



Students' Characteristics and Motives for Enrolment in a Community-Based Research Service Learning Project: A Qualitative Investigation

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Abstract

The first purpose of this qualitative research study was to explore the reasons why geography students decided to enroll in a community-based service-learning course. The course design, which combined different elements of service-learning as well as research-based teaching and learning, was newly developed and, for the first time, implemented at the Institute of Geography at the Ruhr University Bochum. The course tackled the issue of social inequality, poverty and homelessness in the old industrialised Ruhr region. The development and implementation of the course design were supported by a teaching grant from the university. The bachelor students could choose between different study project courses that differed in terms of the topic, the lecturer, and the teaching concept. Our investigation's second goal was to get more in-depth information about students' personality, fundamental personality traits, values and skills. With our work, we aimed to expand on the results of previous studies that focus on students' motives for participation and participant characteristics. We designed a qualitative interview study and conducted online interviews with the course participants at the end of the course. MAXQDA, a computer-aided text analysis software was used to code and analyse the transcribed interview data by qualitative content analysis, using inductive and deductive approaches.

Keywords: *motives for enrolment, personality traits, values, experiential learning, community-based research, service-learning*

1. Introduction and Background

A large body of empirical studies exists that demonstrate the general positive impact of service-learning courses on the involved students. In a comprehensive literature review, [8] summarised the results of empirical studies published in the period 1993 - 2000 on the effect of service-learning on students, participating lecturers, faculty, universities and colleges, as well as the communities. With regard to the effects on students resulting from participation in service-learning courses, a distinction is made between personal outcomes, such as the positive influence on personal development and the ability to cooperate with others, and social outcomes, such as the reduction of existing stereotypes and the increase in a sense of social responsibility. In addition, more general learning outcomes and positive influences on career development are also important, as well as the relationship to or identification with the institution (university/college). There are, therefore, many reasons in favour of establishing service-learning in the university curriculum or integrating a service-learning component into traditional project-based or research-based courses. There is also much to be said about the approach of research-based teaching and learning, which is becoming increasingly important, combining learning with research [29] and is highly learner-centred in line with a constructivist understanding [30]. But what motivates students to opt for a newly developed course concept that combines both approaches? And which students are interested in such a programme and decide to participate? In our study, we investigated these two overarching questions.

1.1 Students' Motivation for Participation

In contrast to a large number of studies on the impact of service-learning on students, there are only a small number of studies that deal with the question of students' reasons for participating in service-learning courses. [3] were able to show that there is a positive correlation between public service motivation and their intention to participate in a service-learning course on the one hand and their willingness to volunteer for society outside of the curriculum on the other. Another study [20] investigated, among other things, whether the motivation to participate in a service-learning course is



more significant if there is already experience with service-learning. [23] and [24] used the Volunteer Motivation Inventory (VFI) as a test instrument to investigate the extent to which personality traits and value orientations play a role in interest in service-learning and forms of volunteering. It has been shown that the reasons for enrolling in a service-learning course are diverse [24], differences in student's gender and minority status exist [23], and personal values, in particular, play a role in interest in service-learning activities and other extracurricular forms of volunteering [24].

1.2 Characteristics' of Participants: Personality Traits, Values

According to the definition used in [7] we understand personality as "behaviours, styles of thought, speech, perception, and interpersonal interactions that are consistently characteristic of an individual." This definition includes an individual's overt and covert [p.10]. "Personality traits are then 'fundamental characteristics of personality (...) that can be indirectly inferred and therefore also measured (...) and allow predictions of behaviour' [27]. Models such as the Big-Five model and the HEXACO model differentiate between various larger personality dimensions [1,12]; these models have been used in various studies. In our study we orientated ourselves on the HEXACO model [1]. According to the definition by [22], we understand values at the individual level of interest for our study as "internalised social representations or moral beliefs that people appeal to as the ultimate rationale for their actions" [p. 16151]. There are different ways to classify values [28]. In our study, we orientated ourselves on the values charter and the five value dimensions described here [25].

1.3 Purpose of the Study

Our qualitative interview study aimed to investigate the motives of geography students at the Ruhr University Bochum to enrol in a community-based research service-learning course that dealt with social inequality, poverty and homelessness in the old industrialised region of the Ruhr area. The course concept was new and was offered in this form for the first time. In addition, we wanted to find out exactly who the participants were. What values they act on and what skills and abilities they bring to the table?

Specifically, the research questions of our study were as follows:

- What are the reasons for participating in this specific course? (RQ1)
- What are the personality traits of the participants in the course? (RQ2)
- Which values do the participants of the course consider to be particularly significant for their lives? (RQ3)
- What personal competencies and skills do the participants of the course have? (RQ4)

1.4 Concept and Structure of the Course

The newly developed course design combined elements of the teaching formats of service-learning and research-based teaching and learning and is subsequently referred to as community-based research service-learning. Bachelor students could choose between different year-long courses, which varied thematically and in teaching format. We received a teaching grant from the Ruhr University Bochum, programme line research-based teaching and learning. In this programme, the university promotes the developing and implementing of innovative and forward-looking teaching concepts. The funding procedure was competitive [26].

Research-based learning, a form of teaching and learning that integrates teaching and research [29], places the learner at the forefront, similar to other forms of experience-based learning that adhere to a constructivist understanding of learning. As [30] underscore, learners are given a high degree of autonomy, empowering them to become more independent architects of their unique learning journeys. Students work problem- and project-orientated, resulting in more holistic learning processes [30]. The lecturer takes on the role of a counselor and supervisor in this individual learning process [29]. The approach is becoming increasingly widespread at universities and colleges in the USA, in Germany, and other countries, often supported by university management boards.

The combination of learning and research activities is possible in different ways, and the literature distinguishes between various approaches [10]. Empirical studies have shown that this approach increases students' research-related knowledge and knowledge of the research process [2,29], that it is seen as useful for their later professional activities [29] and that the uncertainty tolerance increases [2]. There are different results regarding interest in and enjoyment of research [2,29]. For the course design, we adopted the structure of a regular research process and the project- and



problem-based approach. The highly diverse student group worked in several project groups, guided and supervised by an experienced senior lecturer and researcher, on the given topic of social inequality, poverty and housing. The outcomes of the study project included final reports and oral presentations by each research group.

What was special was that this format of research-based learning was combined with the service learning approach. [9] distinguishes between different forms of service programs „which combines service with learning“. According to his definition, service-learning aims to provide added value for both the community partners or the service recipients for whom the service is intended and for the students involved or participants of a service-learning course who provide the service [9]. An indirect form of service-learning was also described [4]. We worked on the overarching topic with three community partners, social organisations in Bochum and Essen. After an intensive literature and data-based familiarisation phase the three project groups defined different project ideas to pursue further in close cooperation with community partners. With their background knowledge, they further developed their project ideas together with the social organisations. These were based on the needs of the community partners, who hoped to gain additional background knowledge for their day-to-day work as well as general added value for the work organisation through the processing of the projects and the expected output. In addition, the students also collected ideas on how they could provide an additional service for social organisations.

2. Methods

2.1 Design

We used a qualitative approach to investigate the motives for course participation and the personal characteristics of the students. Our aim was to gain a detailed, in-depth understanding of the students' personal stories and the context behind their choices. A qualitative approach appeared to be adequate for this purpose [5]. We used qualitative guided interviews with narrative-generating key questions to enable a high degree of openness in the interview situation [11,13]. Qualitative content analysis was used for coding and analysing the qualitative data [17,18].

2.2 Participants and Setting

A total of 13 participants were selected. At the end of the course, we asked all students to take part in the qualitative interview study. Participation was voluntary and not linked to examination achievement. Only one student opted out of the interview. The age of the participants ranged between 21 and 27 years, with a mean of 22.08 (SD = 1.64). Five participants were male; eight were female. The majority were born and raised up in Germany (11 out of 13 students). The students had the option to choose between different courses offered within the module “study project”, which varied both thematically and in teaching format.

We restricted the selection of participants for our interview study to those students who had opted to take part in the course “social inequality, poverty and housing”. We informed the participants about the study procedure and the handling with the data. Consent was obtained prior to the interviews.

2.3 Data collection

The interviews were conducted online during the COVID-19 pandemic using the Zoom conference system. We set interview appointments by e-mail. A student research assistant, previously trained in the specific interview technique, conducted the interviews with the study participants.

We developed the interview guideline in a multistage process as described by [11,13]. We designed an interview guide which enabled a relatively open, narrative-stimulating interview situation despite the use of several guiding questions. This approach facilitated a structured conversation while allowing sufficient space for the interviewees' descriptions and personalities [11,13]. The interview guideline covered topics from four different sub-studies.

Regarding the sub-study on motivation to participate and student characteristics, the following interview questions were asked as narrative-generating key questions:

- Can you please tell me what exactly motivated you to take part in the study project “Social Inequality, Poverty and Housing”? (RQ1)



- Put yourself in the situation where you are applying for an internship or a part-time job during your studies that you really want to get. Now you are sitting in an interview and are asked to openly and honestly describe up to three personality traits that make you stand out. So tell me about three personality traits that characterise you and possibly set you apart from others and describe them to me in more detail. (RQ2)
- What are the three most important values in your life? Can you also please describe to me exactly what you understand them to be and what they mean to you. You can also use an example. (RQ3)
- What would you say are three skills that set you apart? That is, something that you might be particularly good at, something that you are proud of and might set you apart from others? Please describe these in more detail. (RQ4)

We formulated maintenance questions for each of these narrative-generative key questions. The interviewer referred back to these maintenance questions when the interviewee had completed the answer to the narrative-generating key question. By asking such questions, the narrative was further stimulated, and in many cases, very valuable additional information and descriptions could be obtained through this specific interview technique described by [11,13]. In addition, concrete follow-up questions were asked in the final step. These follow-up questions resulted, on the one hand, from a comparison with the expected content-related aspects to be addressed in the individual narrative-generating questions, and on the other hand, from the interview situation itself, e.g. due to ambiguities that arose.

The interviews lasted between 32 and 60 min. They were conducted in the native language of most of the study participants, German. One student who grew up in another country answered some of the questions in English. All interviews were conducted by a student research assistant familiar with and trained in the specific interview technique. By using a student research assistant as an interviewer, the effect of an otherwise existing power imbalance should be reduced or, if possible, prevented altogether. The interviews were audiorecorded and an interview postscript sheet was filled out for each interview to describe particularities in the course of the interview. The audiofiles were transcribed according to the content-semantic transcription of [6].

2.4 Data analysis

Coding and the qualitative data analysis were software-supported. We used MAXQDA Analytics Pro software (version Release 22.8.0). To improve clarity, we created a separate MAXQDA project for each of the individual sub-studies [14,15]. We decided that qualitative content analysis following the approach of Mayring was in a first step a suitable data analysis method for our study due to the strong focus on the research questions, the rule-based approach, the focus on themes or categories and the possibility to include some quantitative analysis steps [17,18].

We first defined the content-analytical units. The coding unit, the smallest component of text material that can be coded (sensitivity) was determined as clear meaning component. The context unit, as background for the coding decision, was defined as the interview transcript; the recording unit referred to all documents [17,18]. Different content analysis techniques were used to code the text material of the four research questions investigated. We chose inductive category formation to answer RQ1 and RQ4, meaning that categories were formed directly from the text material without any theoretical considerations. However, in accordance with Mayring's approach, a selection criterion was defined in advance for each research question, as well as the level of abstraction. A mixed technique was used to answer RQ2 and RQ3. We combined inductive and deductive approaches to analyse, structure and code the text material. Here, a definition of the category system was derived at the top level from theory (deductive category assignment). To define the category system for RQ2, we used the HEXACO model, which proposes a framework for personality structure consisting of six dimensions and can be seen as an extension of the Big Five or five-factor model [1,12]. To develop the category system for research question 3, we used the value charter by [25]. These categories or main themes could then be differentiated inductively according to the available text material [25].

3. Results

In the following sections, we will present the results of the content analysis carried out. This includes the presentation of the category system derived inductively from the interview material or deductively from the theory and the corresponding frequencies (in relation to the occurrence in documents).



3.1 Reasons for Participation

A total of 11 key themes could be identified from the interview material with regard to the question about the motives for participating in the course (RQ1); the most frequently occurring key themes are: (1) topic-related reasons, (2) lecturer-related reasons, (3) study organization-related reasons (4) service-learning-related reasons (5) community-based research-related reasons (6) prior knowledge-related reasons.

With regard to the teaching formats of service-learning used in the study project, the participants in the study stated, for example, that it was important for them to combine the course with social engagement, the opportunity to do something with and for society (23%, 3 out of 13 interviewees), that they wanted to make a difference (15%, 2 out of 13 interviewees) and that it was important for them to be able to do something with practical relevance (15%, 2 out of 13 interviewees).

Table 1. Frequencies of main themes and subthemes (of individual main themes) – reasons for participation, themes with single occurrence are not reported

Main Themes and Sub Themes	Documents	Percentage (valid)
Lecturer-related reasons	6	46.2
Topic-related reasons	10	76.9
Community-based research-related reasons	3	23.1
Study organisation-related reasons	5	38.5
Social situation-related reasons	2	15.4
Prior knowledge-related reasons	3	23.1
Service-learning-related reasons	4	30.8
Connection with social engagement	3	23.1
Want to change something	2	15.4
Do something at the practical level	2	15.4
Documents with code(s)	13	100.0
Documents without code(s)	0	0.0
Analysed documents	13	100.0
Total of coded segments	70	100.0

Participants stated, for example:

“And I found it interesting because I often feel sorry for people who are so badly off. And then I found it helpful to work with people so that I could perhaps change something.” (*Berta Schleich, pos. 101 – theme: service-learning related reasons – want to change something*)

“To be honest, that was definitely what I wanted to do because I found it so interesting. I just wanted to jump over my own shadow, let's put it that way. I wanted to make extra contact with these personalities, these vulnerable personalities, because I wanted to become a bit more aware of my fear in general.” (*Lotte Heinrich, pos. 67 – theme: service-learning related reasons – interest in contact with vulnerable people*)

With regard to the strong research focus of the study project, the participants stated that there was great interest in utilising or expanding existing methodological knowledge. It was also mentioned that it was considered useful to expand the existing state of research on the topic.

3.2 Students' Personality Traits

We now look at the results for RQ2. To present the personality traits of the course participants, the hexagon model was used as a deductively developed category system [1]. The results are shown in Table 2. The following frequently occurring characteristics should be emphasised: target-focused, open, perfectionistic, ability to work in teams, be helpful, be friendly / respectful, be reliable.



Table 2. Frequencies of main themes – personality traits

Main Themes and Sub Themes	Documents	Percentage (valid)
Extraversion versus introversion	4	30.8
Agreeableness versus hostility	9	69.2
Conscientiousness versus undependability	13	100.0
Neuroticism versus emotional stability	4	30.8
Openness (to experience) versus close-mindedness	8	61.5
Honesty versus humility	2	15.4
Documents with code(s)	13	100.0
Documents without code(s)	0	0.0
Analysed documents	13	100.0
Total of coded segments	78	100.0

3.3 Students' Values

The results for RQ3 are as follows (Table 3): relationship-related values such as friendliness, politeness, respect, acceptance and gratitude were mentioned most frequently, followed by performance-related values such as reliability and target orientation. In third place were mentions that can be categorised as stability-related values, such as loyalty and being able to trust someone. An interesting result is that there were no mentions that can be categorised as authority-related values, e.g. determination, prestige. The category system was deductively derived from theory and is based on the Charter of Values [25]. In individual cases, categorisation according to the most important meaning deviated from the presentation in the value charter.

Table 3. Frequencies of main themes – values

Themes	Documents	Percentage (valid)
Relationship-related values	10	76.9
Performance-related values	5	38.5
Stability-related values	3	23.1
Authority-related values	0	0.0
Innovation-related values	1	7.7
Other mentions, not assigned	1	7.7
Documents with code(s)	12	92.3
Documents without code(s)	1	7.7
Analysed documents	13	100.0
Total of coded segments	37	100.0

3.4 Students' Skills & Competencies

Finally, we are looking at the results for RQ4. When coding the answers, we differentiated between skills & knowledge and competencies. We understand the concept of competence more broadly as a prerequisite for action.

Table 4. Frequencies of main themes – skills & competencies, themes with single occurrence are not reported

Themes	Documents	Percentage (valid)
Skills & knowledge	9	69.2
Knowledge of statistics	2	15.4
Give a presentation	2	15.4
Writing of texts	3	13.1
Competencies	7	53.8
Being able to hold your own leadership position	3	23.1
Documents with code(s)	9	69.2
Documents without code(s)	4	30.8
Analysed documents	13	100.0
Total of coded segments	23	100.0



4. Discussion

In summary, the most relevant findings of our study indicate that there were a variety of reasons for participating in the study project. Beyond the expected references to the newly developed course design, the socio-geographical topic and the examination of a social issue were of particular importance to the students. Students' considerations related to the organisation of their studies and other commitments should not be underestimated. The frequent mention of lecturer-related reasons was pleasing. The students were already familiar with the lecturer from other courses, particularly method-related courses.

Specific personality traits, value orientations and individual prior knowledge, skills and competencies could characterise the participants. The frequent occurrence of the main themes of conscientiousness versus undependability and agreeableness versus hostility in the personality traits is striking. With regard to value orientation, relationship-related values were frequently mentioned, which are crucial for working in student project teams, especially in projects with high uncertainty and involvement with community partners and vulnerable groups. These are particularly important for work in student project teams, generally for work in projects with a high degree of uncertainty and for work with community partners and vulnerable groups of people. Finally, it can be said that the skills and competencies already brought along could be used in a wide variety of tasks and activities during the project.

5. Strengths and Limitations

The strengths of the study are the comprehensive data generated and its high quality, attributed to the well-designed interview guideline and positive interviewer-interviewee dynamics. The narrative-generating introductory questions led to the desired results, and the consideration of power dynamics, with a peer conducting the interviews instead of the lecturer, contributed to the quality of data collected. One important study limitation that should be mentioned is the small sample size. However, there is a debate about the generalisability of qualitative research findings [21]. In the case of qualitative research studies that use content analysis as a data analysis approach, a certain generalisability beyond the examined cases and the specific context is often sought. According to [19] ideally a certain minimum number of cases ($n=30$) should not be undercut even in qualitative studies, in particular for content analysis projects, which is unfortunately the case here due to the consideration of a single course with a limited number of participants. Furthermore, due to limited time and resources, intra- and intercoder reliability was not determined, which is one of the quality criteria of content analysis studies [19]. It should be also mentioned that the course format had to be fundamentally changed after six months. Due to the COVID-19 pandemic, the Ruhr University Bochum was closed for a longer time and the course had to be converted to a purely online format at short notice, in accordance with the regulations of the university. These organisational changes and the conversion of the teaching format are not relevant to the research questions we examined in this article regarding the reasons for course participation and the characteristics of students.

6. Conclusion

The study offers a first insight into the reasons for participation and characteristics of participants in courses that include components of service-learning and research-based learning. Further research with a larger number of participants is necessary to understand more deeply the individual motives, to validate existing results and possibly to be able to make a generalisation of the findings. Comparative studies would be particularly useful in this regard.

7. Supplementary Information

7.1 Acknowledgments

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7.2 Authors Contributions

Janine Bittner (senior lecturer) was the principal investigator, designed and implemented the study, was responsible for the development of the data collection and analysis tools, conducting the content analysis and drafting the paper. Janina Kempchen (student research assistant) was mainly responsible for conducting the online interviews, provided important feedback to the creation of the interview guideline and approved the manuscript.

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8. Declarations

The authors declare that they have no conflicts of interest to disclose.

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