Comparison of co-created and collaborative approaches to citizen science adopted by the citizen linguistics project 'On everyone's mind and lips – German in Austria'

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Co-creation aims at integrating citizens in all steps and decisions throughout the research process, whereas the collaborative approach focuses on contributions by citizens to a research project defined by scholars. The citizen linguistics project "On everyone's mind and lips – German in Austria" applied both the co-created and collaborative approaches in the citizen humanities. A method to compare the collaborative linguistic treasure hunts and the co-created Question of the Month was proposed. The comparative analysis of the two approaches to citizen science showed that the strand that aimed a co-creation attracted more participants in the initial project phase. This may be due to the fact that the topic of language is emotionally loaded. However, participation significantly decreased in the other project phases, whereas the collaborative strand had a higher number of contributions per participant. The contribution to the advancement of scholarship were data preparation in the collaborative strand and identified research gaps in the co-created one.

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1.   Introduction

Co-creation as a form of public participation in academic research aims at integrating citizens in all steps and decisions in the entire research process, whereas the collaborative approach is based on contributions by citizens to a research project defined by scholars, including data collection and analysis [1]. An objective of the citizen linguistics project "On everyone's mind and lips – German in Austria" (abbreviated as IamDiÖ) is to test the co-creation approach in the citizen humanities. IamDiÖ is focussing on the use and perception of as well as attitudes towards the German language in Austria. The fact that language is ubiquitous was an incentive to involve volunteers in the entire research process. Although language is emotionally loaded and IamDiÖ offers different tasks, recruiting participants proved to be challenging.

IamDiÖ combines different citizen science approaches:

- Collaborative approach: Data collection and data analysis in linguistic treasure hunts where citizens collect and tag pictures of written texts in the public space with an app to help explore the linguistic landscape in Austria [2].
- Co-creation, which means citizens raise and answer questions related to the topic of German language in Austria with the support of researchers. This format was called Question of the Month (QM).

The specific objective of this study was to compare these two approaches adopted by IamDiÖ. Therefore, a qualitative case study approach is used.

1.   Question of the Month

The Question of the Month, which was aimed at co-creation, asked participants to find and answer research questions. The initial attempt to recruit participants via social media to enter research questions in a web form did not yield the expected success. However, personal dialogue during science communication festivals, such as the Long Night of Research in Austria, helped to collect about 500 questions addressing the topic of German language in Austria. University students enrolled on language-related programmes were also encouraged to contribute.

The initial idea that citizens raise their questions and find an answer on their own, supported by researchers, thus adopting the co-creation approach, did not work. When informally asked, the citizens mentioned reasons such as lack of time, that academics are the experts (and they should know) and the lack of awareness for the relevance of fundamental research (compared to applied research). Only one QM was answered by a student on a semi-voluntary basis since they received bonus points for a course.

Since co-creation could not be realised for the QM, the concept was changed. Based on the already collected questions, the modified approach consisted in clustering the questions thematically, selecting two questions from a cluster and asking the IamDiÖ social media community to vote on the most interesting question that should be answered this month. The question receiving most of the votes was answered by the researchers. In addition to the answer, readers also got an insight into the research process since the researchers answered the question according to a predefined structure depicting the steps in the research process, ranging from the problem that sparked the researcher's interest, the definition of a question to the selection and application of methods, the results and (personal) conclusions. The researcher's answer was published on the IamDiÖ website and promoted via social media.

Although the QM was aimed at co-creation and citizens were interested in the topic of (German) language in Austria that was evidenced by the high number of questions raised, participants were not willing to answer their own research questions. The reasons for this might be that they do not have the time to do so, that academic research seems daunting or that they do not feel that they have the competences to do so. These results further support the idea of the deficit model [3] that may still prevail in Austria.

Although the Questions of the Month were raised by citizens, the answers are rather science communication than citizen science, despite some exceptions.

1.   Linguistic landscaping

To attract participants to the task of linguistic landscaping, treasure hunts were organised in Austrian cities, but the number of participants was rather low. The main participants were university students who participated mainly on a semi-voluntary basis since they received bonus points for courses. Moreover, this project strand was part of the Austrian Citizen Science Award 2019, which attracted schools and individuals who may win prizes.

1.   Comparison

While the QM was aimed at co-creation, the linguistic landscaping activities were rather collaborative efforts. A comparative analysis of these two project strands in July 2019 should show which activities were more successful.

Methodologically, the following criteria were selected for the comparative analysis: the number of participants, the number of contributions (per participant) and perceived advancement in scholarship.

The comparison proved challenging since the project strands followed different approaches and the number of participants differed significantly. Other challenges were the lack of participant data, the question of whether to compare the quantity or the quality of the contributions and the assessment of the contributions to knowledge generation. Moreover, participation was based on different levels of voluntariness, which might be linked to different motivations, e.g. if the participants freely decided to participate in an activity or if there was an incentive, e.g. a prize or even compulsion. Criteria not considered in the comparison were the participant's personal benefits, e.g. knowledge or competence acquisition [4].

The results showed that in the initial research phase, the QM could reach a high number of volunteers (about 350 people estimated) who specified research questions according to their interests, but only a few actively contributed to the next research steps. The QM contributed to the advancement in scholarship since research gaps were revealed and paradigms and approaches were challenged. Moreover, it illustrated research topics of high societal relevance. Nevertheless, it also demonstrated that co-creation should not be imposed by scholars on citizens which can be inferred from the large decrease in participant numbers in the subsequent research steps.

The linguistic landscaping strand attracted fewer people (about 60). Linguistic treasure hunts with prize incentives resulted in a higher data quantity (29 contributions per participant) compared to those that only offered bonus points for a course (7 contributions). Their contribution to the advancement in scholarship is based on data collection and preparation, including an initial analysis for further research.

Future studies may elaborate on the effect of incentives, such as prizes on data quality and quantity and on the degree of voluntariness in citizen science projects and its consequences for the research process and results.

In comparison to other citizen science projects which asked the public to raise research questions [5] and employed an online strategy, IamDiÖ yielded the best results in a personal dialogue with people. Thus, co-creation seems to be work best when having personal contact with the participants.

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