positive assessment was observed in creativity, personal involvement within the community and self-realization. We noticed the most significant changes in students' ability to apply theoretical knowledge to solving community issues, to reflect on ethical issues, to apply research methods in identifying real social needs and community issues and in their potential to contribute to societal change.[2]

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[2] Especially revealing are the students' reflections on their experience gained through service-learning. The benefits that have been listed include enhancing

On the basis of our findings, the support of sustainable development of pre-service education in both face-to-face and distance learning methods may be exemplified by: 1) arousing students' and young people's interest in community life in terms of developing social capital and community, enhancing civic involvement and involvement in community life; 2) projects and activities aimed at promoting environmental protection, environmental justice and ecological stability; 3) activities and projects promoting inclusion, solidarity, mutual respect, understanding and observance of human rights.

In Slovak academia, sustainable development is defined as "the development that sustains the opportunity for current and future generations to satisfy their basic life needs while not reducing the environmental diversity and preserving the natural functions of ecosystems".[3] This synergistic process consists of several facets, among which social sustainability and, from our perspective, also social work, play an important role. This claim is supported by the key preconditions for social development,[4] which include people's participation in social events, inclusion of disadvantaged people, removal of physical restrictions on participation, accessibility to resources for all, etc. The environmental dimension of sustainable development is related to the efforts to reduce environmental threats, and within these initiatives various measures have been

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interest in volunteering, being able to cope with the existing stereotypes, proposing effective solutions, developing the skills and knowledge necessary for working with a target group of clients, developing presentation skills, enhancing interest in expressing views on professional provision of social assistance, raising awareness of one's own ability to improve the social functioning of clients and specifying ideas on one's further professional life. See also Skyba and Balogová (2019, pp. 64–74).

[3] Act No. 17/1992 Coll. on the environment as amended, retrieved February 14, 2024, from https://www.zakonypreludi.sk/zz/1992-17

[4] *Declaration on Sustainable Social Development, Disability and Ageing*, 2004, retrieved February 13, 2024, from https://cjwalsh.ie/wp-content/uploads/2020/04/2004-Rio-Declaration_SocialDevelopment-Disability-Ageing.pdf

taken including distance/online learning. This mode of learning includes reduction in energy consumption and decrease in carbon dioxide emissions. Positive impacts are obvious in several areas (Yu et al., 2023): 1) in environmental issues – reduction of carbon footprint, energy savings, lower consumption of materials); 2) in social issues – making international education accessible to a wide range of students, meaningful learning from the comfort of home, increasing opportunities for participation in international education for students coming from various socio-economic backgrounds; 3) economic sustainability – saving costs associated with face-to-face teaching, and 4) elimination of geographical restrictions.

Sustainable development can also be ensured thanks to committed social workers who strive for making changes. In this regard, we sought the professional practitioners' opinions obtained from guided group discussions on the current status of social work. In the analysis of the data obtained from the discussions, the following categories were noted:

– *financial remuneration*, which reflects low status and underestimates the societal role of social work);
– *cooperation*, through which the following needs were verbalized: the need for mutual support and respect for the plurality of opinions among social workers resulting from the diversity of practice, integrated care in multidisciplinary professional teams interlinking different levels of care, joint perspective of and response to changes and provision of timely intervention;
– *personal prerequisites of social workers:* in this area, congruence was specifically stressed, understood as the harmony between the social workers' behavior, actions and experience;
– *openness to volunteering*, in which the need for recognizing the importance of volunteering in providing help and services to clients was stressed;
– *the diversity of social workers' roles* – heterogeneity was described as a feature of practice which requires committed professionals,

performance of a variety of roles in an effort to mobilize the clients' potential.

Figure 1. Collective image of social work.
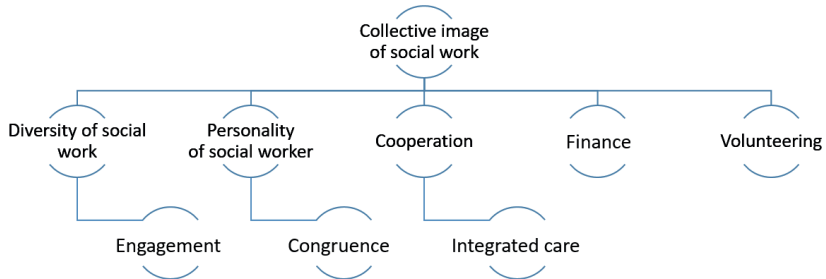
Note. Own elaboration.

In summary, we may claim that the collective image is not a static category, it is rather a dynamic one, for the creation of which social workers are to be responsible. According to the results presented above, it can be assumed that service learning and its forms contribute to a positive collective image of social work through developing personal prerequisites, supporting engagement, cooperation (as a prerequisite for the support of the social workers' collective identity which may unite them in pursuing common goals) and training active social workers who would contribute to sustainable development and societal change, and thus would be able to fully develop their potential and, eventually, contribute to societal change in motivating other young people to adopt various models of community engagement. The personality of a committed mentor is also an extremely important precondition.

CONCLUSION

There are several factors hindering the application E-service learning in education. From the results presented above it follows that it is necessary to bear in mind the specifics of e-SL and carefully design the courses, consider the technical support, ensure cooperation with partners well ahead before the course commences, and also pilot test the online platform. The conducted research indicates that the form of e-SL does not have a significant impact on the quality of the course and its benefits as perceived by the students; contrariwise, the benefits are analogous to the benefits of service learning. The explored benefits of service learning and e-SL justify the assumption that these methods and strategies enhance the status of social work and sustainable development. Despite the demonstrable positives, educational practice shows that a number of educators still consider distance/online learning as not quite appropriate in the implementation of service learning-based courses (Waldner et al., 2012). To some extent, the reason may be the fact that it is a relatively new pedagogical practice. In reality, however, the online environment appears to be perceived as an important facilitator of e-SL because it eliminates geographical limitations and supports several principles of sustainable development, such as human resource development, ecological stability, aid support and self-help, solidarity in the sense of tolerance and understanding, mutual help and shared responsibility. Social work as a profession is based on values such as human rights, social justice and human relations.

Altogether, these are the values fostered by specific dimensions of service learning, within which, in line with the present research results, it is desirable to take into account the benefits in practicing active citizenship, developing critical thinking, supporting social and economic sustainability, protecting environment, developing social capital, providing mutual aid, support system and social functioning of communities while also supporting their

sustainability and not only growth. In accordance with the support of sustainable development, the issue of institutionalization of service learning and e-SL in the higher education institutions is getting in the forefront. With regard to the benefits of service learning, we consider it appropriate to trigger discussion and research on facilitators and barriers in order to optimize the conditions for the full establishment of service learning and e-SL in the higher education institutions, which have a significant potential to jointly contribute to the support of the effective training of social workers and implementing community initiatives in line with achieving meaningful societal change.

REFERENCES

Ali, W. (2020). Online and remote learning in higher education institutes: A necessity in light of COVID-19 pandemic. *Higher Education Studies* 2020, *10*(3), 16–25. https://doi.org/10.5539/hes.v10n3p16

Astin, A. W., Vogelgesang, L. J., Ikeda, E. K., & Yee, J. A. (2000). *How service learning affects students*. UCLA Higher Education Research Institute. Retrieved February 15, 2024, from http://heri.ucla. edu/pdfs/hslas/hslas.pdf

Caird, S., Lane, A., Swithenby, E., Roy, R., & Potter, S. (2015). Design of higher education teaching models and carbon impacts. *International Journal of Sustainability in Higher Education*, *16*(1), 96–111. https://doi.org/10.1108/IJSHE-06-2013-0065

Conway, J. M., Amel, E. L., & Gerwien, D. P. (2009). Teaching and learning in the social context: a meta-analysis of service learning's effects on academic, personal, social, and citizenship outcomes. *Teaching of Psychology*, *36*(4), 233–245. https://doi.org/10.1080/00986280903172969

Culsaci, I., Russo, C., & Cinque, M. (2022). E-Service learning in higher education: Modelization of technological interactions and measurement of soft skills development. *Journal of Higher Education Outreach and Engagement*, *26*(3), 39–55.

Einfeld, A., & Collins, D. (2008). The relationships between service learning, social justice, multicultural competence, and civic engagement. *Journal of College Student Development*, *49*(2), 95–109. https://doi.org/10.1353/csd.2008.0017

Engberg, M. E., & Fox, K. (2011). Exploring the relationship between undergraduate service learning experiences and global perspective-taking. *Journal of Student Affairs Research and Practice*, *48*(1), 83–103. 10.2202/1949-6605.6192

Figuccio, M. (2020, December 10). Examining the efficacy of e-service learning. *Frontiers in Education*, 5. https://doi.org/10.3389/feduc.2020.606451

Lin, L., & Shek, D. T. L. (2021). Serving children and adolescents in need during the COVID-19 pandemic: Evaluation of service learning subjects with and without face-to-face interaction. *International Journal of Environmental Research and Public Health*, *18*(4), Article 2114. https://doi.org/10.3390/ijerph18042114

Malvey, D. M., Hamby, E. F., & Fottler, M. D. (2006). E-service learning: A pedagogic innovation for healthcare management education. *Journal of Health Administration Education*, *33*(2), 181–198.

McIlrath, L., Aramburuzabala, P., Opazo, H., Hopia, A., & Grönlund, H. (2016, April). *Europe Engage survey of civic engagement and service learning activities within the partner universities* [Europe Engage Erasmus + EU project]. Retrieved February 10, 2024, from https://europeengagedotorg.files.wordpress.com/2016/04/report-euen-mcilrath-et-al4.pdf

Národná stratégia trvalo udržateľného rozvoja [National strategy for sustainable development]. (2001). Retrieved March 16, 2024, from https://www.minzp.sk/files/dokumenty/strategicke-dokumenty/narodna-strategia-trvalo-udrzatelneho-rozvoja.pdf

Návrh národných priorít implementácie Agendy 2030 [Draft national priorities for implementation of the 2030 Agenda]. (2018). Retrieved March 17, 2024, from https://mirri.gov.sk/wp-content/uploads/2018/10/N%C3%A1vrh-n%C3%A1rodn%C3%BDch-prior%C3%ADt-implement%C3%A1cie-Agendy-2030.pdf

PHENND [Philadelphia Higher Education Network for Neighborhood Development] (2020). *COVID-19 and community-based learning/service learning courses.* Retrieved May 20, 2020, from http://phennd.org/update/covid-19-and-community-based-learning-service-learning-courses

Ribeiro, Á., Aramburuzabala, P., & Paz-Lourido B. (2021). *Research Report on the institutionalisation of service learning in European higher education. Research procedures and main findings*. European Association of Service learning in Higher Education. Retrieved March 15, 2024, from https://www.eoslhe.eu/wp-content/uploads/2022/02/Research-report_2021_web.pdf

Simons, L., & Cleary, B. (2006). The influence of service learning on students' personal and social development. *College Teaching*, *54*(4), 307–319.

Skyba, M., & Šoltésová, D. (2014). *Service learning vo vzdelávaní (školských) sociál-nych pracovníkov a* pracovníčok [Service learning in the education of (school) social workers]. Faculty of Philosophy, Prešov University.

Skyba, M., & Balogová, B. (2019). Service learningové aktivity na inštitúte edu-kológie a sociálnej práce FF PU v Prešove [Service learning activities at the Institute of Educational Sciences and Social Work, Faculty of Philosophy PU in Prešov]. In Z. Bariaková & M. Kubealaková (Eds.), *Vzdelávame pre budúcnosť. Zborník vedeckých a odborných štúdií* (pp. 64–74). Belianum.

Versteijlen, M., Salgado, F. P., Groesbeek, M. J., & Counotte, A. (2017). Pros and cons of online education as a measure to reduce carbon emissions in higher education in the Netherlands. *Current Opinion in Environmental Sustainability*, *28*, 80–89. https://doi.org/10.1016/j.cosust.2017.09.004

Waldner, L., McGorry, S., & Widener, M. (2010). Extreme e-service learning (XE-SL): E-service learning in the 100% online course. *Journal of Online Learning and Teaching*, *6*(4), 839–851.

Waldner, L. S., Widener, M. C., & McGorry, S. Y. (2012). E-service learning: The evolution of service learning to engage a growing online student population. *Journal of Higher Education Outreach and Engagement*, *16*(2), 123–149.

Wong, M. M. L., & Lau, K. H. (2022, May 6–8). *The effectiveness of e-service learn-ing on student developmental outcomes during COVID-19: Comparison against the traditional service learning* [Paper presentation]. 3rd World Conference on Education and Teaching, Budapest, Hungary.

Yu, L., Du, M., & Zhou, X. (2023). E-Service learning during the COVID-19 pandemic: The experiences of mainland Chinese students enrolled at a Uni-versity in Hong Kong. *Sustainability*, *15*(12), 1–19. https://doi.org/10.3390/su15129211