



From Learners to Researchers: Co-Creation of Knowledge in Project-Based Learning

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Abstract

This article presents an educational design for a student research project. We explore the educational impact of an innovative project-based learning approach that integrates ethnographic research and interactive storytelling. Through the creation and analysis of a three-part web series, students examine the concept of personal freedom among adolescents in rural and urban settings. The study employs a research-based learning (RBL) framework, combining inquiry-based, project-based, problem-based, and experiential learning methodologies. Students actively participate as co-creators in all stages, from literature review to field research and data analysis, using qualitative social research methods such as participant observation, interviews, and focus groups. The use of smart glasses to capture first-person perspectives enriches the ethnographic data. Via social media platforms like YouTube, TikTok, and Instagram we enhance engagement with the web series' target group by allowing viewers to interact and make decisions. The educational goal of this project is to promote civic engagement and to deepen students' understanding of societal issues.

Keywords: Project-based learning, ethnographic research, interactive storytelling, qualitative social research, civic engagement, educational innovation

1 Introduction

Conventional educational environments frequently restrict student involvement and the practical use of ideas, especially when studying societal topics. This research essay presents an innovative project-based learning scenario that aims to overcome these restrictions by developing and evaluating a three-part interactive web series. This project examines the intricate notion of personal autonomy as encountered by young individuals in rural environments, juxtaposing these encounters with urban perspectives, thereby providing a comprehensive comparative analysis.

This project is one of the 12 winners of the annual "Hochschulwettbewerb", an initiative backed by the Federal Ministry of Education and Research (BMBF) to advance science and research in Germany. We have been awarded a grant of 10,000 Euros to produce a web series that combines aspects of documentary and fiction, offering an immersive examination of freedom from the viewpoint of rural adolescents. The Hochschulwettbewerb annually encourages universities to submit creative initiatives that successfully convey scientific concepts to a wider audience. The competition attracted submissions from more than 160 universities around the country this year.

Our project stood out for its combination of documentary and fictional storytelling, underpinned by rigorous ethnographic research. We received not only financial support but also a platform to showcase the potential of interactive media in educational research. The associated course diverges from traditional classroom settings by requiring students to actively engage with real-world scenarios, thereby enhancing learning through direct experience and reflection [1]. This approach fosters a deeper understanding of the processes involved in creating a web series and promotes civic engagement by encouraging students to consider the societal implications of their studies, particularly in understanding diverse perspectives on freedom in rural versus urban contexts.

Employing qualitative social research methods, this educational experiment engages students as co-creators in the research process. This methodology facilitates the connection between theoretical knowledge and actual implementation, hence enhancing the overall discourse within the community [2]. Students acquire skills in ethnographic participant observation and interview procedures, enhancing their capacity to analyze and interpret social interactions [3].



The use of interactive media as a teaching and research tool departs from conventional educational models. By involving students in the creation and analysis of a web series exploring complex social themes, the course blurs the lines between learner and researcher, engaging students as co-creators of knowledge [4]. This method aligns with principles of service learning and citizen science, as students contribute to a larger community dialogue and develop a sense of responsibility towards societal issues [5].

Ethnographic methods, including participant observation and interviews, are employed to capture and analyse authentic experiences and social interactions. Students use smart glasses to collect unobtrusive, first-person perspectives, enriching the ethnographic data. Focus groups and subsequent discussions serve as platforms for validating findings and encouraging participatory dialogue [6].

The web series has an interactive format that encourages viewers to actively participate in the storyline and connect with the characters through popular social media sites like YouTube, TikTok, and Instagram. This approach expands the project's scope and influence, promoting an active interchange between urban and rural viewpoints. The inclusion of live interactions and viewer decision-making enhances the authenticity and relatability of the depicted experiences [7].

Aimed at bridging the gap between rural and urban youths, the project employs a multifaceted communication strategy, including organizing events, creating supporting educational materials, and active community involvement through social media engagement and participatory events. To this end, we hope to stimulate dialogue, challenge preconceptions, and foster a deeper understanding of rural life dynamics [8].

This research essay aims to provide actionable design guidelines for similar transmedia projects, emphasizing authenticity, participatory engagement, and leveraging new media technologies for courses utilizing ethnographic research methods. Our project serves as a model for future educational initiatives, showcasing the transformative potential of interactive storytelling in research-based learning and its ability to bridge diverse cultural landscapes.

2 Definitions

The project follows a research-based learning (RBL) approach, a dynamic pedagogical strategy integrating inquiry-based learning (IBL), project-based learning (ProjBL), problem-based learning (ProbBL), and experiential learning. RBL is a multifaceted concept that encompasses various teaching and learning strategies aimed at integrating research and teaching activities. It involves moving away from traditional lecture-based instruction towards more active learning approaches that have been empirically validated to enhance student performance. This shift challenges the long-standing dominance of lecturing as the primary mode of instruction and advocates for the adoption of evidence-based teaching practices in regular classrooms.

IBL encourages students to explore and formulate questions about their subject matter, driving the narrative of their web series. ProjBL involves the practical execution of producing the web series, requiring students to manage and deliver a substantial project. ProbBL ensures that students tackle real-world problems through their narrative, integrating solutions into their project storyline. Experiential learning emphasizes learning through doing, a fundamental aspect of producing a web series [9].

Communities of practice (CoP) foster collaboration and shared knowledge among students, essential for the multifaceted nature of this project [10]. In this context, three Bachelor theses can delve into various aspects of the project: one could focus on the ethnographic research process, another on the qualitative methods used, and a third on the impact of the web series as an educational tool. This multifaceted approach not only enhances students' research skills but also their ability to apply these skills in a creative, practical project, embodying the principles of research-based learning.

Interactive storytelling is a form of narrative engagement that allows users to actively participate in shaping the story's progression [11]. This form of storytelling involves real-time modifications to the



content and structure of the narrative, providing players with a sense of control over the unfolding story [12]. Through interactive storytelling, users can engage with digital systems and agents, influencing the narrative as it develops [13]. This engagement can range from direct interaction with the storyteller to incorporating user responses into the storyline [14].

3 Related Works

Recent research has highlighted the effectiveness of interactive storytelling in various domains, especially in education and gaming. For instance, interactive digital storytelling has been successfully integrated into classrooms to present information and engage students [15]. In educational settings, interactive storytelling has been shown to enhance the learning experience by immersing students in motivating narratives [16]. Moreover, interactive storytelling systems have been designed to combine emergent narrative approaches with social elements, creating engaging experiences akin to traditional tabletop board games [17].

Furthermore, interactive storytelling extends beyond traditional media to include digital platforms that facilitate collaborative story development [18]. This collaborative aspect allows for the co-creation of narratives, where users become active participants in shaping the story's outcome [19]. Additionally, interactive storytelling in gaming environments has been found to stimulate players to explore and simulate social experiences, enhancing their engagement with the narrative [20].

4 Approach & Methods

This study investigates the inquiry: "What are the rural adolescents' perceptions and encounters of freedom, and how do they contrast with those of urban adolescents?" Utilizing the RBL (Research-Based Learning) strategy as described in chapter 2, we implemented the subsequent procedures to examine this inquiry.

4.1 Literature Review

The initial stage was a systematic review of existing literature to explore the various interpretations of freedom among adolescents. Students employed databases such as JSTOR, Google Scholar, and ResearchGate, with keywords such as "freedom," "youth," "rural areas," "urban areas," and "social networks." Their focus was on literature published during the past decade to ensure its relevance and contemporary context.

The students initiated the process by perusing abstracts to ascertain the pertinence of each article. Subsequently, they acquired full texts for the most auspicious articles and compiled an organized inventory outlining the principal aspects of each source. The objective was to discern patterns and analyze the extent to which the viewpoints of rural and urban adolescents on freedom coincide or differ. This technique identified and emphasized the current areas of research that need more investigation, and aided in the development of possible research inquiries.

For instance, the students hypothesized that rural adolescents associate freedom with anarchic actions, such as taking down street signs and exhibiting them at gathering places for young people in rural areas, such as rural youth wagons. They used literature that described similar behaviors as a reference to shape their interview questions.

4.2 Ethnographic and Qualitative Research Training, Field Research and Interviews

Our students read explanatory chapters from key handbooks on ethnography and qualitative research. Group discussions ensured thorough understanding, and planned field visits allowed them to practice observation and note-taking skills in real-life settings. They first studied narrative interview techniques and practiced through role-playing exercises to build confidence and proficiency. They also learned focus group moderation fundamentals and organized training sessions to refine their skills.

4.3 Research Planning and Execution



The students prepared a detailed research plan, identifying individuals and groups to interview and developing a schedule outlining all activities, including locations and times. They conducted observations, interviews, and focus groups as planned, ensuring all data was accurately recorded while adhering to privacy and ethical guidelines. During a 14-day field visit to a rural area in Schleswig Holstein, they are able to conduct semi-structured, guide-based interviews (narrative and problem-centred).

4.4 Data Analysis

Recordings will be transcribed by a professional service, allowing students to focus on data analysis with qualitative methods. They will be supported by experts in qualitative research during this step. The students will synthesize their findings and compared them with existing literature to contextualize their results.

4.5 Bachelor Theses

Three Bachelor theses are associated with this project, each focusing on different aspects:

1. **Ethnographic Research:** This thesis provides a comprehensive analysis of the ethnographic methods used and insights gained into rural and urban youths' concepts of freedom.
2. **Qualitative Methods:** This thesis delves into the qualitative techniques employed, evaluating their effectiveness and the depth of data collected through narrative interviews and focus groups.
3. **Educational Impact of Web Series:** This thesis examines the educational benefits and challenges of using a web series to disseminate research findings, assessing its impact on audience engagement and understanding.

By integrating research-based learning with practical application through the web series, this project embodies an immersive educational experience, equipping students with critical research skills and the ability to apply them innovatively.

5 Discussion

Although the 14-day period of shooting the web series and collecting data has not yet taken place, we can anticipate several key implications based on the project design and preliminary activities. The focus on contrasting rural and urban perceptions of freedom is expected to reveal significant differences that are informed by the distinct socio-cultural environments. The ethnographic approach, combined with interactive media, aims to offer an in-depth understanding of these differences.

Linking back to the research questions, the anticipated findings will likely illustrate the unique challenges and opportunities experienced by rural adolescents in expressing and experiencing freedom. This insight will contribute to the existing body of literature by providing contemporary, context-specific data that highlights the evolving nature of youth experiences in different settings [8].

The broader impact of the project on students' learning and civic engagement is significant. Engaging in this kind of immersive, hands-on research fosters critical thinking and analytical skills, enhancing students' ability to connect theoretical knowledge with practical application [9]. Moreover, by participating as co-creators in the research process, students develop a sense of ownership and responsibility towards societal issues, thereby promoting civic engagement [5].

In terms of contributions to the field of educational research, this project exemplifies the transformative potential of integrating interactive storytelling and ethnographic methods within the framework of research-based learning. It highlights how such innovative approaches can enhance student engagement and provide valuable insights into complex social phenomena.

Despite the innovative design and anticipated benefits of this project, several limitations must be acknowledged, particularly in relation to data collection. The 14-day period for shooting the web series



and gathering data presents a significant constraint. The limited duration may not adequately encompass the entirety of adolescents' experiences and perspectives on freedom, potentially resulting in an inadequate comprehension of the phenomena under investigation.

Moreover, the ethnographic approach, while rich in qualitative insights, may face challenges in achieving a representative sample. The selected participants might not fully encompass the diversity within rural and urban adolescent populations, which could impact the generalizability of the results. Moreover, the effectiveness of the interactive media component is highly dependent on the participants' inclination and capacity to actively interact with the technology, which might vary greatly and impact the gathered data.

Another potential limitation is the inherent subjectivity in interpreting ethnographic data. The student researchers' predispositions and viewpoints may influence the analysis and conclusions, thereby potentially impacting the neutrality of the findings. In order to address this issue, it will be essential to implement stringent methodological measures (e.g. triangulation and peer debriefing).

Finally, the process of collecting data might be affected by logistical constraints, including the need to coordinate schedules, technical problems with recording equipment, and differences in participants' degrees of digital literacy.

6 Conclusion

This study project showcases the effectiveness of utilizing interactive storytelling and research-based learning to delve into intricate societal concerns. It not only involves students in significant ways but also promotes a more profound comprehension of the notion of freedom as encountered by rural vs urban teenagers. The project provides a holistic educational experience that combines documentary and fictional components with thorough ethnographic research, effectively connecting theoretical understanding with practical application.

The project's effectiveness in involving students and encouraging civic participation underscores the significance of creative teaching methods in contemporary education. By actively engaging in the research process, students acquire essential research skills and gain a sophisticated comprehension of societal concerns, thereby equipping themselves for future academic and professional pursuits.

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