

Article

Students' Social Construction of Knowledge through Cooperative Learning

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Abstract: The objective of this manuscript is twofold: to critically analyze the principles of epistemic diversity and democracy and perform an analysis of the social construction of knowledge by university students through cooperative learning. The semi-structured interview methodology employed in the research revealed that the students provided a positive assessment of the possibilities of cooperation in heterogeneous teams: the array of experiences that were emerging in the process helped the students in the tertiary systems transcend the boundaries of their knowledge, share experiences, and construct new knowledge together. The research also highlighted students' critical attitudes towards previous teamwork experiences, which relied more on an individualist than social approaches to knowledge. It also reflected on the causes and consequences of those experiences. Student interviews revealed a variety of difficulties the students were facing during team cooperation. The unconventional study process, centred on active and independent performance, social construction of knowledge, triggered confusion of the students' roles, dissatisfaction with the unequal contributions by the team members to the common work, and the lack of teachers' intervention. The findings established the basis for the design of the educational approaches for university students to socially construct knowledge through cooperation.

Keywords: knowledge; social construction; cooperation; team; teamwork; studies; university

1. Introduction

1.1. Social Interaction and Cooperation as the Preconditions for Construction of Social Knowledge

In the contemporary world, knowledge has gained significance as one of the key resources. In the context of the rapid transformation of knowledge, it is not the content that matters the most, but the knowledge on the methods and knowledge creation procedures [1]; consequently, the knowledge construction ability. Under the principles of constructivism, knowledge is not given, but rather constructed by learners in their consciousness and through social interaction. The traditional educational system focuses predominantly on the development of individual knowledge and thinking abilities, but gives limited credit to the social aspect of knowledge construction [2].

Cultivation of the competences, which are important for professional and social activity as well as individual's self-expression in the rapidly changing multidimensional world, is one of the most extensively discussed Sustainable Development Goals (SDGs) for education [3,4]. In the education of the future, specialists at schools of higher education can help to develop the competencies and abilities that could help fulfill the SDGs [5,6]. Cooperation and collaboration, teamwork with the view

towards the implementation of the SDGs has been analyzed and substantiated in various contexts by researchers [7–11]. Their findings prove that the communication and cooperation competencies and the components thereof determine a more successful process of the individual's adaptation to change, problem-solving, and more promising career opportunities in the future. Cooperation, knowledge sharing, promotion of uninterrupted learning, and improvement processes have been increasingly prioritized in higher education within the SDGs framework and in the aspiration to cultivate the competencies of the future [12–15].

In contemporary educational discourse, constructivism is one of the most common theories employed in order to substantiate the nature of knowledge. The authors interested in the postmodernist turn acknowledge that this transformation of our society promotes mainly constructivist thinking [16]. According to constructivism, the knowing subject is also the acting subject. The constructivist approach emphasizes that there is no knowledge beyond the human being, and, to the contrary, that knowledge is constructed by people in the process of their interaction with the world [17]. This approach has had a significant impact on the change in didactics [18]. Constructivism seeks to justify knowledge being related to the activity of the subject that creates meanings rather than a reflection of a given ontological reality [19]. It has been acknowledged by the advocates of social constructivism that “reality” and “knowledge” tend to be taken for granted. However, this position hinders the understanding that “reality” and “knowledge” may differ from person to person. Berger and Luckmann point out that “specific agglomerations of “reality” and “knowledge” pertain to specific social contexts” [20] (p. 13).

Following the constructivism theory [16–20], learning with the view towards sustainable development is an active and ongoing process. During this process, the learners build their personal experience, meanings, and knowledge constructs. Education is not or should not be understood as the transmission of never-changing ideas from generation to generation, but rather should be viewed as a way to reconstruct social relationships so that people have the opportunity to respond adequately to the changing world [21]. Students participating in the knowledge construction process are able to identify the meanings that exist in society and use this knowledge in their study process.

The change in the reality of education has been influenced significantly by various forms of constructivism, which allow for a better understanding of the essence and expression of students' knowledge construction. Social environment and social structure doubtlessly have a considerable effect on knowledge construction. This effect has been explored comprehensively by the advocates of social constructivism [20]. However, the perception of society as an objective structure should be extended with subjective meanings as the individuals continue building society. The phenomenological and structural approaches thereby become integrated into a single and epistemologically consistent social research method [22]. The article focusing on the analysis of students' experience supports the idea that the subjective knowledge, internalized by the subject in the course of socialization, becomes the subject's subjective reality [20].

The present paper focuses considerably on pragmatic constructivism, which explains how knowledge is constructed in social interaction when addressing relevant issues and by adhering to certain fundamental values, such as democracy, epistemic diversity, and so on. According to the pragmatists, “more truthful” knowledge is the knowledge that has been tested and works in practice. Knowledge is not what reflects truth, but the most promising interpretation of the world [17]. In order to empower the learners to reveal their opportunities and identity, it is necessary to change the learning process, enable participation, consider the alternatives, and reflect on the meaning through cooperation [23].

The epistemic foundations of democracy and epistemic diversity are closely related to the change of power relations, the interaction between the participants of the study process that reject hierarchical principles. Participants of the study process should not be divided into experts (educators who know) and newcomers (learners who do not know); however, it should be emphasized that each person possesses knowledge of different things and individual experience [21]. Therefore, (self-)education is not the transfer, but rather the exchange of knowledge. Learner's experience, which is often underestimated in the conventional educational process, becomes an important source of knowledge. The diversity of

students' experiences and attitudes brings a certain novelty to knowledge. The knowledge is then constructed by combining information from different sources instead of trying to find the most reliable source.

Local knowledge is a more important concept of modern anthropology, ethnography, and ethnomethodology. It refers to the peculiarity of the knowledge possessed by the person who is in a certain place. This is referred to as a place of experience, a space (German: Raum) that should not be perceived as an empirical place [24]. Since the subject's knowledge is maintained in his/her own place of experience, this knowledge can only be represented by himself/herself, i.e., told as the story of the formation of his/her experience.

Situated knowledges also represent an important concept that emerges when it comes to knowledge construction. The concept of situated knowledges was developed by Haraway [25] to emphasize people's place of residence and specificity. Knowledge should be understood as knowledges. Where this idea is accepted, it is also recognized that "epistemologies of situated knowledges" [26] exist. According to the author, all human perspectives are embodied, present in a specific geographical, social, political context, and each approach always arises from somewhere. In situational epistemology, knowledge is understood as belonging to the embodied subject of cognition. It is not a product of independent, isolated and rational autonomous thinking. Knowledge is largely constructed through dialogue, with other subjects of knowledge. This idea, which calls into question the claim that knowledge is "discovered" by an autonomous, rational epistemic actor and "transferred" from one person to another, fundamentally changes the educational context.

In modern society, considerable attention is paid to shared knowledge, a dialogue leading to new knowledge [27,28]. Therefore, when defining the concept of knowledge, it is necessary to emphasize the importance of the social aspect. Knowing manifests itself as the knowledge embodied in activities and is inseparable from the ability to act in a social environment [29]. Dewey [30] perceives the perspective of the educational process, which is based on various experiences, different interests and their combination, as meaningful for the development of a democratic society. The formation of new power relations clearly contributes to this, as it is based on the pluralistic coexistence of experiences and interests closer to democratic principles rather than on the authority of the teacher as the only one who knows and reveals the truth.

Social interaction can be seen as a precondition for knowledge construction. The main characteristic of social epistemology is the fact that different actors are employed to achieve epistemic goals: several people are engaged in knowledge creation and sharing [31]. There is an important turning point in the transition from individual knowledge to shared knowledge not only in epistemology but also in education. In postmodernism, the problems stemming from the understanding that knowledge, thinking, faith and so on are characteristic of the individual have become evident [32]. This is related to the presumptions of the traditional epistemology that, by following certain rules, an individual can attain knowledge that is universal. Conventional curriculum documentation, educational process, and assessment assume that an individual student is at the centre of educational efforts and independent of the classmates and other members of society. The common notion of knowledge being the prerogative of the individual subject leads to the reluctance to share knowledge. There is also the tendency to demonstrate knowledge as one's own property and value. Where the social dimension of knowledge is considered, and attempts are made to implement it in educational practice, a number of challenges that the participants in the study process have to accept and overcome, emerge.

1.2. Cooperation in a Team as the Opportunity to Implement the Principles of Epistemic Democracy and Reflect on the Power Relations

Knowledge constructions take place as students cooperate in teams, negotiate, and reach consensus. The substantiation of the practice of application and implementation of cooperative learning principles, techniques, and methods during teamwork is provided in a number of research works [33–37]. The results of these studies clearly show that teamwork becomes more effective and efficient when

seeking both individual and shared set goals. Learning through cooperation in the team is useful because it provides the opportunity to understand complex concepts from the perspective of different subjects' worldview, and see the diversity of perceptions regarding the same phenomenon, thereby avoiding superficiality and simplification. Working together, students reveal the versatility and complexity of the problem and prevent one from assessing the phenomenon from its own (one person) perspective.

During teamwork, students learn to negotiate, communicate and cooperate effectively, identify knowledge gaps, deepen knowledge of concepts, share views, test their ideas, increase motivation and interest as they discuss and overcome uncertainty, learn from each other, and not only from experts, and so on [38].

Where teamwork is applied, it is assumed to provide better results than working separately. However, this can only be achieved through positive interdependence, where all members of the group are involved and recognized as participating in the process of knowledge construction. In case individual members are ignored and eliminated from the group, positive interdependence is violated, and learning outcomes are unattainable. A cooperative group exhibits positive interdependence, individual accountability, heterogeneity, shared leadership, and so on [39].

Students' cooperative learning challenges emphasized the most by the researchers are related to unequal individual participation in group tasks [40–43]. During cooperative learning, students often encounter the experience of free-riding [44], when one or more group members do not contribute to the common. This may become a considerable demotivation for the rest of the group members.

The lack of sufficient heterogeneity also becomes an obstacle to successful cooperation in the team [45]. Members of a homogenous group would hardly be expected to contribute to the teamwork with diverse experiences or use diverse resources. Heterogeneity provides access to a variety of sources in the team. This enriches not only the process, but also the result of the work.

Inappropriate group size also interferes with effective teamwork [45]. The larger the group, the more difficult it is to manage the processes inside the group, and better teamwork skills are needed. Students in a large group tend to show lower appreciation of their own contribution to the common effort. The lack of collaborative skills may be one of the antecedents of the collaborative problems students often experience during cooperative learning [46,47].

It has been acknowledged that competence status and friendship may become obstacles in cooperative learning [48]. When sharing their cooperative learning experiences, the students noted that high-status students in their learning groups were generally believed to be active, competent or senior. The ideas of the latter were usually accepted by the majority without further discussion. Students also revealed that feelings of friendship in the group sometimes inhibited them from working seriously and constructing good arguments [48].

Teamwork is emphasized as it has more to it than merely faster and easier completion of work by several people. The idea of teamwork is aimed at heightening the ideals of epistemic diversity and democracy. The implementation of democratic principles can be observed in cooperative learning. According to Dewey [16], democracy is open to others, it is pluralistic, open to development, and is expected to open up various avenues, at the same time promoting individual growth of its participants.

Researchers [49] noted the importance of experience for education in the context of democracy. According to the author, before Dewey's works, personal experience was underestimated in philosophy. At the same time, hierarchical relationships were established, as it was believed that it was not the person himself/herself, but someone from above who was performing regulatory functions in the cognitive process. Recognition of the diversity of experiences is a prerequisite for democracy. One of the key features of democracy is equality. Openness to each other as a unique existence is necessary. Democracy requires the free interaction of differences. A democratic way of life must ensure that diversity forms a consistent whole without any external regulation. Recognizing the importance of epistemic diversity, the advocates of pragmatism [50] usually rely on the following two theses: the value of each opinion is relative if viewed from a certain particular perspective; no perspective is so privileged that it is the only one or above others.

Heterogeneity in cooperation between different subjects, on the one hand, leads directly to the diversity of opinions needed for democracy, the search for consensus. On the other hand, heterogeneity is related to emerging problems. Dewey uses the term “solidarity”, which can also be used in educational discourse with the view towards successful teamwork, when all members participate actively in it. Dewey identifies the need to manoeuvre between freedom and solidarity as the paradox of education. The democratic paradox between freedom (diversity) and solidarity manifests itself as an educational paradox: if the learners need the right conditions for personal growth and implementation of diversity, socially marginalized people, who need solidarity and compensatory support, need to be considered all the more [51]. The balance between freedom/diversity and solidarity is important for the prosperity of democracy.

Dewey’s principles of democracy are crucial in education [51]. Education, according to Dewey, is a prerequisite for the development of society and science. In contrast to authoritarian relationships, the diversity of democratic interaction is a phenomenon of free and perceived choices between deliberately shared interests. Advocates of neopragmatism suggest taking with a grain of criticism the unconditional belief in the progress that takes place when all actors in the education system perform their duties. The postmodern state is centred on critical and reflective thinking, division and intertwining of roles, alternative means of solving educational problems, and situations of great uncertainty characterized by diversity. In case of failure to organize cooperation activities, there is the risk of even greater divergence of interests, creating space for new unproductive power struggles [51].

Student teamwork, designed as an opportunity for the manifestation of epistemic democracy, in some cases leads to unproductive power struggles. In the organization of teamwork processes, one of the important aspects to be considered and pursued is equal treatment of the participants and the opportunity to be heard, express themselves, and express their identity, experience and interests. An interacting group, where there is neither an authoritarian teacher nor one or more dominant students, corresponds to the democratic principles the most and is the most favorably viewed by participants in the educational process [52].

In poststructuralism, power is no longer associated with the explicitly expressed power of a king, a dictator, but rather operates in a democratic society, where it takes on a subtle form. Power relations are built by ordinary people who simply perform day-to-day actions [2]. The theory of power emphasizes the presence of continuous struggles of interests, and, as the situation changes, power relations can be changed or reversed [53]. Although a power relation is unavoidable, it can be reflected upon [54]. This is a very important idea in the educational context, as it provides a perspective for change in critical thought and power relations. Students, who have mostly experienced traditional education, are characterized by relatively low critical thinking. This, in turn, affects the possibility of using alternative tools, communicating with different people without separating students from each other, thereby enabling joint discussion for knowledge development, which otherwise may lead to positive consequences in the field of power games.

Without questioning the existence of universal power, Foucault [55] attaches importance to the desire for it not to be hegemonic but rather to meet the needs of a democratic society. It is, therefore, necessary to reflect on the current variant of power and, if necessary, attempt to replace it with a more acceptable one to serve the interests of different groups. For example, this kind of change is possible following the provisions of the theory of constructivism, which states that there is no single timeless truth, but rather the truth always represents someone’s interests and is subject to variation. According to Dewey [30], freedom from restraints only makes sense as a means for positive freedom: the freedom to set goals, judge wisely, consider the consequences and choose the sources for the achievement of the set goals.

The traditional approach to education is based on the provisions of individualistic epistemology, which reflect a hierarchical model of power relations. The origins of individualistic epistemology are well illustrated by the panopticon described by Foucault [55]. A panopticon is an architectural form, in the central tower of which a supervisor is placed, and in each cell, an individual is closed.

The learner can also become the individual in the panopticon. The person is perfectly individualized and constantly visible, and the side walls prevent any contact with neighbors. The person becomes the object of information, but never the subject of communication. The panopticon is characterized by constant surveillance, all-encompassing and vigilant gaze, and the system of continuous recording. The panopticon, as a derivative of surveillance and observation, is related to the aspiration of reducing the diversity of discourse, because single desired behavior is sought in the process of observation, surveillance, and discipline.

The panoptic scheme in education forms a mechanism in which the relations of power (and knowledge) are precisely matched with controlled processes to the smallest detail. Learners are separated from each other to preventing not only violations of the existing order, but also any possible manifestations of epistemic diversity. The pursuit of the ideals of epistemic democracy allows for critical reflection on the current situation and the search for and analysis of the learning methods that enable the social construction of knowledge.

As teamwork, during which the learners have real opportunities to cooperate with each other sharing the existing experience, is implemented and developed, new power relations enable the participants of university studies to think critically, operate actively and constructively. This creates new conditions for the social construction of knowledge. Cooperative learning in a team provides the conditions for the active construction of knowledge. It is also a more effective method than the usual method of a lecture in a workgroup, improves students' general personal and social skills [56,57], enables the students to achieve higher academic results [58,59]. Cooperative learning increases students' motivation for activities, self-esteem and self-confidence [60]. Cooperation with each other allows for a clearer understanding of the concepts used, the context and each other, forming a community with a shared goal. Each student realizes that they are "drowning or swimming together" and helps each other succeed [61]. Behavioral interdependence refers to the communality and influence that the learners collectively associate with their existence and day-to-day events, committing themselves to a shared goal in order to solve an assigned task [62]. Students' creativity, problem-solving and other teamwork skills are developed through cooperation in the team and the pursuit of the shared goal [63].

Nevertheless, as the results of former studies [64] show, not all learners, as well as educators working with students, are ready for cooperation in a team. Many subjects of the educational process have to overcome a complete transition period full of contradictions and are characterized by the coexistence of different discourses. Recognition of epistemic diversity close to the democratic ideals leads to the desire to turn back to the learners, their situation, context, and their knowledge as the experience of the living world. Not only are students empowered as a particular group, but attention is drawn to the fact that this group itself is not homogeneous. Thus, students with work experience, holding an authentic, life, personal experience, participating in various organizations, etc., are empowered. This is based on the fact that cooperation in a team creates real preconditions for constructing knowledge using personal experience.

The research *aim* is to disclose the experiences of students' social construction of knowledge at a higher education institution through cooperation in a team.

2. Methods

2.1. Context

The research presented in the article was closely related to the project on the application of problem-based learning conducted at two Lithuanian universities. Problem-based learning involves active student cooperation in teams when analyzing and solving problems. The key aim of the project was to develop the methodological and informational conditions for problem-based teaching and learning for assurance of specialists' competitiveness in the labor market. The choice of the universities for the project (as well as the research presented in the article) was based on the strong orientation towards social sciences. Improvement of the study process in the social science area,

students' involvement, development of social construction of knowledge, cooperation skills were designed as a response to the recurring reprimand in relation to non-competitiveness of the graduates from social sciences in Lithuania, lack of links between the theory and the practice, etc.

The schools of higher education that had certain differences were chosen for the research to cover diverse experiences. This was done with the purpose of ensuring the diversity of the research data among other things. The first university was promoted as the state school of higher education promoting change in the country and, in particular, one of Lithuania's regions. The second university was referred to as the Liberal Arts and Sciences School of higher education. The second university did not associate itself with any specific region, but emphasized the aspiration to build Lithuania's future and contribute to the development of global culture and science.

During the project period, 8 study programs in the social science area, 70 study subjects under the programs delivered by 60 teachers and attended by more than 800 students were updated by integrating the problem-based learning strategy and application of cooperation in teams. Upon completion of the first semester of studies under the updated study subjects, student questionnaire surveys and interviews with teachers were conducted to learn about their experience in relation to the updated subjects. The study subjects which had involved the most intensive student cooperation in teams were identified during the research. The learning in teams was long-term, lasting for the entire semester and involving students gathering independently at least weekly to analyze problems in teams, pursuing the shared goal of the team. The students performed certain team roles, were encountering various challenges, and working to overcome them, i.e., experienced the specific dynamics of the teamwork, etc. The students who had been attending certain study subjects were invited to participate in a semi-structured interview under the research presented in the article. The article presents the part of the research that reflects the most the cooperation of students in teams in the social construction of knowledge.

2.2. Participants

The research involved 31 students: one representative of each of the teams which had the opportunity to have the active experience of cooperation in the team. The interviewees were selected applying mixed purposive sampling. Mixed purposive sampling refers to the use of two or more sampling methods in a single study [65]. Besides the criterion sampling, the research also employed the snowball sampling principles where the research participants recommended conducting interviews with certain students who had unique and rich experience in cooperation in a team. The sampling of the research participants provided the possibility to reveal the diversity of experiences of cooperation in teams.

The research participants represented the following Bachelor study programs: Public Administration, Business Administration, Economics, Public Communication, Special Education, Primary Education, and Education. The first university was represented by 15 students, the second—16 students. The gender distribution was the following: 3 males and 28 females. The unequal gender distribution of the responses reflected the situation, namely, that social science study programs (in particular, in the area of education) were predominantly attended by females (the students under the Education and Primary Education and Pre-School Education were females only).

A total of 12 respondents were second year-, 16—third-year, and 3—fourth-year students. The majority of the research participants fell under the age group of 20–22, and only two respondents were 24 years old. Six students introduced themselves as group leaders. When referring to the role distribution in the team, the remaining students stressed that the leader had been assigned formally, but all the members faced the necessity to exchange roles in the course of cooperation in the team. The majority of the groups, in which the research participants cooperated during the research, included 4–5 members. This group size provides students' highest activity and engagement [66]. Only two groups were larger, containing 6 members each.

All the students had the experience of teamwork, although fairly diverse. Preceding cooperation in teams of the majority of the research participants was short-term, centred on completion of the assignment formulated by the teacher or educator. Several research participants stressed their long-term independent experience of cooperation at the students' associations or other organisations. The teachers briefly introduced the essence of cooperation in the team to the students who were starting to attend the updated study subjects. The process of learning in the team was not controlled clearly from outside, and the students cooperated in the teams independently.

2.3. Research Methods

The semi-structured interview method was used to understand how the research participants perceived the world, constructed meanings, and interpreted their own experience gained through cooperation in the team. The analysis focused on the way the new knowledge was constructed as the horizons of meanings were merging. The way that previous understanding of the research participants was being combined with new experiences, the meaning it acquired for the subjects of cognition was revealed.

Given the research aim, the following main questions of the semi-structured interview were developed: What was your teamwork experience before undertaking this study subject? How would you describe your experience of cooperation in the team during studies under this study subject? How would you evaluate the process of cooperative learning of your team? Why?

The main questions were aimed at revealing the students' previous experience of cooperative learning in the team. It was also sought to identify the specifics of teamwork experience of the research participants as they were studying under the updated study subject. Moreover, the students' view towards the resulting process of cooperation in teams, how they evaluated the process was important and provided certain reflections.

The interpretive phenomenological analysis applied to the analysis of the interview texts emphasized not only the importance of the meanings constructed by the interviewees, but also the interpretations of the researchers based on their experience and knowledge [67]. In the research building on phenomenology, the key focus is placed on the experience [68]. Hence, the conducted research gives considerable credit to students' authentic "voices" by presenting the experience they shared during the interviews.

Following the idea of the "hermeneutic circle", the researcher moves in-between part of the text and the whole of the text [68]. This refines the key meanings embedded in the text. The following stages of analysis were completed in order to perform the thematic analysis: achievement of familiarity with the data through open-minded reading; search for meanings and themes; organization of the themes into a meaningful wholeness [69].

The internal validity of the research results was pursued by the efforts of the researcher to participate in the research process directly and the use of efforts of other researchers in the data analysis process. The data analysis process involved continuous work with the supervisor. The supervisor's assistance helped reflect the key experience presented by the research participants in a more accurate and clear way. It also contributed to the common understanding and empirical and conceptual agreement. Confirmability of the qualitative research results was assured by illustrating the results with the examples of research participants' experience and ideas.

The ideas of various authors, in particular, of the ones analyzed in the conceptualization of social construction of knowledge, were used to understand the research data better and prepare the discussion on the basis thereof. This method of analysis is based on the conviction that, when interpreting the results of the research, it is reasonable to use the philosophical concepts already mentioned, thereby allowing the theories to "operate", "employing" them [70].

2.4. Research Ethics

During the research, the fundamental principles of ethics were followed: voluntary participation, confidentiality, respect, etc. [71,72]. When planning qualitative research, research participants' verbal

consent to the participation was obtained. The convenient time and place for the interviews were arranged with the research participants. All research participants were acquainted with the purpose of the research, its benefits, the rights of participants, and the possibility to refuse to participate in the research. Prior to the interview, the research participants' verbal consent to record the interview was obtained.

The confidentiality of the information obtained was maintained by ensuring that no one but the researchers had access to the information provided by the participants in the research. For the avoidance of potential discovery of the respondents' identities, the respondents' names were replaced by the researchers with pseudonyms in the presentation of the results.

The research was conducted in accordance with the principle of respect to the participants in the research. Their opinions and experiences were accepted as meaningful and respectable. It was sought to make sure that the benefits of research outweighed the potential harm to its participants. As the research participants shared a relatively new experience with them, which was sometimes associated with the resulting tensions and ambiguities, the aim was to listen to the study participants and give them informal feedback.

3. Results

Considering the large data set generated, the results part identifies and discusses only the key topics and the content thereof, related directly to the students' experience of cooperative learning in the team. In the present case, three topics reflecting the research participants' experience were identified: experience in implementing epistemic diversity and democracy through cooperation in the team; critical attitude to the experience of cooperation in the team, its causes and consequences; difficulties in cooperation in the team. The key topics and content thereof are presented in the form of a description.

3.1. Experience in Implementation of Epistemic Diversity and Democracy through Students' Cooperation in the Team

By cooperating in the team, the students understood the importance of epistemic diversity in the social construction of knowledge. Each student's attitude and experience reflected the situated knowledge, and its sharing led to the expansion of the approach to the analyzed problem. The students emphasized that the knowledge gained through cooperation in the team was not one-sided:

...delving into one thing all the way through when you're on one side, you don't think it might be completely different. And when there are two more heads, they think of those other ways

(Morta).

...discussion questions, if you held the discussion with yourself, it would be on the same side than it would have been with other members of the group, who may have a different picture than that you

(Augustè).

...we shared our opinions all the time, we were able to express them. At the same time, sharing that opinion is also sharing the experience, that we are broadening our horizons through such work

(Sigita).

And, when working in a group, perhaps the best thing is that you learn from other person's experience. You grow this way

(Vilija).

The excerpts from the interviews reflect both the significance of each person's unique experience, a unique field of vision, and the one-sidedness of such an approach. This enabled the students to reveal the meaning of local knowledge, space of experience, and shared knowledge in practice, and to turn from individualistic to social epistemology.

The students revealed their practical experience of how knowledge was tested by other team members in their groups:

...one has discovered this and the other one—that, and afterwards everyone sits down, you start solving that problem, and see that you didn't know this, and this one didn't know that, and this statement of mine is wrong. You just test yourself in that group

(Loreta).

...when you write and discuss in a group, you hear some five more opinions <...> then you see that you really need something like that. Somewhat like support, somewhat like criticism, but that criticism wasn't that expressed angrily. <...> And somehow that work in a group is very, very positive, because there is really this help

(Vilma).

Thus, the team created conditions for the development of critical thinking and discussion, and identification of mistakes. The idea emphasized in the interviews, namely, that criticism served positive rather than negative purposes, is linked closely to the potential for constructing scientific knowledge.

One of the advantages of cooperation in the team was that the students' team could consider the problem from different perspectives, as more people had access to more diverse learning resources:

...When working in a group, another member of the group may have found some other sources that present a different opinion. You can compare, draw some conclusions, not from a one-sided opinion

(Monika).

It was observed that not only authentic experience was important as a source of knowledge. The experience was expanded as a variety of sources was used. This shows that, by cooperating in teams, students sought to find a solution to a problem that was discussed from various angles, instead of looking for a single source that would reflect the "truth". In this case, teamwork reflected the students' emancipation from authorities, such as the teacher, one recognized source, one truth, and led to further—real—conclusions, and formation of opinions considered from various angles.

You learn to work in a group <...> to respect other person's opinion, and express your opinion. Because, let's say, when you sit in the classroom sometimes you remain silent if you know there are those who speak. Even if you want to say something, you still do not dare. But when working in a group, you express your opinion

(Skaistē).

Students revealed that they felt bolder to express an opinion in a small group of peers than during traditional lectures in front of the whole audience and the teacher. Although teamwork is often criticized for enabling some students to hide behind others, the interviews have suggested that, in traditional studies, some students do not demonstrate their voice at all. Moreover, considerable focus is placed on this in teamwork, while in traditional studies, this phenomenon is accepted as fairly normal.

Some students positively assessed the possibility to organize their own studies due to the freedom and elimination of restrictions linking scientific knowledge to its acquisition in the academic environment:

Anyway, there were problem-based seminars every other week, but we met almost once a week because there was some material or something else that was necessary. It was either in the library, or at someone's home, or somewhere. It was just this bit of freedom from not having to sit in those classrooms and do something there. A bit more relaxed and the job might have flowed a little easier

(Vilma).

However, the students also emphasized that working in a team was quite difficult because of the need to understand and accept each other. Working together in the team, students observed that they had made the effort to understand the uniqueness of each person's experience and knowledge, which must be taken into account for the study process to be successful:

You tried to understand each person: what they wanted to say, the solution they offered to the problem in different ways. Very psychologically exhausting

(Roberta).

Because there are a lot of different attitudes, a lot of completely different personalities, different visions, upbringing. Well, completely different people. And you were listening to everyone and also accepting ... you must have the quality to be able to accept everyone's opinions <...> Because then you know when to say something, and not to mention something, because a person can even react in some negative way

(Gertrūda).

If the whole team had worked, maybe the quality would have gone up. Maybe we could have done it in more detail, more deeply, maybe we could have taken English literature more into account, more assumptions, more insights

(Agnè).

In the epistemic diversity environment, students tended to pursue consensus differently. In certain interviews, the initially calm discussions in the study process were observed to turn into disputes that caused a lot of tension in the team, until a compromise was finally reached:

We argued a lot. Of course, that argument at first had such a beautiful form, then it was a little stronger <...> But then, with those two colleagues we found a compromise and directed the work so that it would satisfy both the three of us and the two of them. And that work, at least I grew up in being able to look for compromises with people, no matter how different they may be <...> I learned to justify my opinion more, to rationalize it more, and to understand what I want myself. But maybe it's good that the group was like this, because we got a good assessment. And in another group, they might have been more relaxed and thinking "Oh, we will do it tomorrow, not today", the result would have been worse, although it had been very nice to be in that group

(Rūta).

The interview has revealed two problematic perspectives in seeking consensus. One of them is overly active disputes, the other is the conformist approach to problem analysis and solving. In both cases, a constructive solution has to be found. In the first case, this is halting the discussion before the quarrel begins. In the second case, it is providing all team members with the opportunity to speak, and provoke them to express their own opinion on the respective issues:

Because others have trouble raising discussions. They don't know how to interrupt or manoeuvre. And the discussion sometimes turns into a quarrel. We did not have this, because all the discussions, in fact, before the very climax of anger, if you can say so, were interrupted. <...> You just need to know what to tell them to make them express their opinion. And those who tended to comply also took part in the discussions

(Goda).

It was observed that, considering the good result based on different perspectives, it would be reasonable to form heterogeneous teams rather than take the established friendships into account:

They want to be in the group with their friends. But we need to mix people to make it as diverse as possible, to have more different views

(Vilija).

Some students emphasized that, in the discussions, they had not only to reconcile different opinions, but also to refrain from expressing their own opinion. This approach stemmed from the belief that conflicting views intersected and were incompatible; therefore, the aim was to prevent possible confrontation in advance. Students were convinced that, this way, they were creating a positive atmosphere in the team. Hence, they did not present their opinion as the only truth:

Sometimes you just want to object. Anyway, you really try to say something similar as well, and to contribute somewhat yourself

(Lina).

You seem to know what you want to say, but others are expressing their opinions as well. And all the time something like an objection appears. And next time, you think that it might be better to remain silent this time, to just let it go. So, just not wanting the group members to think their opinion is inappropriate, or that my opinion was the only right one, I sometimes just kept quiet. Although I defended my opinion in the process. I just didn't express it categorically so as not to form negative opinion about me as if I was the only and the right one in the group

(Monika).

The other team also revealed that it could not be that only one idea was correct; however, the positions expressed in the group were defended more, a consensus was sought after listening to the diversity of opinions:

...there were six of us and all had different opinions on how to solve that problem. And, for example, one was thinking it one way, the other hadn't encountered it at all. Personally I had encountered similar case at company X, and I shared how it should be dealt with. I claimed how company X would do it, but there were other options about how it should be done. And my option, for example, would not necessarily be the suitable option

(Tomas).

In the excerpt from the interview, the student noted that his practical experience working at a company helped him in teamwork. Nevertheless, it was understood that the experience could not be viewed as the absolute, universally valid truth. Hence, a team has enough opportunities to construct a solution on its own when all the members are equally involved in the process of knowledge construction.

By cooperating in a team, students also reveal the manifestations of solidarity characteristic of the democratic process. Having split the work, the students felt responsible for the overall result and helped other team members, if this was necessary:

And we would distribute what we'd write on this topic: you might be writing on this topic or on that one. And if there are any difficulties, another person would simply help, take over, say "I might have something more to say on this topic, I've started taking interested in it earlier, and so on" <...> And then we put it together, tried to merge that text, and correct it

(Sigita).

The excerpts from the interviews often show the aspiration to implement the principles of epistemic democracy and the support for the idea of epistemic diversity. However, when cooperating in the teams, the students also observed a number of difficulties, which encouraged them to exercise critical thinking and stimulated the desire to change the situation in view of the declared benefits of cooperation in the team.

3.2. Students' Critical Attitude towards the Experience of Cooperation in the Team, Its Causes and Consequences

In the interviews, the students often referred to the experiences of previous teamwork, which also determine the process of the unconstructive teamwork this time, which does not lead to cooperation and social construction of knowledge:

We see how parents work in groups, the experience comes to us from the school, and the experiential things come from elsewhere, that whole perception is formed because of the distribution of those roles, that everyone wants a good result, the maximum. But there is no awareness that I get for what I contribute, not for the other

(Agnè).

We don't know how to work in small groups. We don't know how to speak up. We don't know how to defend ourselves, our opinions. We don't know how to accept new ideas, we do not want any innovation. The teacher came, gave a lesson, everyone did a test, and we all left. Everyone was happy. Everyone was responsible for themselves

(Vilija).

We probably don't know how to truly work in a group. We are all made accustomed to working individually. At school, they are very strict about making us accustomed. We bring it from school: "if you come up with it, don't tell anyone, because the other one will copy and then your thought will escape"

(Agnè).

The interviews have substantiated the view that the learning experience is mostly based on the principles of possession, which are centred on knowledge as an important thing in itself, a potential the property of some, and something that others may lack. Hence, the importance of knowledge as a social construct and the meaning of the social environment in testing the functioning of knowledge are not recognized. Cooperation in the team became complicated and unconstructive due to the fact that students tended to take individual contributions as their own property and were reluctant to share their knowledge with others. Students attempted to explain the difficulties of cooperating in the team caused by insufficient sharing of information and knowledge from the positions of the prevailing individualistic epistemology. Their critical attitude towards previous teamwork experiences could be an incentive to change the current situation.

... you might not see the benefit for the whole year. Because it's not something that comes quickly. Because people don't have the experience in that yet. But in a year or two, it will be the case that, having become used to it, the students will not be able to work differently. They, especially the teachers, will be able to form a group in their classroom that will work in unity, it will be united, and that there will be no divided people in small groups. As is often the case now, there are some groups in the class, something like sects or so. Instead of everyone being for themselves, as they say, everyone will be all for one and one for all

(Goda).

The students' interviews have revealed that practical organization of teamwork was important to them not only as a temporary process that helped them study a particular subject, but also as the experience that would be important in their professional activities as representatives of social sciences.

It could be observed that previous teamwork experience differed from the current one. The students revealed that, in the past, team tasks had sometimes been performed even individually by taking turns:

We would sometimes distribute the work, with some presenting once, others—the other time, and there was a situation where we had already done a lot and told one lady that she would be preparing a presentation, but she didn't, she prepared it very negligently, she did not understand what she was

talking about, and we, as usual, were used to preparing something while others were resting, so we as well did not prepare anything either, it was a very great shame because the teacher realized that no one was ready here

(Akvilė).

Problem-solving through cooperation in the team happened to be unusual for many students. In the interview, the difficulty of problem-solving was associated both with the experience brought from the school, where one had not been expected to express their own opinion, and with the fear prevailing in the first years of study:

Everything was placed and given on a silver platter at school, we had to take it from the teacher, and we were lazy to do even that. And here you have to work your head at university. <...> Problem-based learning should be applied here, in my personal opinion, only in the third to fourth year. Because in the first or second year, you are still a freshman and are afraid of everything, you will not be able to deal with it

(Tomas).

Students justified the non-originality of the decision made by the team by the fear of innovation and unwillingness to come up with atypical ideas. The habitual learning experience, characterized by the assimilation of ready-made results, caused difficulties when students had to organize the process of solving the problem themselves:

They are afraid, they don't want any innovation, they somewhat want the easiest, the simplest way. The assessment may not be that high after all because of that, because there aren't any ideas that would be interesting enough. Because everything comes through ideas. But they want a simpler, faster, less demanding work. It's not always that this road is the best one

(Vilija).

The prevailing clarity and certainty in traditional studies were mentioned. Reportedly, in the case of cooperation in the team, it was replaced by confusion caused by the freedom and initiative given to students:

There were a few criteria provided, we were put on the road to some extent, but basically it was purely our free choice as to how we wanted to do it. Therefore, there was considerable confusion at the beginning, because it was unclear what was really needed to be done, because we were usually accustomed to being instructed on almost each detail, but then we had to improvise and do it purely on our own

(Akvilė).

Faced with an uncertain situation, some students tried to perform the functions they were accustomed to seeing performed by the teacher. Consequently, they would share explanations with each other, teach each other. At the same time, however, it could be observed that understanding and supplementing information with their own insights became very important components of learning. It can be assumed that, in certain learning teams, both the objectivist approach to learning, involving explanation to others, revealing of the truth, and the (inter)subjectivist-interpretive approach, based on the understanding and sharing of each team member, were closely combined in the decision-making:

We communicated with each other and explained. It helped a lot. All three of us were looking increasingly deeper and trying to explain to each other as much as we understood ourselves. We would read the slides over again. And we shared, each of us complemented what we understood [. . .] We just wrote it and didn't think about it any further. It seems to me that if had we looked through something again, read again, we would have needed to make changes, and new facts would have emerged. But since we didn't do it, we didn't need to change anything

(Gustė).

The interviews revealed that, in certain teams, problem solving took place as a cyclical process, when the return is made to the solution, and the solution is corrected again. It is one of the most productive options for cooperation in the team, showing the idea of the absence of one ultimate truth and the process of constructing social knowledge. In certain interviews, it was observed that the cyclical process of problem analysis and decision-making was seen as a potential opportunity that students did not, however, use.

3.3. Difficulties in Cooperation in the Team—The “Black Hole” Concept

The fact that cooperation in the team was little regulated from the outside caused considerable difficulties for some students. In teams, where the role of the teacher was weaker and not focused on an explanation of the expected behavior, students felt a lack of teacher intervention:

Maybe we are overrated because they [teachers] think we are conscious enough to deal inside. What's going on inside is just a black hole

(Agnè).

According to the student, the processes taking place within the team were invisible on the outside, hidden. In fact, the students were often reluctant to speak about them in public in the course of learning, as they thought it would harm their relationships. Therefore, they sought to demonstrate an externally beautiful result. A case of non-communication in the team was registered and ultimately resulted in all the work done by a couple of team members and assessed as excellent. There were cases when not only the roles in the team were not distributed, but also the agreement on their performance was complicated. For example, in one case, students observed that they were asked to assign certain roles to others:

...they say: “So give us works. Give us tasks, we will do them”. And we gave them to one person. She then said: “I don't understand how to do it at this point”. Well actually this is a very easy way to get away from work

(Agnè).

An excerpt from the interview reflects that the roles delegated by others were not functional in this case. It is difficult for students who do not find their place in the team themselves to accept the activities delegated to them from the outside.

And then comes such a thing, a natural human defense. He asks, “Why didn't you tell me anything? Why didn't you tell me to do that?” And then comes, “Do we have to tell you?” [. . .] You try to say he's not doing anything, and he'll tell you, “Ok, I'm not doing anything to you, but you don't let me do it”

(Agnè).

In such teams, where the roles of their members were controversial, conflict situations arose: certain students would blame others for not contributing to teamwork, and the latter defended themselves and claimed that they were constrained.

There were cases where the pursuit of a good overall result pushed students to simply do work for other members of the group:

Someone who knows less can hide behind us. We say to them: “Ok, you didn't do it, there's nothing to do about it. I want a good grade, I'll do it for you.”

(Mantè).

The interview revealed that teamwork, nevertheless, is reduced to individual work. The externally visible result—the solved problem—became the most important thing in it. However, in the process of the construction of social knowledge, there were great difficulties within the team: certain would not perform the tasks, others would use paternalistic ways—perform work for other team members, thus remaining frustrated with teamwork and creating the conditions for passive team members to continue to take such a position. When individual work had to be done in advance, students sometimes encountered difficulties. This was related to the irresponsible attitude of one group member or even the whole group towards individual work or its underestimation:

...if you instruct, let's say, to bring information about one thing or another, and the person doesn't, that group work automatically stops at that point. Because there is simply a lack of information and, of course, it gets harder. It really disrupts group work

(Skaistė).

Of course, everyone usually gathers without having read anything

(Greta).

There were cases where team members would cooperate very little, and everyone would preparing their own part of the work. This type of work was considered unacceptable by some team members:

Because there were people claiming that they would do their job and that was it. My part was, let's say, introduction and that's it, I would do nothing else. My work was the research method and that was it. There was no unity. We did it in parts. That was the main problem

(Rasa).

It was not possible to reach an agreement on the coordination of individual and teamwork in some other groups either. The interview reflected a stronger focus on individual work, as students found it difficult to coordinate the time they could spend analysing and solving the problem together:

And it was really hard, because some of us wanted to write our work—to mobilise the group more, to divide the work into parts, and everyone would have done their part of work. We would have then merged, joined as a single group. The rest of the group wanted more to sit all the time together and work together all the time. And in fact, not everyone had the opportunity

(Rūta).

The individualistic approach to knowledge and learning through cooperation in the team was replaced by clear responsibility for joint activities, but the unequal contribution of all team members to the group's responsibility sometimes suggested controversial assessment of the process:

And when you know that you are responsible not only for yourself, but also for another person, you try not to let other people down. There is such a responsibility. Not only for yourself, but for others as well

(Kornelija).

When you are responsible for yourself alone, it is always better than being responsible for a team. And this is one of the main disadvantages of problem-based learning, as far as we have noticed in the group, as it enables the people who are less willing to work to hide

(Mantė).

One of the advantages of teamwork and cooperative learning emphasized in the scientific literature [35,73] is greater team members' responsibility not only for themselves, but also for the whole team and/or group. However, based on the empirical data, the statement cannot be viewed as absolute. Sometimes the students would be reluctant to not only take responsibility for the team, but also for

themselves. The students who emphasized the model of learning as a team and individual contribution questioned the view that, despite not contributing to the overall team activities, such members of a team still brought some benefits:

Because I've heard a friend saying, "It's good that this one is not here. Let him not do it. It will be less trouble for us, less grumbling that something is wrong here. Let him not do it". Well, I don't know if this is a good or bad attitude

(Agnė).

The doubt expressed in the interview has suggested that it was very important that all team members were involved in the joint activities. Nevertheless, the case cited shows that some students were avoiding criticism of others, which may not be constructive, and viewed the actions of some team members as interference, with the easiest way to get rid of which was to avoid it. The students who referred to the negative team experience were convinced that some members had joined their team only because they believed that the work would be done without their input. This distorted the essence of teaching and learning as only the input of all team members can help constructively analyze and solve problems through the social construction of knowledge.

Or while working, let's say, in the group, a very passive approach to all that work could be sensed. Almost to the point that "I know that everything will still be done" because we looked responsible

(Monika).

When the teams were more complex, there was a lot of stress and trouble, and it turned out that you had to do work for others, which was very unpleasant and annoying if you thought: "Why do I have to do it?"

(Akvilė).

Besides expressing resentment during the interviews because of the lack of contribution from some team members to the learning process, the students sometimes admitted that their disapproval of such behavior was not expressed during the work, they did not say anything:

Sure, you feel some kind of frustration there when you put work in it. Let's say you're getting ready in the evening, sitting with those books, and the other isn't, and keeps silent having come to gather. This may cause the dissatisfaction inside. But it really wasn't said out loud that it was wrong

(Skaistė).

The latter quote and the idea often emphasized by students, namely, that "they cannot fall out because they will have to keep working together" reflected the unconstructive situation, where construction of knowledge was impaired and a negative attitude towards cooperation in the team emerged in the efforts to avoid conflicts. Teamwork was recognized as positive when the team was functioning consistently, but, when faced with problems, this would not be discussed, and the dynamics of teamwork would not be ensured. In the interviews, the opinion was frequently expressed, namely, that the formed team itself determined the success/failure of learning:

It happens that those who are successful survive, I mean, those who succeed in creating ideal groups, bringing together these like-minded people. And what should those who can't do it do, what should those who are those three people who don't manage to enroll in other groups should do? So what, they're doomed to learn nothing? <...> It roughly turns to be that the rescue of the drowning is a matter of the drowning themselves

(Gvidas).

Reflecting on the process of cooperation in the team, the students observed a lot of difficulties arising from the fact that this method of study was not common to them, students encountered a considerable lack of experience in the social construction of knowledge. The last excerpt from the interview expresses the idea that an external “rescuer” is needed in the process of cooperation in the team. It was therefore noted that teamwork in itself did not provide the benefits attributed to it. This necessitates the analysis of the particular ongoing process of cooperation in the team and making of empirically-based decisions on its improvement for students to successfully carry out social construction of knowledge.

4. Discussion

The theoretical analysis and research results presented in the article have enabled us to identify the coexistence of different discourses, which manifests itself in the current context of university studies. Several studies on cooperative learning and associated approaches [35,74–77] express the importance and value of cooperative learning in different teaching/learning contexts. Cooperative learning motivates the students to seek common goals, encourages them to help each other with the greatest possible effort, increases positive interdependence, and improves face-to-face communication and social and group interaction as well as other skills. The research has revealed that the students expected to benefit from cooperating in the team by looking at the long-term perspective. They understood cooperation in the team as the necessary skill for their future professional activities. This is related very closely to the aim of the aforementioned project that the students participated in.

It is aimed to replace the traditional educational discourse, which is based on the epistemological perspective of positivism, with a new one, which is based on the ideas of constructivism and social epistemology. In the process of change, traditional discourse is not simply pushed out, but naturally continues manifesting itself in various forms. Nevertheless, it is important to discuss the fact that the elements of traditionally implemented studies not only create conditions for continuity of the educational process, but often overshadow the possibilities of critical thinking, which allow identifying power relations that are subtly functioning and not subject to transformation.

Students’ authentic experience, which has no exceptional value in traditional studies, becomes an important resource when cooperating in teams. The importance of experience in cooperative teaching/learning has been substantiated by many authors [42,78], stating that, while cooperating, team members bring different experiences, see different aspects of the problem, and bring the uniqueness of understanding to the solution of the problem. By discussing together, students move from everyday concepts and understanding to scientific understanding and knowledge. Arguments that knowledge is universal, an object of discovery, often prevent the students from engaging in the social construction of knowledge using their local knowledge. The research emphasizing local knowledge as a value [79], aims at reinforcing the positive attitude towards such knowledge, and enables its use in the learning environment. By emphasizing the situational nature of knowledge, it is argued that the entire knowledge is created by the subject of knowledge occupying a specific place [80].

Cooperation in a heterogeneous team, where local and situated knowledge becomes important, is viewed as being potentially positive, opening the opportunity to expand one’s knowledge and go beyond its boundaries. Nevertheless, team heterogeneity sometimes becomes a challenge for the students as well. It is difficult to cooperate in a team in a way resembling an “orchestra”, as the ideal of diversity is metaphorically named [81], indicating that each member can express his/her opinion and be accepted. In this respect, it is recommended that cooperation in the team is applied and reflected systematically in the university studies. Students’ non-academic activity should be promoted, and the students should be encouraged to cooperate in the team voluntarily for the enrichment of the students’ experience.

Heterogeneity can also be ensured in the team by using various sources, where a certain topic or problem is considered from different perspectives. During knowledge construction, it is sought to avoid the authoritative opinion of one source, which has been strongly criticized by the advocates

of the critical theory [82]. It is recommended to not provide a list of recommended literature to the students. This has also been emphasized in other research works [38]. The students would then have the possibility to discover the sources analyzing the problem concerned from different perspectives. However, it is important to pay sufficient attention to the development of the students' skills of critical assessment and analysis of the appropriate sources.

The benefits of knowledge sharing for student teams are emphasized in educational practice [83]. Nevertheless, the knowledge sharing caused a number of difficulties for the research participants, related to the previous concept of knowledge as property, an epistemology emphasizing individualism. This provided them with the opportunity to reflect critically on their experiences and to acknowledge the need for transformation in the educational process.

The interviews have revealed that traditional university studies, such as school experience, do not emphasize the importance of epistemic diversity and critical discussions in knowledge constructions. Therefore, the students do not master the essential ideas of the social construction of knowledge. Hence, the authors advocating the critical theory [54,55] recommend promoting learners' reflective thinking skills, with the socially developed critical thought [84] remaining a relevant aspect.

The students emphasized the thesis about learners' activity, which is highlighted particularly in pragmatic constructivism. It is also related to the changed power relations, where there is no external authority regulating everything, and the whole process of knowledge construction takes place "here and now". Students' activity in combining teamwork organization and information analysis was significantly higher than in conventional studies, where knowledge would be presented as a fixed system of scientific knowledge.

The interview data can be associated with difficulties in achieving the ideal of epistemic democracy. Not all team members are always committed to seeking such an ideal. Therefore, instead of the naive belief that all team members share not only results but also responsibilities, it is important to reflect on different experiences, thus discovering the coexistence of different discourses and the resulting need to change the current situation.

The teacher–student or university teacher–university student interaction is quite formalized and limited, as it does not occur in its purest form in other environments, where only the teaching teacher and the learning learner is concerned. Moreover, it is often not a social relationship in the true sense of the word. Regarding such relationships, Dewey [30] stated that "[a] large number of human relationships in any social group are still upon the machine-like plane. Individuals use one another so as to get desired results, without reference to the emotional and intellectual disposition and consent of those used" (p. 7). If such relationships arise, for example, between a teacher and a student, they cannot be called a social group, even if they act together.

Traditional studies, where students perform activities delegated by the teacher, cause misunderstandings in the student team. In the excerpts from the interviews, certain functioning of the teaching paradigm, when some students are waiting for instructions from others, could be observed. Meanwhile, the latter are not ready to take over the traditional function of the teacher and are waiting for the voluntary initiative of other team members.

The use of critical thinking, actualized in Foucault's [55] theory, can be analyzed as a way to recognize the existing power relations and transform them in order to implement democratic principles and change the unsatisfying power relations. By cooperating in teams, those whose opinions and experiences are marginalized in the conventionally understood context of scientific knowledge can also contribute to the construction of scientific knowledge. Instead of a monologue by scientific authority, a dialogue and polylogue are legitimized, and various stakeholders gain "voice" and can represent their views.

Various cases of teamwork providing conditions for the students to misbehave, causing frustration, are analyzed in the scientific literature [85]. This happens, for example, when certain learners do not seek to contribute to the construction of knowledge, thus forcing others to do work assigned to the whole team. Observing this, other students begin to contribute less to overall teamwork. The research

has also shown the cases, where team members would not seek to explore the best solution, alternative approaches, would not speak up enough, or contribute to the development of discussions, but would rather choose the easiest path by approving of the opinion prevailing in the group. Problems of this kind and similar problems emerge as the groupthink phenomenon [86]. Thus, the potential opportunities for learners to become active participants in the construction of social knowledge were not exploited. Such a situation must also be considered critically, and the unsatisfying situations must be identified clearly, and ways to change them must be explored. It has been observed that the capability of criticizing as a competence of teamwork is important for the avoidance of groupthink [87].

For the team activities to not become the *black hole* as referred to by the students in the research, with this *black hole* making them feel insecure, left without help or *drowning* and realizing that it is *their own business*, the teachers are recommended to monitor the team dynamics. This, however, should not translate again into a study process centred on teacher control and instructions. This is avoided by encouraging the students to socially construct knowledge. One of the ways to prevent various problems from emerging in the teams is employing a peer tutor. There are references in the works by the authors analyzing problem-based learning to the cases of a mediator appointed from the students performing the assistant's functions in small groups and notifying the teacher on the important developments in the team. This is called a peer tutor model [66]. It is noted that a student who attended the course previously may act as the mediator, provide support to the students, and monitor the process of construction of their knowledge.

Another controversial issue about the expression of solidarity in university studies can be linked to the implementation of democratic principles and epistemic diversity in the construction of knowledge and professional identity [88]. Dewey [30] substantiates the importance of solidarity and assistance to the weak as the condition for the development of a democratic society. However, it is important to analyze the concept of solidarity and its possible expression in greater detail. It is important to pay attention to the harmony between solidarity, freedom, and self-expression. Helping a weaker member of a heterogeneous team can provide an important impetus for the social construction of knowledge. However, it is important to note the fact that the implementation of solidarity would not be opposed to freedom and self-expression. The study reveals certain negative trends when certain students perform their work for others, "out of solidarity" provide a positive evaluation to the team members who have not contributed to the activity, thus promoting the processes that are called social loafing [89]. It is therefore important to develop a proper understanding of the principles of democracy and consider the possibilities of their implementation in the context of university studies.

It has been noted [90] that the researchers pay less attention to the analysis of the lack of teamwork (e.g., groupthink, social loafing) that disturbs the joint teamwork in the effort to achieve better and more effective work results. Nonetheless, in the support of the idea of student learning in the team, the opinion is often expressed, namely, that is important to focus more on the study process rather than the result, i.e., solving the problem [91]. It would therefore be more reasonable and recommended to continue analyzing the issues emerging in the process of cooperative learning, and exploring the ways how it could serve students' social construction of knowledge.

5. Limitations of the Study

The presented research was conducted using the method of a semi-structured interview with students. The method enabled the students to reflect on the experience of the social construction of knowledge through cooperation in the team, but did not involve recording and analysis of the knowledge construction process itself. For further development of the research, it would be reasonable to use the method of observation of students' cooperation in teams, record and analyze students' dialogues/polylogues, which reflect the social construction of knowledge. A survey of other participants in the study process, such as teachers, would also enrich the research. It would also be reasonable to develop research in cooperation with the organizers of university study programs, discussing certain changes in the study process, as the need for them has become evident from the research conducted.

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