

Challenges and Most Significant Achievements of Students Participating in a Community-Based Research Service-Learning Course: A Qualitative Interview Study

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Abstract

This qualitative interview study examines the work and output achieved in a specific teaching project that focused on the complex social issue “social inequality, poverty and housing” from students' perspectives. The teaching project included elements of community-based research and service-learning, lasted two semesters and was carried out at the Ruhr University Bochum as part of the bachelor degree programme in geography. This study aims to develop an understanding of the challenges and difficulties the students faced. In addition, we were interested in finding out what the students considered to be their most significant achievement made in the project work. We conducted qualitative interviews with 13 students, out of the 15 students who participated until the end of the course. Two of the very open interview questions focused on the mentioned research objectives. After transcription and pseudo-anonymisation, the interviews were analysed using qualitative content analysis (inductive category formation method). It became apparent that the challenges were primarily in the following areas: defining the direction of research, defining the research questions, and difficulties in finding a community partner. The students considered the most significant achievements to be in the areas of acquiring a community partner, good teamwork and team building. Despite the restrictions imposed during the COVID-19 pandemic and the necessary changes to the course structure, the study's results provide important insights for course instructors who wish to adopt similar teaching approaches, highlighting the challenges faced by students and their achievements.

Keywords: challenge, performance, students, community-based research, service-learning

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Introduction

The effects of service-learning have been the object of various empirical studies. A good overview is provided by the reviews of Celio et al. (2011), Conway et al. (2009) and Eylers et al. (2011). Other teaching approaches, such as research-based teaching and learning or community-based research, which we combined with elements of service-learning in our university course, have also been, and continue to be, the subject of empirical studies. The effects of the research-based teaching and learning approach are discussed in Thiem et al. (2023) and Wessels et al. (2021). The benefits of both approaches are well documented in the literature; therefore, there are many reasons to use them in higher education. On the other hand, project-oriented courses that are planned and implemented according to these teaching approaches place increased demands on students in terms of independent work, self-competence and motivation. As a rule, the necessary amount of work cannot be precisely determined; it evolves as the project progresses. Such university project courses also place high demands on instructors, often increasing their workload, requiring greater flexibility, and necessitating a different understanding of their role as university lecturers.

As part of the accompanying research for a community-based research service-learning course on social inequality, poverty, and homelessness in the old industrialised region of the Ruhr area, we were interested in how the participating students perceived the challenges they faced. And what they personally consider to be their greatest achievement. To be able to draw conclusions for our own teaching practice, in the sense of whether the additional effort required by such university courses for students and instructors is worthwhile.

Our qualitative research study focused on the following two research questions:

- What major challenges did the students have to overcome in the project? (RQ 1)
- What are the most significant achievements that the students have made in the project from their personal point of view? (RQ 2)

The course examined was an elective course within the “study project” module in the third year of the bachelor's programme in geography at Ruhr University Bochum. In this module, collaborative team-based project work on a specific scientific topic or question is the main focus, using various scientific data collection and analysis methods (cf. Geographisches Institut der Ruhr-Universität Bochum, 2022). The development of the specific course design, which attempted to combine elements of both teaching methods mentioned above – service-learning and research-based teaching and learning or community-based research – in an innovative way, as well as the accompanying research for the course, was funded by a teaching grant from the university (university programme research-based learning, cf. Ruhr University Bochum, 2020) and a follow-up funding from the Institute of Geography.

An important component of the year-long course was working in student research teams under the guidance of the responsible instructor, who also served as the study's principal investigator. Ultimately, three student teams remained, each working on a research topic of their own, selected from the overarching topic of social inequality, poverty, and homelessness. There were 16 students, 15 of whom successfully completed the course. The student research teams' research topics were selected in consultation with community partners, social organisations in the case-study cities of Bochum and Essen. Before the COVID-19 pandemic began, several meetings were organised with representatives of social organisations, our community partners. In addition, on some of these occasions, contact was also made with homeless or formerly homeless people, and informal discussions were held. Following the outbreak of the COVID-

19 pandemic, the course was converted to an online format. The final assessment for students consisted of a group presentation of the results achieved and a written project report per group. Table 1 in Bittner (2025) identifies which elements of the course described above are attributable to the service-learning approach and the research-based teaching and learning approach. More detailed information about the course participants is provided in Bittner and Kempchen (2024).

Methods

In this section, we present the study's research design and describe the data collection and analysis procedures employed.

Research Design and Setting

We designed a qualitative study to investigate the challenges and achievements of students in a community-based research service-learning course. We sought to address our research questions with the greatest possible openness and were interested in personal narratives and detailed information from a limited number of study participants. The qualitative approach, therefore, seemed appropriate (cf. e.g. Creswell & Poth, 2018; Flick, 2018; Kruse, 2015; Panke, 2018). The study participants were recruited after the end of the university course “social inequality, poverty and housing” in the bachelor degree programme in geography by approaching the students who had attended the course. Participation in the qualitative interview study was voluntary for the students. Of the 15 course participants, 13 agreed to take part. The course, which was examined as part of accompanying research funded by a teaching grant from the university, lasted one year and took place in the academic year 2019 and 2020.

Participants

Among the students involved in the study, more were female. Five were male (38.5%), and eight were female (61.5%), who gave their consent to give an interview. The study participants were between 21 and 27 years old (see Appendix A). More than 80 % were born and raised in the federal state of North Rhine-Westphalia in Germany.

Data Collection

We obtained data through qualitative, highly open-ended interviews. The interviews followed an interview guide developed in advance, according to the procedures described by Helfferich (2011) and Kruse (2007, 2015). In a multi-stage process, a large number of possible interview questions were developed for the comprehensive research study, which included further sub-studies with other research focuses, checked for suitability, and subsumed and sorted. An interview guide comprising 12 narrative-generating key questions was developed. For each key question, follow-up questions were formulated to maintain the flow of the conversation and elicit longer responses to the key question and additional information. In addition, potential follow-up questions were noted in the interview guide in advance to be asked as needed.

The following two very open-ended and narrative-generative key questions in the longer interview guide related to the two research questions of the sub-study presented in this paper:

- In the first phase of the project, what has been the most difficult task or the biggest challenge you have faced personally? Could you please describe it in more detail?

- From your point of view, in the first phase of the project, what is the biggest and most significant achievement you have made so far in the project work? Could you please describe it in more detail!

Because the study coincided with the COVID-19 pandemic and social distancing regulations were in place, the interviews were conducted online. The Zoom conference system was used for this purpose. The second author of this paper was responsible for conducting the qualitative interviews. We sought to minimise the influence of power imbalances on the interview process. The interviews were therefore conducted by the student assistant working in the project, a master student in geography specialising in urban and regional development. Immediately after the interview, the interviewer noted the specific features and peculiarities of the interview situation in a postscript. The interviews were recorded using a digital audio recording device. The total interview duration, covering all 12 key questions in the interview guide, ranged from 21 to 60 minutes. They were transcribed in full according to the rules of the transcription system by Dresing & Pehl (2018), content-semantic transcription. Pseudonymisation was carried out.

Data Analysis

We chose qualitative content analyses to analyse the interview transcripts, following the approach described by Mayring (2010a, 2010b, 2022a; Mayring & Frenzl, 2019). MAXQDA Pro software, version Release 22.8.0 (Kuckartz, 2010; Rädiker & Kuckartz, 2019) was used by the principal investigator of this research study to perform the data analysis software-assisted, to compile interview transcripts, audio files, postscripts and data collection instruments in a project folder and to document the processing and analysis steps carried out. The use of the AI-assistant for data analysis was deliberately avoided. In this context, we refer to Mayring's (2025) study results, which support our concerns. The data analysis performed corresponds to the inductive category formation method described by Mayring (2010a, 2010b, 2022a). The categories were derived from the interview transcripts, which were read and analysed line by line. The context unit for the analysis was defined in advance as the interview transcript. The coding unit was set to the clear meaning component. It should be noted that the interview quote examples listed in Appendix B, C, and D for the individual categories are generally longer for illustrative purposes and may also include several related sentences.

Results

This section summarises the main findings of the qualitative interview study. The results are presented in the order of the two research questions addressed. We follow Mayring's (2010b, 2022a) recommended presentation of the results and report frequencies for the main categories in the tables. The reference here is the documents, the interview transcripts.

Major Challenges

First, we turn to the results of RQ 1, which addresses the most significant challenges in the project. The inductive category formation process resulted in the following main categories: “define the direction of research”, “define research questions”, “difficulties finding a community partner”, “appointments/ establishing contact with vulnerable individuals”, “appointments/ establishing contact with social organisations”, “coping with circumstances caused by the COVID-19 pandemic”, “counteract lack of motivation”, “coming/ working together as a team”, “recruitment of community partners (decision-making)”, “finding a theoretical background” and “giving a presentation”. The frequencies for these main categories

are shown in Table 1. The following three main categories are most commonly represented: a) define the direction of research (53.8 %, 7 out of 13 interviewees), b) define research questions (38.5 %, 5 out of 13 interviewees), and c) difficulties finding a community partner (23.1 %, 3 out of 13 interviewees).

Table 1

Frequencies of Main Categories (Documents With Codes) – Major Challenges and Difficulties of the Students in the Community-Based Research Service-Learning Course

	Documents	Percentage	Percentage (valid)
Define the Direction of Research	7	53.1	53.8
Define Research Questions	5	38.5	38.5
Difficulties Finding a Community Partner	3	23.1	23.1
Appointments/ Establishing Contact with Vulnerable Individuals	2	15.4	15.4
Appointments/ Establishing Contact with Social Organisations	2	15.4	15.4
Coping With Circumstances Caused by the COVID-19 Pandemic	2	15.4	15.4
Counteract Lack of Motivation	2	15.4	15.4
Coming/ Working Together as a Team	2	15.4	15.4
Recruitment of Community Partners (Decision-Making)	1	7.7	7.7
Finding a Theoretical Background	1	7.7	7.7
Giving a Presentation	1	7.7	7.7
DOCUMENTS with code(s)	13	100.0	100.0
DOCUMENTS without code(s)	0	0.0	-
ANALYSED DOCUMENTS	13	100.0	-

These main categories can be summarised as three overarching themes, which are also reflected in the structure of the following, more detailed presentation of the results for RQ1: challenges related to the research process in general, challenges related to working with community partners and vulnerable people, and other challenges.

Challenges Related to the Research Process in General

The main categories “define the direction of research”, “define research questions” and “finding a theoretical background” fall under the theme *challenges related to the research process in general*.

The most difficult task for the students here, by far the most frequently mentioned, was to determine the direction of their research, to decide on a research topic. In doing so, various points had to be taken into account. Firstly, a research topic had to be identified that could be realistically investigated within the existing framework of a two-semester course, and that was clearly defined, with a well-defined scope. Secondly, there was the difficult task of reconciling the different ideas and preferences of the students in the team and agreeing on a research topic, a specific direction of the research.

Q1: “I would say that the most difficult task in the project was really figuring out exactly what we wanted to specialise in and what we wanted to achieve in the end, so that it wasn't too broad”.

Q2: “I believe (the biggest challenge was) that you work out together with the team a suitable topic or question that can be addressed and also seems feasible to work on”.

Q3: “And then I think the first big issue was finding a topic. Because I think we were all a bit unsure about what we should do next. Some people may have had different ideas. And then we had to agree on something. I think that was the first big challenge”.

Q4: “It was difficult to find a topic, or rather to find a team and then agree on a topic. This was because very different preferences and interests were expressed. But in the end, we managed to make everyone happy”.

Challenges Related to Working With Community Partners (Social Organisations) and Vulnerable People

The main categories “difficulties finding a community partner”, “recruitment of community partners (decision-making)”, “appointments/ establishing contact with vulnerable individuals” and “appointments/ establishing contact with social organisations” fall under the theme *challenges related to working with community partners (social organisations) and vulnerable people*.

The category “difficulties finding a community partner” appeared most frequently in the interviews. Not only were actual difficulties addressed here, but also the fear of possibly not finding a suitable community partner for the project work. The students received support in this regard, but ultimately approached and selected partners independently as a team.

Q5: “The fact that we didn't find a partner at the beginning, which was kind of stupid. The other teams had something and we were the only ones who didn't have anyone. And we didn't know why, because we had put in just as much effort as the others and we never got any feedback, no rejections, nothing. And I think the important thing was that we just stuck together and encouraged each other, otherwise I don't think it would have worked. So the point about not having a community partner at the beginning (...)”.

Q6: “What I would say is the thoughts about what to do if all the (possible) community partners decline to take part. So this fear that you'll be left on your own with nothing, and then you feel bad, as if you haven't achieved anything, so I would add that”.

In addition, it was stated that it was a challenge for the team to agree on the choice of a potential community partner. The appointments with representatives of social organisations as well as with homeless people or people who had previously been affected by homelessness were seen as a challenge because the situations were unfamiliar to the students and it was not easy to prepare for them.

Other Challenges

Another challenge mentioned, which falls within the realm of *self-management*, is motivating oneself and the team. In addition, the special circumstances arising from the COVID-19 pandemic, the associated uncertainty, and the impact on teamwork due to contact restrictions. *Challenges in teamwork*, coming together as a team, working in a team, and the distribution of tasks in the team were also addressed.

Most Significant Achievements

The results for RQ 2, i.e. the question of which significant achievements the students have made in the project, are now presented. The categories inductively derived from the text material during the coding process are shown in Table 2.

Table 2

Frequencies of Main Categories (Documents With Codes) – Most Significant Achievements of the Students in the Community-Based Research Service-Learning Course

	Documents	Percentage	Percentage (valid)
Acquisition of the Community Partner	5	38.5	38.5
Good Teamwork	4	30.8	30.8
Determined Work in the Team	2	15.4	15.4
Team Building	2	15.4	15.4
Writing the Final Report	1	7.7	7.7
Preparation of Interview Guidelines	1	7.7	7.7
Preparation of Literature Excerpts	1	7.7	7.7
Ideas and Suggestions to Share Responsibility in the Team	1	7.7	7.7
Good Organisational Skills	1	7.7	7.7
Being Motivated and Committed	1	7.7	7.7
Being Able to Inspire the Community Partner for the Research Project	1	7.7	7.7
Presentation of the Research Design and Research Topic	1	7.7	7.7
Adherence to Deadlines	1	7.7	7.7
Structuring the Final Report	1	7.7	7.7
Successfully Managing a Period With Many Deadlines	1	7.7	7.7
DOCUMENTS with code(s)	13	100.0	100.0
DOCUMENTS without code(s)	0	0.0	-
ANALYSED DOCUMENTS	13	100.0	-

The four most common categories in the interviews are: a) acquisition of the community partner (38.5 %, 5 out of 13 interviewees), b) good teamwork (30.8 %, 4 out of 13 interviewees), c) determined work in the team (15.4 %, 2 out of 13 interviewees) and d) team building (15.4 %, 2 out of 13 interviewees).

Achievements Related to the Research Process in General

The main categories “writing the final report”, “preparation of interview guidelines”, “preparation of literature excerpts”, “presentation of the research design and research topic” and “finding a theoretical background” fall under the theme *achievements related to the research process in general*. Each of these categories appeared once in the interviews.

Achievements Related to Working With Community Partners (Social Organisations)

The theme *achievements related to working with community partners (social organisations)* includes the following two categories: “acquisition of the community partner” and “being able to inspire the community partner for the research project”.

Two interview quotes are provided for illustration purposes.

Q7: “I would say that we as a team, but also each of us individually, and I myself, managed to secure the community partner and convince them of our merits. We invested a great deal of energy and time to make this happen, especially after receiving so many rejections. I believe this is a commendable achievement”.

Q8: “Then I would also mention again that we were able to win (name of the social organisation) as a cooperation partner and convince him of our cause”.

Other Achievements

Other achievements mentioned can be subsumed under the themes *achievements in teamwork* and *achievements in self-management*. The students stated that they had grown closer together as a team, that they got on well with each other, that they communicated well with each other, that they managed to distribute tasks fairly and to manage finding ideas together as a team, to carry out the necessary steps in a determined manner and strive towards the goal. *Achievements in self-management* include “adherence to deadlines”, “good organisational skills”, “being motivated and committed” and “successfully managing a period with many deadlines”.

Strengths and Limitations

A strength of this research study was the use of a qualitative research design. The highly open-ended interview questions, without predetermined answer categories, enabled the study participants to identify and describe the challenges and difficulties they encountered in the project, as well as the most significant achievements in their subjective assessment. Their views were heard and given greater weight than would have been the case in a quantitative study. In this context, the use of a student research assistant to conduct the interviews has proven successful. This prevented any power imbalances from arising and created the conditions for an open and relaxed atmosphere during the interviews.

One of the major limitations of the study is the small number of participants, attributable to the size of the university course. For the results of a qualitative study using qualitative content analysis to be generalisable, a larger number of study participants is typically required (Mayring, 2022b). When the results are examined independently of the frequencies of the main categories and with a focus on the categories themselves, the findings indicate relevance beyond the specific university course examined in this study. In addition, it should be noted that the necessary changes to the course schedule due to the COVID-19 pandemic have had a certain impact on the study results. Specifically, this meant that, approximately halfway through the course, university regulations prohibited direct contact between students and vulnerable individuals and social organisations. In addition, work within the student teams and between the students and the instructor had to be converted to a purely virtual format. Looking again at the two research questions examined: “What major challenges did the students have to overcome in the project?” and “What are the most significant achievements that the students have made in the project from their personal point of view?”, it becomes clear that such changes have an impact on the subject of the study. Certainly, if the original course concept had been retained, there would have been further challenges to those already mentioned by the students. Challenges related to direct, personal contact with vulnerable individuals, to data collection and analysis for the student research projects, and related to close contact with representatives

of social organisations would have been expected. Perhaps, other achievements would also have been of great importance.

Discussion, Reflection

When asked about the biggest challenges and difficult tasks in the project, there were unexpectedly frequent references to the first phase of the research cycle, namely determining the direction of one's own research and defining specific research questions. On the one hand, this is certainly due to the aforementioned necessary changes to the course process and content caused by the COVID-19 pandemic, which undoubtedly led to an overemphasis on challenges in the initial project phase during the interviews. However, this can also be attributed to the fact that it was the first small research project in which the students were involved. In this project, guided by an experienced instructor but otherwise working independently within a research team, the students collaborated with community partners on their research topic. In general, the results highlight the significance of the teaching concept of “research-oriented teaching and learning” and the importance of integrating it into university teaching early in the course of study. Beyond acquiring theoretical knowledge during their studies or learning about individual aspects of scientific work, such as literature search, reading, and writing scientific texts integrated into various courses in the bachelor degree programme, students are given the opportunity to gain insight into the entire research process at an early stage and to participate in a research project under guidance. The knowledge gained here is indispensable to a future academic career and also fosters early interest in research. Through conducting practical research activities, as well as scientific writing, and giving oral presentations of interim and final results. Students are also optimally prepared for their first independent research work, which is usually the writing of the bachelor thesis. The challenges and difficult tasks identified and further described by the students arise from the specific experiences gained and should be understood not only as challenges or difficulties but also as elements of a holistic experiential learning process (cf. Kolb & Kolb, 2009; Kolb, 2015). They promote students' problem-solving skills as well as their ability to adapt to new, complex situations.

This also applies to the challenges and difficult tasks mentioned above, which arise from the service-learning elements that have been integrated into the course, the recruitment of the community partners, the collaboration with these social organisations in the case study cities of Essen and Bochum in the Ruhr area, and, in the case of our study project, the collaboration with vulnerable individuals. Practical experiences gained through working with others who hold different professional positions, representatives of social organisations, in project meetings, personal conversations, telephone contact, or email, are valuable and will be of great importance for the future professional lives of the students. Meeting and interacting with people whose lived realities differ significantly from those of students, and the challenges that arise from this, enable students to broaden their perspectives, think beyond their own academic horizons, and learn openness, respect, and tolerance when encountering others. Bittner & Kempchen (2025) provided detailed insights into the learning outcomes achieved through visits to social organisations and contact with vulnerable people, including homeless and formerly homeless individuals.

Among the most important achievements mentioned by the students, two additional areas stand out: achievements in teamwork and achievements in self-management. Particularly noteworthy here are good teamwork and the successful composition of the team. In addition, personal, organisational and motivational skills. Teamwork skills and self-competence, including

organisational and motivational abilities, are also important prerequisites for a successful start to professional life.

Conclusion and Direction for Further Research

Fundamentally, the study's results demonstrate the importance of the two teaching approaches employed: research-oriented teaching and learning (community-based research) and service-learning. It should be noted, however, that, due to necessary deviations from the original course concept resulting from the COVID-19 pandemic, the teaching concept, “research-based teaching and learning”, came to the fore somewhat. Beyond theoretical knowledge, learning outcomes are achieved through the general challenges of long-term team-based project work, guided completion of the research cycle, and collaboration with community partners. All of which are highly relevant for further university study, academic pursuits, and future careers in other fields. Despite the limitations of our study, we believe that the main categories identified from the data on the challenges and difficulties mentioned by the students in the project, as well as the particular achievements, are also fundamentally relevant to teaching projects that include elements of research-based teaching and learning or community-based research and/or service-learning. Verifying this and expanding the identified categories require further empirical studies with larger sample sizes.

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Authors' Contributions

JB: principal investigator, conceptualisation, design and methods, data analysis, drafting the paper. JK: conducting the interviews and contributing to interview guideline development, reviewing the manuscript.

Conflict of Interest Statement

The authors have no conflict of interest to declare.

Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

The authors declare that *Deepl Translator*, *Grammarly* and *Pro Writing Aid* were used in the writing process of this paper, to translate individual passages of text, interview quotes, individual words, and to improve the linguistic and grammatical quality of the written text. Subsequently, the text was usually adapted, reviewed and edited by the first author. No linguistic smoothing was applied to the interview quotes; instead, the spoken wording was reproduced realistically. The last version of the paper underwent a final proofreading process by the two authors, who assume responsibility for the content of the publication.

The analysis of the qualitative interview data (qualitative content analysis) was deliberately carried out without the use of AI-assisted technologies. The AI-supported coding tool (AI-assist) offered for some time by the MAXQDA software that the first author employed for data analysis, was not used at all and also not activated for use in the software.

References

- Bittner, J. (2025). Learning Effects From Decision-Making Processes in a Project-Oriented Teaching Format: Results From a Qualitative Study Using Written Reflections. *The European Conference on Education 2025, Official Conference Proceedings*, 773–786. <https://doi.org/10.22492/issn.2188-1162.2025.61>
- Bittner, J., & Kempchen, J. (2024). Students' characteristics and motives for enrolment in a community-based research service-learning project: A qualitative investigation. *Conference Proceedings. The Future of Education 2024*, 552–560. https://conference.pixel-online.net/library_scheda.php?id_abs=6789
- Bittner, J., & Kempchen, J. (2025). What Students Learned From Visiting Social Organisations and Contact With Vulnerable People. *Proceedings of the World Conference on Teaching and Education*, 4(1), 15–33. <https://doi.org/10.33422/worldcte.v4i1.1221>
- Celio, C. I., Durlack, J., & Dymnicki, A. (2011). A meta-analysis of the impact of service-learning on students. *Journal of Experiential Education*, 34(2), 164–181.
- 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>
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry & research design: Choosing among five approaches* (4th ed.). SAGE Publications.
- Dresing, T., & Pehl, T. (2018). *Praxisbuch Interview, Transkription & Analyse: Anleitungen und Regelsysteme für qualitativ Forschende* [Practical guide to interviewing, transcription & analysis: Instructions and rules for qualitative researchers] (8. Auflage). Eigenverlag. https://www.audiotranskription.de/wp-content/uploads/2020/11/Praxisbuch_08_01_web.pdf
- Eyler, J., Giles, D. E., JR., Stenson, C. M., & Gray, C. J. (2001). *At a glance: What we know about the effects of service-learning on college students, faculty, institutions and communities, 1993-2000: Third Edition. Higher Education: Vol. 139*. <http://digitalcommons.unomaha.edu/cgi/viewcontent.cgi?article=1137&context=slcehighered>
- Flick, U. (Ed.). (2018). *The SAGE handbook of qualitative data collection*. SAGE reference. <https://doi.org/10.4135/9781526416070>
- Geographisches Institut, Ruhr University Bochum (Ed.). (2002). *Studienprojekt* [Study project]. <https://www.geographie.ruhr-uni-bochum.de/studium/modulfuehrer/bachelor-of-science/studienprojekt.html.de>
- Helfferrich, C. (2011). *Die Qualität qualitativer Daten: Manual für die Durchführung qualitativer Interviews* [The quality of qualitative data: Manual for coding qualitative data] (4., überarb. Aufl.). VS, Verl. für Sozialwiss.

- Kolb, A. Y., & Kolb, D. A. (2009). *Experiential Learning Theory: A Dynamic, Holistic Approach to Management Learning, Education and Development*. In *The SAGE Handbook of Management Learning, Education and Development* (pp. 42–68). SAGE Publications Ltd. <https://doi.org/10.4135/9780857021038.n3>
- Kolb, D. A. (2015). *Experiential Learning: Experience as the Source of Learning and Development* (Second edition). Pearson Education Inc.
- Kruse, J. (2007, July). *Reader "Einführung in die Qualitative Interviewforschung"* [Reader "introduction to qualitative interview research"]. (purchase via: <http://www.soziologie.uni-freiburg.de/Personen/kruse/UniHomepage/Workshops/WeitereAngebote.html>)Freiburg.
- Kruse, J. (2015). *Qualitative Interviewforschung: Ein integrativer Ansatz* [Qualitative interview research: An integrative approach]. (2., überarbeitete und ergänzte Auflage). *Grundlagentexte Methoden*. Beltz Juventa.
- Kuckartz, U. (2010). *Einführung in die computergestützte Analyse qualitativer Daten* [Introduction to computer-assisted analysis of qualitative data] (3., aktualisierte Aufl.). Lehrbuch. VS Verl. für Sozialwiss. <https://doi.org/10.1007/978-3-531-92126-6>
- Mayring, P. (2010a). *Qualitative Inhaltsanalyse* [Qualitative content analysis]. In G. Mey & K. Mruck (Eds.), *Handbuch Qualitative Forschung in der Psychologie*. (1. Aufl., pp. 601–613). VS Verlag für Sozialwissenschaften (GWV). https://doi.org/10.1007/978-3-531-92052-8_42
- Mayring, P. (2010b). *Qualitative Inhaltsanalyse: Grundlagen und Techniken* [Qualitative content analysis: Fundamentals and techniques] (11., aktualisierte und überarb. Aufl.). *Beltz Pädagogik*. Beltz.
- Mayring, P. (2022a). *Qualitative content analysis: A step-by-step guide*. SAGE Publications Ltd.
- Mayring, P. (2022b). *20. Workshop Qualitative Inhaltsanalyse: 1-3.7.2022, Cap Wörth, Velden am Wörthersee* [20th workshop on qualitative content analysis: July 1-3, 2022, Cap Wörth, Velden at Lake Wörth], Klagenfurt.
- Mayring, P. (2025). *Qualitative content analysis with ChatGPT: Pitfalls, rough approximations and gross errors. A field report* [34 paragraphs]. *Forum Qualitative Sozialforschung / Forum Qualitative Social Research*, 26(1), Art. 4. <https://doi.org/10.17169/fqs-26.1.4252>
- Mayring, P., & Fenzl, T. (2019). *Qualitative Inhaltsanalyse* [Qualitative content analysis]. In N. Baur & J. Blasius (Eds.), *Handbuch Methoden der Empirischen Sozialforschung* (pp. 633–648). Springer VS. https://doi.org/10.1007/978-3-658-21308-4_42
- Panke, D. (2018). *Research design and method selection: Making good choices in the social sciences*. SAGE. <https://doi.org/10.4135/9781529682700>

Rädiker, S., & Kuckartz, U. (2019). *Analyse qualitativer Daten mit MAXQDA [Analysis of qualitative data with MAXQDA]*. Springer Fachmedien Wiesbaden.
<https://doi.org/10.1007/978-3-658-22095-2>

Ruhr University Bochum. (2020). Forschendes Lernen [Research-based learning].
<https://uni.ruhr-uni-bochum.de/de/forschendes-lernen>

Thiem, J., Preetz, R., & Haberstroh, S. (2023). How research-based learning affects students' self-rated research competences: Evidence from a longitudinal study across disciplines. *Studies in Higher Education*, 48(7), 1039–1051.
<https://doi.org/10.1080/03075079.2023.2181326>

Wessels, I., Rueß, J., Gess, C., Deicke, W., & Ziegler, M. (2021). Is research-based learning effective? Evidence from a pre–post analysis in the social sciences. *Studies in Higher Education*, 46(12), 2595–2609. <https://doi.org/10.1080/03075079.2020.1739014>

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Appendices

Appendix A

Interviewees

Name	Sex	Age
Nico Gunf	male	24
Wolfram Wagner	male	21
Lotte Heinrich	female	22
Amelie Scheibe	female	21
Ludmila Mude	female	21
Norma Girschner	female	22
Berta Schleich	female	22
Enno Roskoth	male	21
Alfons Eberth	male	21
Rosi Trupp	female	22
Hans-Jochen Löffler	male	21
Maria-Luise Haase	female	22
Carmela Spieß	female	27

Appendix B

Category System with Sample Quotes – Major Challenges and Difficulties of the Students in the Community-Based Research Service-Learning Project

- **Define the Direction of Research**
Sample Quote: "It was difficult to find a topic, or rather to find a team and then agree on a topic. This was because very different preferences and interests were expressed. But in the end, we managed to make everyone happy." (*Carmela Spieß, female, age: 27*)
- **Define Research Questions**
Sample Quote: "And then I found it very difficult to come up with a research question that was explicitly precise and not too general. That's where we had the most difficulties, because various factors meant that we had to adapt again and come up with new research questions. I found that the most difficult part." (*Berta Schleich, female, age: 22*)
- **Difficulties Finding a Community Partner**
Sample Quote: "That we didn't find a partner at the beginning, which was kind of stupid. The other teams had something, and we were the only ones who didn't have anyone. And we didn't know why, because we had put in just as much effort as the others, and we never got any feedback, no rejections, nothing. And I think the important thing was that we just stuck together and encouraged each other, otherwise I don't think it would have worked. So the point about not having a commitment partner at the beginning and then, luckily, getting out of that motivational slump caused by COVID." (*Amelie Scheibe, female, age: 21*)
- **Appointments/ Establishing Contact With Vulnerable Individuals**
Sample Quote: "In any case, making contact, first with the organisations and then with the homeless people, I found that difficult, but it turned out that it wasn't so bad. That was actually my only concern (unintelligible). Because (unintelligible) I thought it would be okay, because I'm someone who can deal with difficulties like that, but it was still a challenge for me." (*Lotte Heinrich, female, age: 22*)
- **Appointments/ Establishing Contact With Social Organisations**
Sample Quote: "Accordingly, I would say that the most challenging aspect was really the meetings with our community partner and those affected, because it was simply a new situation that I hadn't encountered before. With our community partner, it wasn't quite as new. Not with them per se, but with an organisation like that. But yes, of course, preparing for it and then carrying it out was definitely the most demanding thing we did, and definitely the most interesting." (*Nico Gunf, male, age: 24*)
- **Coping With Circumstances Caused by the COVID-19 Pandemic**
Sample Quote: "So, the lack of teamwork due to COVID-19. The fact that we had no direct contact within the team. And you can have as many Skype meetings as you like, but sitting next to each other, listening to each other, letting each other finish speaking, and asking each other questions—I think that only works in real life. And that was the biggest challenge." (*Rosi Trupp, female, age: 22*)
- **Counteract Lack of Motivation**
Sample Quote: "And that you didn't lose your motivation or your courage in the end. I think that was the biggest difficulty, the biggest hurdle in the course of the study project so far." (*Maria-Luise Haase, female, age: 22*)
- **Recruitment of Community Partners (Decision-Making)**
Sample Quote: "At the beginning, it was really about finding a project partner. The process of agreeing on one and focusing on it. Thankfully, we managed to do that on the first attempt." (*Wolfram Wagner, male, age: 21*)
- **Finding a Theoretical Background**
Sample Quote: "Yes, I would say that (was?) theory formation." (*Hans-Jochen Löffler, male, age: 21*)
- **Giving a Presentation**
Sample Quote: "A big challenge. For me, at least, it may only be a small thing, but giving presentations is still a big challenge for me. I actually enjoy giving presentations. It's just that I find it very difficult because of the language. That's why giving presentations in German is a big challenge for me. Yes." (*Norma Girschner, female, age: 22*)

Appendix C

Category System with Sample Quotes – Most Significant Achievements of the Students in the Community-Based Research Service-Learning Project

- **Acquisition of the Community Partner**
Sample Quote: "The greatest achievement. Well, I think the greatest achievement is winning (name of the social organisation) as a partner. But that's not something I can take credit for myself; it was achieved by the group as a whole." (*Enno Roskoth, male, age: 21*)
- **Good Teamwork**
Sample Quote: "Everything so far, okay. So, I think the greatest achievement is that we as a team have actually managed to get along well with each other. That we communicate regularly, that no one has to be asked to do anything. That we have somehow managed to actually become a team. And I think that has to do with the fact that I talked a lot and divided up the tasks a lot. As I said, I tried to divide them fairly. And I think it's great that everyone contributes on their own initiative every week without being asked. That's the result of several months of work, and I think it's fantastic." (*Carmela Spieß, female, age: 27*)
- **Determined Work in the Team**
Sample Quote: "And that we have really made progress. And done really good work so far. And hopefully will continue to do so. That this has really distinguished us as a group so far. To continue working on this with determination, so that we can stay up to date and not fall behind." (*Wolfram Wagner, male, age: 21*)
- **Team Building**
Sample Quote: "That we somehow managed to actually become a team." (*Carmela Spieß, female, age: 27*)
- **Writing the Final Report**
Sample Quote: "But then write the final report as well." (*Ludmila Mude, female, age: 21*)
- **Preparation of Interview Guidelines**
Sample Quote: "Then there's also the creation of guidelines. This has already been done in (methods of urban and regional analysis?). But now it needs to be done again on a much larger scale and also, let's say, more importantly, with a more empirical approach." (*Ludmila Mude, female, age: 21*)
- **Preparation of Literature Excerpts**
Sample Quote: "That's difficult, it's actually just a series of small steps. For example, I've never done excerpts before. I did it, fine." (*Ludmila Mude, female, age: 21*)
- **Ideas and Suggestions to Share Responsibility in the Team**
Sample Quote: "I don't know if you can call it an achievement, but the fact that I agreed to do it at the beginning, when I don't think we even had a team manager yet, to say that I'm not a fan of it, or that I communicated honestly with my group and said: I'm not a fan of placing the responsibility on just one person—the team leader—but that I said from the outset that we are all team leaders in a way. (...)." (*Amelie Scheibe, female, age: 21*)
- **Good Organisational Skills**
Sample Quote: "And, yes, in general, that we were able to organise everything so well with our organisational partners, but also that we were able to participate in the events, meaning that we demonstrated our commitment." (*Lotte Heinrich, female, age: 22*)
- **Being Motivated and Committed**
Sample Quote: "That we have already shown commitment." (*Lotte Heinrich, female, age: 22*)
- **Being Able to Inspire the Community Partner for the Research Project**
Sample Quote: "Then I would also mention again that we were able to win (name of social organisation) as a cooperation partner and convince him of our cause." (*Nico Gunf, male, age: 24*)
- **Presentation of the Research Design and Research Topic**
Sample Quote: "That I, or rather my team, managed to guide us to the point where we were able to present our research, our research questions, our topics, our hypotheses, and then also present how far we had come by a certain date. In other words, that we were able to deliver a truly accurate status of our research by a specific date. And that, as team leader, I was able to guide the team to ensure that this was achieved on time." (*Alfons Eberth, male, age: 21*)

The table continues on the next page. The categories "writing the final report" and "structuring the final report" could be merged, but we decided to keep them as two separate categories.

Appendix D

Continuation - Category System with Sample Quotes – Most Significant Achievements of the Students in the Community-Based Research Service-Learning Project

- **Adherence to Deadlines**
Sample Quote: "That I, or rather my team, managed to guide us to the point where we were able to present our research, our research questions, our topics, our hypotheses, and then also present how far we had come by a certain date. In other words, that we were able to deliver a truly accurate status of our research by a specific date. And that, as team leader, I was able to guide the team to ensure that this was achieved on time." (*Alfons Eberth, male, age: 21*)
- **Structuring the Final Report**
Sample Quote: "I would say that our greatest achievement was finding and establishing a precise structure and table of contents for our final report. This made the work easier, as we knew exactly what we wanted to achieve and what we wanted to have. This allowed us to work in a more structured and precise manner." (*Berta Schleich, male, age: 22*)
- **Successfully Managing a Period With Many Deadlines**
Sample Quote: "Well, I already think that the phase where we had a lot of appointments was very demanding, so I think that I achieved a lot during that time. But I still think that a lot was accomplished in March and April, not only by me, but also by my group. And it was all self-motivated. We decided that for ourselves. It wasn't planned. It just happened that we set ourselves a meeting every Wednesday morning so that we could meet regularly and stay in touch. But we got a lot done during that time. And I also achieved a lot. Yes." (*Norma Girschner, female, age: 22*)