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Daugavpils Universitātes 65. starptautiskās zinātniskās konferences rakstu krājums tiek publicēts 3 daļās: A. daļa. *Dabaszinātnes*; B. daļa. *Sociālās zinātnes*; C. daļa. *Humanitārās zinātnes*.

The annual scientific conferences at Daugavpils University have been organized since 1958. The themes of research presented at the conferences cover all spheres of life. Due to the facts that the conference was of interdisciplinary character and that its participants were students and outstanding scientists from different countries, the subjects of scientific investigations were very varied – in the domains of natural sciences, health care science, the humanities and art, and social sciences.

The results of scientific investigations presented during the conference are collected in the collection of scientific articles *Proceedings of the 65th International Scientific Conference of Daugavpils University*.

Proceedings of the 65th International Scientific Conference of Daugavpils University are published in three parts: part A. *Natural Sciences*; part B. *Social Sciences*; part C. *Humanities Sciences*.

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IZGLĪTĪBAS ZINĀTNES UN PSIHOLOĢIJA / EDUCATIONAL SCIENCES AND PSYCHOLOGY

COMPETENCIES OF THE COACH IN TRAINING OF ELITE FIGURE SKATERS

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Abstract

Competencies of the coach training of elite figure skaters

Key words: *coaching competencies, preparation of figure skaters, elite athlete*

Today, rapid evolution in figure skating requires continuous development, a desire for perfectionism, and enormous physical and emotional dedication from both coaches and athletes themselves. Therefore, the purpose of the relationship formed between the coach and the athlete is to improve their tandem skills in various ways. When working with athletes, it is important to develop special, physical, technical, tactical and psychological skills. In the last two decades, the attention to talent identification, professional development of athletes and learning of skills has also increased rapidly. The article describes the competences of coaches, which are essential in the work of a figure skating coach, ensuring the preparation process of elite figure skaters. Also discussed are the dimensions related to the challenges and requirements of modern figure skating and how this affects the coach's work in the process of preparing an elite athlete.

Kopsavilkums

Trenera kompetences elites sportistu sagatavošanā

Atslēgvārdi: *trenera kompetences, daiļslidotāju sagatavošana, elites sportisti*

Šodien strauja evolūcija daiļslidošanā prasa gan no treneriem, gan no pašiem sportistiem nepārtrauktu attīstību, tieksmi pēc perfekcionisma un milzīgu fizisko un emocionālo atdevi. Līdz ar to attiecību mērķis, kas veidojas starp treneri un sportistu, ir uzlabot viņu tandēma prasmes dažādos veidos. Strādājot ar sportistiem ir svarīgi attīstīt speciālās, fiziskās, tehniskās, taktiskās un psiholoģiskās prasmes. Pēdējās divās desmitgadēs ir strauji pieaugusi uzmanība arī talantu identificēšanai, sportistu profesionālai attīstībai un prasmju apguvei. Rakstā ir aprakstītas treneru kompetences, kuras ir būtiskas daiļslidošanas trenera darbā, nodrošinot elites daiļslidotāju sagatavošanas procesu. Ka arī ir apskatītas dimensijas, kas ir saistītas ar mūsdienu daiļslidošanas sporta izvirzītajiem izaicinājumiem un prasībām un kā tas ietekmē trenera darbu elites sportista sagatavošanas procesā.

Introduction

Contemporary elite coaches are facing great challenges in trying to continuously develop their athletes according to the well-known Olympic motto: *citius, altius, fortius*. Elite sports are constantly evolving, and the struggle to maximize the performance of athletes is a challenge to the knowledge, skills and abilities of coaches. There is a huge evolution in figure skating, which requires continuous development of both coaches and the athletes. Therefore, the main aim of relationship built between the coach and the athletes is to improve the skills of athletes in different ways. "In sports, specific physical, technical, tactical, and psychological skills are important for the athletes" (Bompa 1999). Thus, in order to effectively perform their duties, coaches must act in different areas, for example, they must be instructors, motivators, strategists, organizers and character builders. The development of figure skating, the application of advanced methods of a training process and the improvement of organizational forms allows figure skating to take a leading place in the world.

The convincing victories of our figure skaters show the main features of a strong figure skating school, which organically combines excellent physical training, rational technique with aesthetic

perfection and the desire to win. The modern direction of development of figure skating is characterized by a pronounced tendency to the harmony of the main components of figure skating and a balanced content of the program. “The task of athletes is to demonstrate mastery in all groups of elements - jumps, spins, step sequences, transitions, skating skills - in ice skating singles category. Todos, parallel jumps and spins, step sequences - ice skating for couples and various combinations of steps, lifts, spins and unique choreographic sequences in dancing on ice” (Hines 2011). It is impossible to make figure skating completely objective. Figure skating is not just about learning and mastering technical elements. The athlete must make a certain impression on the spectators and judges, otherwise the image he or she creates on the ice will remain undiscovered and the impression created will remain subjective. When the figure skater is performing, the judges take into account the following parameters:

- Skating mastery, technical execution, the ability to maintain a good balance, skating on sharply pronounced facets, to maintain good speed and dynamics of the performance of elements throughout the program;

All elements are important: flow, music-specific transition from one movement to another and vice versa, as well as the variety, complexity, and originality of all these transitions;

- Virtuosity, the aesthetics of the performance of a musical composition;
- The structure of the program, its uniqueness and the possibility to use the entire area;
- Interpretation of the choice of musical component.

The Competencies of a Coach of a Figure Skating Coaches

Perceptions of the work of a coach are always determined by changes in society, the educational system, families, culture and the world of sports. Over time, these notions have expanded, new concepts and ideas develop the work of a coach, and it needs to adapt to new standards, methodology, innovations and skills.

Traditionally, the work of coaches has been based on a thorough knowledge of the training of physical qualities, meaning the areas of physical fitness, development of biomotor abilities, skills and technical characteristics. However, the comprehensive training process involves supporting the development of the athlete's motor, cognitive, emotional and social skills.

Therefore, the coach must master various skills in order to develop both, technical characteristics of the sport and the conditions that affect the skills of mastering sport (Forsman & Lampinen 2008). The essence of the training process can be explained in different ways; however, a comprehensive development of the physical and psychological skills of sportsman is always necessary. In addition, the task of the coach is also “to plan and implement training, choosing techniques and tactics for competition by ensuring the best possible physical training, as well as

guiding and supporting each athlete at the time and stage of the season or at a specific time of the year” (Forsman & Lampinen 2008).

The training of athletes determines “the systematic improvement of an athlete's performance abilities through the implementation of practices based on knowledge, skills, and scientific research” (Martens 1987). The process of achieving the potential and limitations of an athlete's performance abilities is very complex. The more an athlete has shown progress about his/her career path, the more important is the professionalism and time invested.

The task of the coach is to follow the development of necessary skills of the athlete, which are necessary in the performance, including physical and psychological elements of a particular sport. “Some of the areas of activity of the coach includes a development of basic characteristics, teaching and improvement of specific skills in sports, as well as development of attitudes” (Whitmore 2002).

The coach plays a very important role in fostering success of athletes, since the coach has the greatest influence on improving or decreasing performance. Therefore, the coach must have professional knowledge and experience. The main task of the coach is the ability to teach specific skills characteristic for sports, to build and to maintain relationships with the athlete and the ability to learn.

The skills of the coach also include emotional and social communication skills and organizational skills. The basis for all coaching skills is formed by the coach's self-development skills, which are, for example, self-knowledge, self-assessment skills, learning to learn skills, cognitive skills and the ability to search for and evaluate information. Knowledge and skills of the coach are perceived as a sign of the professionalism. General knowledge in sports includes knowledge of how to improve the result. Equally important is also the knowledge about a physiological and psychological growth and development of a person, as well as an understanding of the load on the athlete and the recovery process.

The activities of coach also include the extent to which they contribute to or influence the environment, and to what extent it depends on a number of factors: how the training process is organized, what is the age of the athlete, what is the level of sport (sports for improving health or elite sports). In addition to the age of the athlete, gender is also of great importance.

When exploring the operating environment of the coach, one of the contributing actors is organizing training (individual, group, team) and on the group level (the same level of skills, different integrated sports) (Salmela, 1996). Other factors such as ethnicity, religion and sports culture, as well as various circumstances such as residence, distance from training site, competition place and quantity of trainings, parents/family involvement, influence the operating environment of sports coaches, federations and sport organizations (sport schools, clubs etc.).

Based on an analysis of the theoretical literature and practical work experience of the author, professional competence of the coach can be evaluated on the following levels:

1) as an expression of individual-personal qualities in the process of the upcoming activity. At this level, the criteria for professional competence of a sport coaches can be: professional interest in the activities of a coach; high ambition, the presence of pedagogical abilities, professional qualities, the ability to control oneself and one's emotions; perfect mastery of the technique and tactics in sports.

2) temporary readiness and efficiency, activation of mental functions, the ability to mobilize necessary physical and mental resources for the implementation of activities. Here, the criteria for professional competence are:

- managing the basics of a particular sport;
- application of means, forms and methods of training skills;
- a system of educational work with athletes;

A system for monitoring activities of schoolchildren, the ability to determine characteristics of functional state of their body and to dose the load in training and competitions;

- the ability to identify individual signs of training, the ability and propensity to specific activities, a high level of formation of general pedagogical skills;

- systematic analysis of one's own activities and learning from mistakes and failures, i.e., for improving re-structuring activity.

3) personal activity, which defines readiness as a holistic expression of all aspects of the personality, allowing the effective performance of all functions.

The criteria for the assessment of professional competence also includes:

- management of a training process (management of technical, special and tactical training of athletes, organization of educational work in a team, promotion of athletes' willpower, management of physical, technical training in general education, training of public coaches and judges);

-improvement of a qualification,

-selection of athletes and resolution of organizational issues (financial support for the preparation process, search and attraction of sponsors, selection of athletes according their physical and physiological features, preparation for solving organizational issues);

- preparing for participation in competitions, organization and management of competitions (preparation of an athlete for competitions, conducting competitions, organization of training camps, organization and conducting competitions, participation in the process of judging competitions);

The author has identified three levels of educational competence in relation to the content of the training process for the elite athletes:

- 1) base level - refers to the training of general (meta-pre-subject), content;
- 2) general level – refers to a certain range of tasks and training;

3) private level – in relation to the two previous levels of competence, which have a specific description and the possibility of creating a training framework.

A single definition of the concepts of competence does not exist, therefore, depending on their subjective interpretation, different scientists highlight individual components of professional competence:

1) the structure of pedagogical competence includes: reflection of special, psychological-pedagogical, differentially psychological, methodological group and pedagogical activity;

2) specific professional competences for elite athletes (management of high-level professional activity, ability to plan one's professional development), social (management of collective professional activity and methods of professional communication, formation of social responsibility for the results of one's activity), personal (experience of self-regulation, methods of self-expression, self-development, ability to resist professional personality deformities) and individual (Hextrum 2019).

Research methods

As the main research method, the individual interviews with coaches were used in the work. This study focused on the opinion of coaches and their personal experience in pedagogical work. The author's personal interest was to understand the coaching culture and the world of coaches, and therefore the author wanted to focus her research only on these aspects. In interviews, the following questions were asked:

1) What kind of problems and difficulties do coaches face in their work with athletes in your country? Are there problems related to creating a team and attracting other specialists?

2) Which competencies do coaches need to increase their ability to nurture elite-level athletes?

3) What should be the image of a good coach? Describe the characteristics, appearance.

4) What motivates children to engage in the sport of figure skating?

5) On the highest positions of the figure skating podium still figures the skaters of the same coaches teams. What do you think is the most important factor in helping these coaches to get their skaters into elite sport on the top of the ranks?

6) What qualities should an athlete possess to increase their chances of growing up as an elite athlete?

7) What do you think is the algorithm of a successful coach, if one exists?

Research Findings

The coaches were asked ten questions. The questions were related to the topics related to the organization and conducting the learning-training process, the use of skills and abilities, formation of mutual communication with the athlete and the team as a whole, etc. The question included: what

motivates students to engage in the sport of figure skating? Respondents were offered some options, which the coach had to choose based on his own views and his own experience.

In interviews, Coach 2 and Coach 3 (coaches' surnames are not pronounced due to the protection of personal data) expressed a common opinion that young athletes want to act as noble athletes, their idols and to become famous. "There is a tendency to master high results, to become famous, to sit in the "Kiss & Cry" zone in front of the large amount of audience" (Coach 2).

The greatest pleasure of each coach in sports is the opportunity to work with gifted, talented and motivated athletes. "Talent plays a huge role in the sport of high achievements, but it is important in which hands this talented child gets into" (Coach 3).

Coach 1 believes that the work of a coach, is tough, responsible, requires high knowledge, patience and stress resistance. "The coach must be able to combine: intellectual and psychological, nurturing and communicative, technical and tactical competencies" (Coach 1). The coach must constantly accumulate new knowledge and be involved in the process of lifelong learning.

An analysis of the obtained data suggests that the methods of organizing training process differ among coaches, since coaches have different opinion about the importance of training tasks. More important tasks were reported as following. Many young people dream of skating on their own once in a high-profile competition and to get recognition from the public.

The question is which tasks are important for a figure skating coaches to solve in the process of figure skating training/training provided a lot of information. Coaches had to choose answers, ranking the answers with important grades from very important/important/not important and to decide whether they were good or bad at performing these tasks:

Team building process (coach, choreographer, programm creator, general preparedness coach, sports psychologist, medical stuff, costume designer, etc.);

Development of cognitive processes;

Development of technical and tactical skills of athletes;

The discovery of the strongest sides of the athlete;

Providing athletes with a high-quality learning/training process/ team building

As the responses of the respondents indicate, the most important task is the qualitative organization of the training process and the provision of everything necessary from the amount of ice trainings, technical equipment and a professional team of specialists. Coach 1 states in his interview that "the athlete must live on the ice and the coach must be there, must lead, correct, support him or her" (Coach 1).

Coach 3 adds that "in the process of training an elite athlete, not only the individual approach to each athlete is important, but the work of the team that guides the student to the result. Parents do not need to interfere in the process of training sessions. Parents trust the coach and follow his or her

recommendations. Building a professional team and good training conditions are among the most important basic factors that help coaches to raise elite athletes” (Coach 3).

The study allows the author to conclude that a teamwork, where everyone knows his or her duties, is a valuable skill of a coach. Among the less important tasks that coaches pay attention to the organization of the coaching process as mentioned: development of moral willpower, patriotic upbringing and promoting sports. The second part of this question indicates that this is better for the coaches to solve what is difficult. Coaches had to evaluate whether they were good or bad at performing this task. The coaches claim that they are worse with the patriotic upbringing of athletes, the development of moral willpower, the provision of athletes with material and technical support, in the process of team building.

Consequently, it proves that “in the process of preparing elite athletes, there must be a number of specialists involved, where there is a division of responsibilities between them and each specialist deals with the issues and tasks that comply within their responsibilities” (Coach 1).

In response to the question of what qualities an elite figure skating coach should possess, several aspects were singled out. An elite athlete's coach must combine a number of qualities in order to organize a qualified training session and the preparation of an athlete. From the proposed options, the most important qualities that were selected by the coaches when filling out the questionnaire were summarized. By summing up all the scores, the average score for each characteristic was determined.

One of the most important and frequently chosen qualities that was mentioned were the following: industriousness, stress resistance, communication skills, the desire to raise a high-profile athlete. The choice of these qualities allows the creation of a triad of qualities used by coaches in the process of training elite athletes: endurance, hard work leading to the goal, purposefulness. “Stress resilience, external factors and adverse conditions, the ability to speak and express one's opinion form the results of productive work and those relationships that must be performed in tandem coach- figure skater” (Coach 1).

The most important factors were singled out: the professional competencies of the coach, motivation, discipline, and dedication, as well as a professional team building and the achievement of the goal.

Conclusions

The nature of the relationship between the athlete and the coach in the length of their long-term cooperation includes several stages of the development of the athlete. In the early stages of an athlete's career, classes are focused on mastering technique, training basic skills and abilities of the athletes, developing upbringing and discipline, which allows the young athlete to understand the specifics and requirements of a particular sport, and with time to achieve his or her first athletic results.

As the years pass, the athlete matures, he or she shows a desire to participate in competitions, acquire in-depth theoretical knowledge in sports, to follow physiological changes in his or her body under the influence training, to analyse athletic achievements of the athlete.

The coach becomes an adviser, consultant, strategist, senior member, source of information and even a family member. Mutual affection and respect persist for years, providing a good foundation for perfect communication, trust and fostering high work performance.

The experience of coaches from Latvia and the countries of the world in training elite figure skaters is very different. The differences correlate with the age of the coaches, the length of service, the demographic situation and the ideology of the country in which they work. So, for example, the Coach 1 admitted that in the process of coaching athletes in North America is extremely difficult when you are based on the Soviet upbringing and ideology.

The coach cannot afford to apply a huge number of pedagogical methods that Russian coaches apply in their pedagogical activities. In America, a coach must not elevate the support for an athlete, punish and humiliate him: He or she is only allowed to help the athlete on the way to success.

But he also acknowledges a positive fact that a fanaticism among Americans after world-famous figure skaters, contributes to the development of sport, and attracts a large number of children to classes with figure skating, so that opportunities appear to raise athletes to the elite ranking.

There are also no problems with building a professional team in America. Many Russian specialists have moved and are working in America. In addition, America has a strong figure skating federation, which helps athletes, both, financially and provides opportunities for a stage competition programs with the most outstanding and expensive choreographers in the world and take part in Master classes with the world's leading coaches (Coach 1).

Coach 2 admits that it is difficult to raise representatives of elite figure skating in Latvia, because figure skating is an expensive sport for the inhabitants of Latvia and is financed mainly from the personal income of parents. “The support of athletes on the part of the federation is not enough. Accordingly, there are not many athletes, and most often only a few athletes remain until the junior age, who, although they still have the opportunity to take a place in the national team, but have difficulty achieving high results in world competitions” (Coach 2). Coach 2 emphasizes that coaches consider knowledge and a continuous learning to be a priority among competencies. “Competence in the field of communication for sports coaches is an absolute necessity. Coaches themselves should be aware of how and when to use their communication skills. Sometimes they have to feel them intuitively or with just a glance in their eyes” (Coach 2).

Leadership competencies and a creative approach to work have also been emphasized. “Leadership and leadership abilities are among the most important categories of competencies that are necessary for coaches on the way to nurturing an elite athlete, admits” (Coach 3). The coach must

be able to act resolutely and communicate with both the athlete, his parents and other team members showing high leadership positions and impeccable professionalism (Coach 1).

This is important for the athlete to create such conditions where he/she feels that he/she is respected, listened to and understood. Different methods of communication are essential tools that are necessary to achieve it (Coach 2).

The study indicates to another important competence, according to the opinion of coaches, is the ability to build a professional team, in which all are equally valuable links in the chain and complement each other. This competence is an essential part of the process of training athletes. The work of a professional and cohesive team contributes to a more rapid preparation of elite athletes, because each specialist bears responsibility for the issues of his own spectrum, while the figure skater remains the main focus of attention.

The interviewed Coaches have emphasized the importance of both academic and personal experience. “This is not enough to acquire only a theoretical base (academic knowledge), coaches must have practical experience as well. In order to succeed in the training process of the elite athletes, the competences of pedagogy must be essential” (Coach 1). The pedagogical approach to the organization of the learning process of athletes is relevant if there is a desire to achieve a high result.

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TEACHING AND LEARNING QUESTION TAGS IN ENGLISH AS A SECOND LANGUAGE IN LESOTHO SECONDARY SCHOOLS: THE CASE OF SELECTED SCHOOLS IN QUTHING DISTRICT

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Abstract

Key words: *Question tags, teaching, learning*

The study investigates the challenges that teachers and learners face with teaching and learning question tags. The main objective is to investigate the nature of these challenges and how they can be overcome. The study establishes how question tags are taught at post primary school level and the problems encountered by both teachers and learners. This was achieved through teachers and learners' interviews. The study is based on Kohonen's experiential model of second language learning. It established that learners' ethnicity and mother tongue have a role to play in the challenges encountered. Overgeneralization and ignorance of the rules governing the use of question tags and shallow prescribed text books are some of the challenges that teachers and learners face. It has also been established that the methods used by teachers do not help learners to comprehend and use question tags communicatively. The present study shows that different methods used to teach question tags help teachers to improve their practice and the performance of the learners in the communicative use of question tags. If the recommendations made in this study are implemented, the performance of teachers and learners will improve substantially.

Kopsavilkums

Atslēgvārdi: *Jautājumu birkas, mācīšana, mācīšanās*

Pētījumā tiek pētītas problēmas, ar kurām saskaras skolotāji un izglītojamie, izmantojot mācīšanas un mācīšanās jautājumu tagus. Galvenais mērķis ir izpētīt šo izaicinājumu būtību un to, kā tos var pārvarēt. Pētījumā noskaidrots, kā jautājumu atzīmes tiek mācītas pēc pamatskolas, un problēmas, ar kurām saskaras gan skolotāji, gan audzēkņi. Tas tika panākts ar skolotāju un audzēkņu intervijām. Pētījuma pamatā ir Kohonena otrās valodas apguves pieredzes modelis. Tajā tika konstatēts, ka audzēkņu etniskajai piederībai un dzimtajai valodai ir sava nozīme izaicinājumu risināšanā. Pārmērīga vispārināšana un noteikumu nezināšana, kas reglamentē jautājumu atzīmju un seklās noteikto mācību grāmatu lietošanu, ir dažas no problēmām, ar kurām saskaras skolotāji un audzēkņi. Tāpat konstatēts, ka skolotāju izmantotās metodes nepalīdz izglītojamajiem saprast un komunikatīvi lietot jautājumu birkas. Šis pētījums parāda, ka dažādas metodes, ko izmanto jautājumu birku mācīšanai, palīdz skolotājiem uzlabot praksi un izglītojamo sniegumu jautājumu birku komunikatīvā lietošanā. Ja tiks īstenoti šajā pētījumā sniegtie ieteikumi, skolotāju un izglītojamo sniegums būtiski uzlabosies.

Introduction

The world's most widely used language; English is an international language. In nations like Great Britain, the USA, Canada, Australia, and New Zealand, it is the national tongue. In Lesotho, English is the second official language and in several of the former British colonies and protectorates, is a subject that determines whether a student passes or fails. Lesotho switched from the COSC to the Lesotho General Certificate for Secondary Education (LGCSE), where passing at this level is determined by other factors and English is now not pass determining subject but a requirement for admission to institutions of higher education.

In Lesotho, English is highly regarded. From Grade 1 to 4, it is taught as a subject. From Grade 5 Sesotho is no longer used as the primary language of teaching and English assumes the status of language of instruction. According to (Moloi 2009) "Sesotho is the only indigenous language that enjoys any status in education." Learners of AmaXhosa and Baphuthi grow up speaking IsiXhosa and Sephuthi, respectively, but when they begin primary school; their language of instruction is Sesotho, a language that the majority of them are learning for the first time. Beginning in Grade 5 and

continuing through higher education, English is the primary language of instruction. According to (Curriculum and Assessment Policy 2010) promotes language proficiency as well as personal and social growth. Thus, mastery of English as a language and a subject is essential to achieving these objectives. Language also leads to social emancipation.

Question tags were researched for their use, form, and structure. For instance, (Tabor, Chiatoh and Angwah 2023) looked their use in Cameroon as a Francophone country, and (Westphal 2022) looked into their application in multilingual society. Even though there has been a lot written about question tags, there are still gaps in literature on this aspect of English language, one of which is the teaching and learning of this part of the English language in post-primary education.

Question tags play an important role in English language. This is marked by their appearance in the Lesotho Junior Certificate (JC) terminal examinations for four consecutive years. The use of question tags, as (Beardsmore 1970) illustrates, is considered essential by various examining bodies. Since Lesotho's assessment at JC relies on Lesotho and Swaziland Examinations Syndicate, it may not be wise paying limited attention to question tags. Recognition of question tags at national and international examination level points to the importance of this aspect of English language in teaching and learning. There is, therefore, a need for research to explore this aspect of English grammar for the challenges that it poses to the teaching and learning of English language.

The study draws from Kohonen's 1987 experiential learning model of second language learning which emphasizes that it is vital that learners of the target language use it productively in various situations of communication. The model indicates that language learning begins with concrete experiences of language and the output is its communicative use. This theory helped determine whether or not learners' concrete experiences help them to understand the rules of grammar and those governing question tags in particular. Specifically the model was used as a framework for determining whether teachers and learners comprehend the rules related with question tags, and effectively use them in communications. It covers different aspects that could be studied in the teaching and learning process of question tags as components of grammar. Through this model Kohonan observes that learning requires recycling of experience, reflection, conceptualization and active experimentation. According to (Heden 2010) Teachers can not only identify students' concentrations of specific abilities, but they can also promote specific skills with the goal of obtaining a given degree of quality through experience learning.

Experiential learning, according to (Mccarthy and Southeastern 2010), begins with actual encounters. Students have a solid understanding of question tags in their native language. Through pre-assessment, they discover what they already know. Discovering what pupils already know allows the teacher to plan what to teach, beginning with the concrete and progressing to the abstract; scaffolding them through the zone of proximal development by introducing the rules of question tags

and teaching them to use question tags in speaking and writing. The experiential model of education indicates that teachers facilitate learning while learners are actively involved in the learning process. Question tags as an aspect of grammar of English needs to be experimented on in the use of English in speaking and writing.

This section discusses definitions and notions about question tags. Question tags are an aspect of English grammar. They are used mostly in spoken language. Competence in the use of question tags can be seen in the writing of English compositions, direct speech and dialogues. According to (Avery 2015) a question tag is a phrase added to the end of an utterance. In (McArthur 1998)'s words it is "a short question tagged on the end of a statement" while (Westphal 2021) and (David 2022) stipulate that in question tags a declarative statement is turned into a question by adding an interrogative fragment to such a statement. More explicitly, (Kim and Ann 2011) observe that like *yes/no* questions, question tags use the same auxiliary verbs. They also indicate that a negative statement receives a positive question tag; while a positive statement receives a negative question tag. When a positive question tag follows a positive statement, this signifies an inference or request for clarification.

English question tags have various forms depending on their use. According to (Cheng 1994) classes of question tags are: auxiliary tags, tentations, imputations and intonational tags. A classification of question tags as suggested by Bolinger is based on the tag itself and the setting it is used in. According to, (Kim and Ann 2011) and (Westphal 2021) question tags are classified into informational, confirmatory, challenging, facilitating and attitudinal. Question tags seek information and elicit conversation from the person being addressed and the ones which seek confirmation for a personal opinion. Question tags vary according to four factors, namely the choice of auxiliary, the negation, the intonation pattern and the emphasis (Cheng 1994). This study therefore focuses on auxiliary question tags, as they are the ones taught at secondary school level.

Auxiliary question tags are so called because they make use of the auxiliary verbs which appear in the declarative statement and in the tag itself. The English question tag has several parts of speech. An auxiliary verb and a pronoun are examples. In (David 2022)'s illustration this in the observation that the auxiliary has to agree with the tense, aspect and modality of the verb in the preceding sentence. If a verb is in the present perfect, for example, the question tag uses "*has*" or "*have*" as in "*He has eaten, hasn't he?*". The helping verb has to agree with the subject in number and in person as is the singular pronoun which is normally paired with a singular verb. If a verb is in the present form, the tag is formed with *am*, *are*, and *is*, as in "*We are going to school, aren't we?*".

In the study which focused on the auxiliary question tags, (Cheng 1994) subdivides auxiliary question tags into four structural types. One structure is about the reversed question tag with positive form while the other is reversed question tag with negative form. There is however, a contradiction

with the direct question tag with positive form such as “*You do love them, do you?*” and the direct question tag with negative form such as “*You don’t love them, don’t you?*”. These two examples violate the rule of polarity shift. The rule indicates that the positive statement goes together with a negative tag while the negative statement is accompanied by a positive tag. The contradiction is as in “*They don’t like you, don’t they?*”; “*You don’t love him, don’t you?*” (Cheng 1994, 2). In these examples, both the statement and the question tag are negative. On the other hand (Matsoso *et al* 2005) claim that a positive question tags is not likely to turn statements into question tags. This is in contradiction to (Cheng’s 1994) and a positive declarative sentence can receive a positive question tag and turn it into a question which shows sarcasm or suspicion. According to (Westphal 2022), question tags check both the rising and falling intonation patterns. They are used in casual chats to show expectation of agreement or common knowledge. High school learners are also expected to show knowledge of this aspect in speaking and writing of compositions. When they are used in other situations, question tags may not require answers.

Question tags are used for many purposes and (Halliday 2004) states that a question tag is used to identify the subject in the statement as the pronoun in the question tag reflects the subject of the statement. The subject in the statement can either be a noun or a pronoun. In this case where a noun is used, its pronoun is reflected in the tag. If the pronoun is used in the statement, the same pronoun will be used in the question tag. The following are examples of how this happens: “*The ball that you are playing with belongs to Lineo, doesn’t it?*” the subject here is “*it*” referring to “*the ball*”. Another example is “*I am talking about the ball which belongs to Lineo; Lerato got it from the orphanage, didn’t she?*” “*she*” in the question tag reflects the subject “*Lerato*”.

In most languages, question tags indicate politeness, irony and emphasis on a point. Question tags show when a person is expecting a particular response, asserts (Harahap 2019) while (Westphal 2021) indicates that question tags can be used to oil a conversation. According to (McArthur 1998) question tags can be used for various purposes such as asking for information, expressing surprise and uncertainty. The use of question tags engages the listener in the conversation to verify that something has been understood or to confirm that something has occurred. In (Mbhele *et al.* 2005, 98) “a positive statement with a negative question tag has a positive reply” as in ‘*You want food, don’t you?*’ where the answer would be ‘*yes*’. These authors have a different view that in some cases the listener may sometimes give a different response from the one anticipated by the person asking the question. In line with (Werner *et al.* 1996), it can therefore be argued that the answer to the example given above can be ‘*no*’. This is because the answer to question tags can be determined by the situation and the state in which the person being asked the question is in.

Question tags can be used to demonstrate a mocking and condescending attitude of the person asking the question, as in *'You think you can do it, don't you?'* In this situation the response will be different from the one expected by the one asking the question. Tottie and (Hoffmann 2006) name them attitudinal question tags. Question tags help the listeners to detect whether they are being asked a real question or whether the question is asked to agree with the speaker. This as (Ur 1988) and indicates, is detected by the rise and fall in intonation. If one wants to ask for information, then one usually uses the standard question form. However, sometimes a question tag is asked merely to keep the conversation going or to confirm information by using facilitating question tags (Tottie and Hoffmann 2006). In this case, question tags are used to solicit input or to confirm what is being said.

The use of question tags varies according to meaning. They are used in a number of ways. The rise and fall in question tags intonation determines whether the speaker seeks information or merely confirms it. The rise in intonation implies that the reply is needed; the speaker is not sure of the answer that the respondent will give while the falling intonation indicates that the person is being informative (Westphal 2021). In addition (Ur 1988) argues that the rising intonation means the speaker is not sure of the answer to be given by the respondent. The rising tones in question tags may genuinely further indicate surprise, uncertainty or happiness. It is determined by the situation and the state in which it is used. (Werner *et al.* 1996) and (McArthur 1998). Sometimes teachers make use of facilitative question tags such as *'right?'* in the process of teaching in order to indicate their certainty and facilitate conversation. According to (McArthur 1998) and (Westphal 2021) call question tags such as *'right?'* and *'eh?'* enclitic tags which are used for confirmation.

Teaching and mastering question tags in English should result in efficient communication in a variety of settings and facets of life. Learners should be taught in a way that allows them to effectively use English question tags, regardless of their native language or social background. Teaching and learning scenario is a triangle with three corners: language/culture, teacher/teaching, and learner/learning. The challenge here is for teachers to design and deliver circumstances in which students can employ question tags in action in a variety of situations. According to (Mataka 2015) the teaching and learning environment should allow teachers and students to explore or acquire new concepts. The experiential paradigm of education, according to (Nunan 1993), sees the teacher as a learner among learners and (Tichudi and Mitchell 1999) argue that knowledge and understanding of the topic are only a part of teaching and that there should be additional means for learners to obtain this information. However, question tags, like other areas of English grammar, provide difficulties for both teachers and students.

The study used an interpretive qualitative research methodology. Interviews were used as data gathering procedures and strategies. Data for this study were gathered through conversational face-to-face interviews with students and teachers to seek information and probe comments on their

experiences teaching and learning question tags. These interviews aided in the presentation of facts, past and present experiences and the viewpoints of participants on a phenomenon (Leedy and Ormrod 2015). Interviews, according to Kelly (2010), fit well with the interpretive method to research because they allow the researcher and participants to engage and get to know one another better. During an interview, the interviewer and the interviewees seek clarification on questions and statements. Six teachers were interviewed from three different schools. Students from the same schools were interviewed in focus groups to avoid data saturation.

The extent of data return could have resulted from some teachers being unwilling to provide the information because they suspected that this activity was designed to measure their knowledge and efficacy in teaching and learning of question tags. The information gathered from teachers is expressed in the following section.

Results and discussions

Teachers' conceptualization and perceptions about question tags

Teacher 001 understood question tags as just part of English which stresses a point or clarifies something or to mean something. While teacher 002 sees a question tag as a device used to make a convincing conversation. A question tag is used to emphasize arguments among people to convince them in communication while not much response is expected from them. Justifying the importance of question tags, teacher 001 pointed out four reasons. First, question tags help one to make someone listen to the speaker and understand what is said through the use of question tags. At the same time the user engages others in the presentation or conversation, making sure that they understand what has been said. The fourth point is to enable the teacher to determine whether or not students are able to respond correctly to the question asked.

The second teacher (002) sees question tags as important as other aspects of grammar in the tense practice. This is because students are given statements that are in specific tenses which they have to be conscious about. Once the statement is given, students have to interpret the tense in order to provide the correct question tag. The second importance is seen as exposing students to the dynamics of English language. This provides the students with positive or negative statements that one can agree or disagree with through the use of question tags in particular. Teacher (003) could not give a definition of a question tag as she stated that she does not usually define a question tag when teaching. This implies that the teacher is ignorant and does not take into consideration the importance of the definition of concepts in teaching and learning. The teacher sees question tags as important in confirming the statements during a conversation. She also highlighted that question tags facilitate the understanding of other aspects of grammar.

Teacher (004) comprehended question tags as a way of forcing the next speaker to reply or to confirm the statements. She viewed the question tags as important in helping people to be aware

of the subject in the statement as in the following example, “*He goes to school, does he?*” where the subject “*he*” is repeated in the tag. Question tags also enable the learners to form negative and positive statements. Teacher (004) highlighted that question tags prolong the conversation and empower people with communication skills. In relation to the question, ‘What do you understand a question tag to be?’ Teacher (005) said that the question was too difficult to answer and wondered what she would say a question tag was. In the end, she defined it as a statement and a question. To the question, ‘What do you consider to be the importance of question tags in English language?’ she stated that the question was also difficult. She also stated that she could be able to give the importance of other aspects of grammar, but she did not know much about question tags. Teacher (006) understood a question tag to be a small phrase that turns a statement into a question. She sees question tags as important in testing whether the next person is listening and to make the listeners part of the conversation.

Teachers 002 and 004 say that question tags increase the chances of understanding other aspects of grammar, which are tense, pronouns, subject-verb agreement and the use of verbs. Teacher 003, 004 and 006 have the same understanding that question tags are very important in the conversation because they make people have longer and interesting conversations and helping people have effective communication. Teachers were however, unable to give clear definitions of a question tag. However teacher (006) defined it as a small phrase that turns a statement into a question and this is in line with (Werner *et al* 1996) define a question tag as “a short question at the end of a sentence”.

Teachers expressed various challenges that they face in the teaching and learning of question tags. Teacher (001) stated that he understood question tags but had difficulties in passing information to the learners and helping them to understand question tags. (The question is how the teacher presents question tags) as he emphasizes ‘students’ understanding’. Teacher (001) further sees the challenges faced by learners in the use of question tags. First, the learners were unable to correctly use the helping verbs particularly when providing the question tags to statements given. The helping verb has to agree with the subject. Even providing answers to the question tags was difficult for the learners. They failed to provide correct question tags to statements which did not have helping verbs.

This teacher pointed out that learners’ ethnicity contributes a lot to the problematic nature of question tag because of mother tongue influence. These structural errors occur because students try to impose mother tongue patterns on the target language. The students’ first language grammar - namely, Sesotho, IsiXhosa and Sephuthi, are different from that of English language. It makes the learners apply their own mother tongue structures to the English language. In general, the performance of the learners from the three ethnic groups is the same in class. However, sometimes some difference emerges among the three mother tongues speakers.

In IsiXhosa, the emphasis of question tags is on the subject. The example here are “*U mam’uk’hona, andithi u k’hon’u mama?*” The answer is “*Ewe, u k’hon’u mama*”. Mama, the subject here, tends to appear in the question tag and in the reply. The challenge that AmaXhosa face in producing English language question tags, which are influenced by their mother tongue is in the following, example. “*Thabo stole a book.*” Instead of providing the question tag “*didn’t he?*” they usually say, “*didn’t Thabo?*” Thus, they use the noun in the question tag instead of a pronoun, as the rule of English language question tags states. IsiXhosa speaking learners impose their mother tongue question tag structure to form English question tags. A question tag consists of a statement and an interrogative fragment added to it to turn it into a question. This question tag is formed by repeating the verb and the pronoun in the host clause (or the statement) (Kim and Ann 2011). Sesotho-speaking learners do not face many challenges with how to use the question tags. The fact that they are taught in their mother tongue in the early stages of their formal education works to their advantage. In Lesotho, children are taught in Sesotho from Standard 1 to Standard 3. The implication here is that Sesotho-speaking learners benefit more from this than learners from IsiXhosa and Sephuthi mother tongue backgrounds.

Teacher (002) states the learner’s challenge is their level of understanding. The teacher has to use simple ways of introducing question tags to the learners. The use of James (2010) model and the game board could be helpful in this regard. However, teachers do not know useful teaching strategies that they could use in the teaching and learning of question tags. Teacher (002) claims that the use of question tags is influenced by IsiXhosa and Sephuthi first language grammatical rules. The grammatical rules of these two languages are not consistent with English language rules. This teacher like teacher (001) pointed out that there was not enough information on the teaching of question tags provided in the prescribed text books for schools. He raised the concern that he was challenged by providing replies to the question tags because it is not easy to detect whether the response to the question tag should be positive or negative. In support (Cheng 1994), (Tottie and Hoffman 2006) maintain that, question tags are not only facilitative, but they also have other forms which include: tentations, imputations and intonational question tags. However, the teachers in Quthing are not well informed on the forms of question tags. This result in the over-general claim by (Mbhele *et al.* 2005) that a positive statement and a negative question tag receive a positive reply.

Teacher (003) indicates that learners tend to ignore the rules of grammar concerning question tags. Where the students have to provide a question tags for statements with action verbs, they use auxiliary verbs. These are the verbs where the dummy auxiliary “*do*” is implied but not overtly expressed. The example here is, “*They eat porridge.*” This is a positive statement where the auxiliary “*do*” is implied. The students provide the question tag as “*is they?*” Teacher (003) explained that the correct question tag for the statement is “*do they?*” This teacher indicated that students’ mother

tongue has a lot of impact on the students' understanding of question tags. She did not think that some of the learners were aware that even their mother tongue makes use of question tags. She justified her claim by explaining that the students usually use question tags inappropriately. She stated that as a teacher she did not know the IsiXhosa and Sephuthi question tags. This makes it problematic for the learners who speak these two languages to easily understand question tags. Another disadvantage is that she code switches between Sesotho and English question tags to give examples. This practice benefits Basotho learners more than other learners. Teachers should therefore provide a sensitive multicultural situation where all the learners can benefit from the lesson

Teacher (004) highlighted the following challenges. First, students mix positive and negative statements and cannot provide correct question tags following statements in future tense. According to (Werner *et al.* 1996), (McArthur 1998) and (Mbhele *et al.* (2005) a positive statement receives a negative question tag while a negative statement receives a positive question tag. This is the general rule about question tags. Teacher (004) admitted the same question tags challenge her too. Providing question tags for both commands and requests, as in '*Take out the garbage, do not stop singing and let's have a cup of tea*' pose a problem for the teacher. Another challenge for the teacher was that, at the time of the interview, she was not aware that she had learners who spoke Sephuthi as their mother tongue, contrary to (Tichudi and Mitchell 1999)'s emphasis on the importance of the teacher knowing the students' familiarity with students for effective teaching and learning situation.

Teacher (005) indicated that the most serious challenge is that the learners do not get the question tags right regardless of how many times she teaches them. She claimed that the learners never use them accurately. The teacher could not define the question tags and admitted to not knowing enough about them. Knowledge of the content, as Tichudi and Mitchel (1999) indicate, is part of teaching. The teacher finds the nature of question tags challenging; this is why she cannot teach them to the learners. She specified that she always had to ask other teachers for information on question tags before going to teach them. However, she discovered that she was not the only one who did not know enough about question tags. Teachers should always be ready to do their duty of delivering the content to the learners. The teacher also declared that she could not confidently go to the classroom and teach question tags as these are difficult for her to understand and teach.

This teacher pointed out that students sometimes provided correct question tags but failed to punctuate them correctly with question marks putting full stops instead. She claimed that the confusion could have been created by (Matsoso *et al.* 2005), who punctuated a question tag with an exclamation mark. Students' mistake and exclamation mark for a question mark. She stated that her students failed to understand the difference between the positive and negative statements. They seemed to guess everything and fail to explain their answers. The teacher explained that an error that her learners commit is beginning a question tag with a capital letter in written work. They forget to

use a small letter after a comma. She further explained that, generally students' errors are the same. However, the IsiXhosa and Sephuthi-speaking students find using question tags more difficult. They have more challenges in using English question tags than Sesotho-speaking students, possibly because English is their third language. They are introduced to it when they get to Standard four; they learn English as a subject and use it as the medium of instruction. She emphasized that non Sesotho-speaking students pose a challenge to her as a teacher of English. They tend to impose Sesotho, IsiXhosa and Sephuthi rules in the grammar of English.

Teacher (005) explained that statements, which do not use the auxiliary verbs, as in *'I want to go to school'*, elicit question tags such as *'am I'*. For example, the question tags used with the statement *'I am a boy'* adopt the question tag *'amn't I?'* which is grammatically incorrect. The correct tag here should be *'aren't I?'* (Which is informal) and *'am I not?'* (Which is formal) (Westphal, 2021). The statements in the future tense pose a problem for students. For example, for statements such as *'She won't be coming to school'* pose a challenge for students. Another statement that poses a similar problem is *'She will go to school'*. These are the statements where the auxiliary *'do'* is implied such as *'She eats an apple'* which can be rephrased as *'She does eat an apple'* the *'do'* implied in the former statement has to be transferred to the statement as *'does'* to agree with the subject *'She'*, but the learners are not able to do this. This is overgeneralization of rules.

Teacher (006) pointed out that students generally encountered three challenges. First, they cannot easily identify the verbs to be transferred from the statement to the question tag. The tag according to (Wardhaugh 1997, 126) is formed by repeating the verb in the statement in the question tag and it changes according to its negative or positive status from the statement to the question tag. The second challenge is that, if a noun is used in the statement, students fail to substitute it with an appropriate pronoun. The following is an example of this, *'Lineo is a girl'* learners are not aware that the question tag should be *'isn't she?'* they transfer the noun *'Lineo'* to the pronoun *'she'* to the question tag. The third challenge that the teacher noted is that students generally make use of the question tag *'isn't it?'* thus confirming (Mbhele *et al.* 2005)'s observation that this is a common error among the learners. According to them, this is a frequently used question tag as the ones they use in their own mother tongue influence it.

Teacher (006) further explained that she did not realize that the learners' mother tongue was the source of the errors. Teacher (006) however, highlighted that Sephuthi-speaking students encounter more problems than Sesotho-speaking students. She further sees herself as another source of the students' challenges because she does not make examples of question tags from Sephuthi, which she does not speak. In explaining the challenges they faced with question tag, teacher (004) showed a number of similarities to teacher (005). They are not well informed about question tags to be able to teach them. Teacher (004) does not know the learners' mother tongues (IsiXhosa and

Sephuthi) either. This situation makes it difficult for her to use question tags examples from these languages in the teaching and learning process.

The observation of teachers (002, 003, 004, 005 and 006) the learners cannot attach correct question tags to the statements where “do” is implied. Teacher (004) admitted to not knowing how to attach question tags to requests and commands. In general, students do not form correct question tags for statements in the future time. Students seem to ignore the rules while teachers take question tags for granted. Unlike other aspects of grammar, teachers give question tags less attention. They believe they carry only a few marks at Junior Certificate level. The teachers’ concern is that the prescribed text books content does not cover enough content about question tags. Therefore, teaching question tags remains a challenge to them.

Teachers (001), (005) and (006) indicated that learners’ mother tongue structures posed problems to both teachers and learners. Teachers (002) and (003) did not see this as a problem because they did not take into consideration the multicultural nature of their classes. According to (Tichudi and Mitchel 1999) teachers need to know their learners so that issues which could hinder or improve the teaching and learning process could be considered. Consequently the study found out that teachers did not know the learners’ background adequately to be able to identify mother tongue-based obstacles to the learning process. Teacher (003) indicated the learners’ ignorance of rules about question tags while teacher (004) highlighted that learners interchange statements and fail to provide correct question tags for such statements. Teacher (005) claimed that learners used question tags inappropriately regardless of how many times they were taught how to use them. Teacher (006), on the other hand, stated the learners’ ignorance of rules, the students do not transfer the verb from the statement to the question tag. Teachers explained that their challenges are aggravated by the fact that the prescribed textbooks do not provide examples on how question tags are used.

Teachers showed and explained the methods of teaching that they use and how these methods help them overcome some of the problems they encounter with the teaching and learning of question tags. Teacher (001) indicated that he: He pre-assesses the learners through question and answer method to have an idea of what the learners already know about question tags. This is in line with Kohonen’s (1897) model that language learning begins with concrete experiences. This method enables the teacher to use the learners’ pre-requisite knowledge to understand the content. The lecture method is also used where the teacher delivers the prepared content to the students. The teacher then gives learners tasks to prepare classroom presentations. Such presentations indicate how much content has been understood. In the process, common problems are picked up and addressed through individual remedial work.

Teacher (002) stated that he uses learner-centered methods such as discussion. These methods give learners a platform to use language and share the content that has been taught. This teacher could

not explain the method he used when teaching question tags. Teachers (003) and (004) like (001) use discovery method of teaching. This method enables them to identify what the learners. Teacher (001) made use of the lecture method to deliver the content. At the end of delivering the content, she used group discussions for communicative use of language. Teacher (005) used discovery (through question and answer) and discussion methods. She used the discussion method because she said learners to assist one another through discussion. The atmosphere here is relaxed and conducive for learning to take place. Teacher (006), like (005), used the discovery method and discussion for similar reasons.

It was discovered that among the six teachers interviewed, five made use of the discovery method to discover the learners' concrete experiences about question tags. This is the first step in Kohonen's experiential second language model (Nunan 1993). The model also indicated that awareness and abstract conceptualization of rules are important in learning a second language. The lecture method used by teachers informed learners about the rules of question tags. This results in the communicative use of language during the discussions and presentations by learners. It brings about experimentation of new content on question tags. Teachers stated the methods that they used to teach question tags but did not explain how they utilized these methods to help learners comprehend this aspect of grammar. Teachers and learners' activities were to be explained. Teachers could not explain how these methods helped them achieve their set objectives on the teaching and learning of question tags. Drills, as Ogundipe and Tregidgo (1997) and affirm, can be some of the effective techniques that enable the learners understand the question tags.

Each focus group consisted of learners from Sesotho, IsiXhosa and Sephuthi backgrounds. Focus groups were formed in only three schools under the study. The interviews were meant to discover what the learners understood in relation to question tags, the challenges that they faced and how they overcame them.

Focus group (01) understood the question tag as a way of convincing another person during the conversation. They saw a question tag as a language aspect which can be used to win the next person's view during a conversation. The group believed that question tags can be important in a debate. They saw them as vital in teaching the learners communication skills and in learning other aspects of grammar. They stated that this aspect of grammar demonstrated how to ask good questions, to know the positive and negative statements and the use of verbs and pronouns in these statements. Focus group (02) understood a question tag as a way of talking to someone by asking questions and forcing someone to agree with the speaker. They also defined it as a short question used to confirm information. They highlighted four importances of question tags, these are:

- They facilitate the learners understanding of the differences between the positive and negative statements.

- They improve communication skill.
- They maintain a social rapport.
- They reinforce the understanding of various aspects of grammar.

Focus group (03) defined a question tag as a statement plus a question. Group (01) and (02) did not give a clear definition of the question tag but they stated their uses and it was clear that the learners understood the importance of question tags in English as a language and as a subject. Group (03) provided a definition of a question tag but did not know how important they are in English grammar.

All focus group stated that they found it problematic to form question tags for statements in the future time where the verbs '*shall and will*' are used. They also find it difficult to provide correct responses to the question tags. This is because, according to (McArthur 1998), question tags may imply sarcasm or suspicion. Group (02) indicated that they could not use short forms of the pronoun (subject) and verbs, depending on the verbs used in the statements. With focus group (03) students, especially the IsiXhosa and Sephuthi speaking were not aware that their own languages make use of question tags. A Sesotho-speaking learner was able to give an example of '*akere*' as a question tag in Sesotho. In focus group (01), one Sephuthi-speaking learner pointed out that his mother tongue posed a challenge to the learning of question tags. They are considered an aspect of language which shows disrespect to adults. Question tags are therefore not used, especially by children. This made it difficult for them to make use of their own mother tongue question tag examples when the teacher instructed them to do so. Students explained that some teachers made use of the question tag '*isn't it?*' anywhere. This leads them to confusion about the use of question tags.

Students claimed to encounter similar difficulties some of which are posed by their mother tongues, cultural influence and teachers' inappropriate use of question tags during the teaching and learning process. All focus groups made it clear that they could not form question tags for statements in the future time, the implication here is that teachers themselves cannot teach their learners to understand what question tags are and how to use them in sentences. Focus group (01) members signposted that they make use of small discussion groups to exchange ideas and information about question tags. In their small groups, they used the examples from their own mother tongue and compare them to those of English. The learners in this school were aware of the question tags in Sesotho and provided the following examples, "*ha ho joalo?, ho joalo?, na? and akere?*" and AmaXhosa gave "*andithi?, kunjalo? and akunjalongo?*" while Sephuthi-speaking learner provided "*aket^hse?*" as a Sephuthi question tag. These learners had concrete experiences with question tags and they could internalize the data about English question tags, as Kohonen (1897) model indicates.

Focus groups (02) and (03) indicated that they did not focus much on question tags as they have realized that even their teachers did not give them much attention. They noted that they usually

looked at question tags when they came across them during the revision time for quarterly examinations. More time is spent on examinations techniques rather than on the fundamentals of English grammar. It is clear that all focus groups use group discussions to learn question tags. This, according to Tichudi and Mitchel (1999) brings about cooperation which creates a conducive environment for learning.

The first observation was that, learners could not define a question tag. Teacher (002) of focus group (01) did not give the definition of a question tag in interviews and observations, consequently, the learners could not define. Teacher (004) of focus group (02) defined a question tag as a clause. Her learners defined it as a statement and a question. This means that learners gave a closer version of a definition than that was provided by their teacher. Only group (02) was able to give one importance of question tags which is that question tags enable them communicate effectively

Conclusions and recommendations

Teachers and learners face challenges in the teaching and learning of question tags. The major problems include lack of information on the part of the teachers, the use of inappropriate books, ignorance and overgeneralization of English grammar rules by teachers and learners and mother tongue influence from the learners. Not knowing the learners and their mother tongue (IsiXhosa and Sephuthi) aggravates the problem. Unlike other aspects of grammar, question tags are generally ignored. It should be compulsory for teachers of English language to take courses on the grammar of English, IsiXhosa and Sephuthi. These courses will enable them to communicate with the learners from IsiXhosa, Sesotho and Sephuthi language backgrounds, to code switch to these languages if the need arises and to be able to make examples from these languages if necessary. Tertiary institutions should teach question tags in the functional grammar courses.

Prescribed books should carry more content about question tags than they do now. Such content should include:

- Definition of question tags
- Question tags Rules.
- Structure of question tags.
- Forms of question tags.
- How question tags are used in written and spoken language.
- In-service training

Workshops should be held to inform teachers about question tags. Currently, these are not given as much attention as other aspects of grammar. Teachers should also be trained in how to teach question tags and the steps to take in order to help the learners understand them. Teachers should be

informed about the methods and techniques of teaching question tags. These models are explained in the literature review of this study.

Question tags especially their use in direct speech should be considered when marking the Form E terminal examinations Paper 1. Learners should be awarded marks for the correct use of this aspect of grammar. Spoken English should also be tested orally to see whether the learners can write and speak English as accurately.

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EXPLORING TEACHING AND LEARNING FOR LEARNERS WITH AUTISM IN MAINSTREAM SCHOOLS

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Abstract

Key words: *teaching and learning, autism, mainstream school*

A growing number of children have recently got the diagnosis of autistic spectrum disorder globally and there has been extensive research on the experiences of learners with autism during the teaching and learning process. Notably, during their educational journey, learners with autism usually do not get much attention or recognition hence the current study's interest to explore teaching and learning experiences for learners with autism in mainstream schools comparing Lesotho and four other countries as documented in literature. It sought to review empirical studies, conducted in Lesotho and elsewhere in the past two decades, published in peer reviewed journals. Four databases; google scholar, ResearchGate, ERIC, and CORE were searched following a set of inclusion criteria and yielded a total of 10 articles to be reviewed. This study anticipates giving a better understanding of how teaching and learning for learners with autism takes place under the following themes: teacher's training; social adjustment; stakeholders and parental involvement; policy and curriculum and assessment; knowledge about autism; sensory environment and lastly the conclusion. Results show that although there are many hurdles and obstacles in the realm of education for children with autism spectrum disorder, none of them are insurmountable.

Kopsavilkums

Arvien lielākam skaitam bērnu pēdējā laikā visā pasaulē ir diagnosticēta autisma spektra traucējumi. Ir veikti plaši pētījumi par audzēkņiem ar autismu pieredzi mācību un mācīšanās procesā. Proti, mācību procesā audzēkņi ar autismu parasti nesaņem lielu uzmanību vai atzinību, tāpēc pašreizējā pētījumā ir interese izpētīt mācīšanās un mācīšanās pieredzi audzēkņiem ar autismu vispārīgākajās skolās, salīdzinot Lesoto un četrās citas valstis, kā tas ir atspoguļots literatūrā. Tā centās pārskatīt empiriskos pētījumus, kas veikti Lesoto un citur pēdējo divu desmitgažu laikā un publicēti recenzējamās žurnālos, četrās datu bāzes: google scholar, ResearchGate, ERIC un CORE tika atlasīti ievērojot iekļaušanas kritēriju kopumu, un kopumā tika izpētīti 10 raksti. Pētījums paredz sniegt labāku izpratni par to, kā notiek mācīšana un mācīšanās audzēkņiem ar autismu šādās tēmās: skolotāju apmācība, sociālā pielāgošanās, ieinteresēto pušu un vecāku iesaistīšana, politika un mācību programma un novērtējums, zināšanas par autismu, sensorā vide. Rezultāti liecina, ka, lai gan bērnu ar autismu spektra traucējumiem izglītības jomā pastāv daudz šķēršļu. Šis pētījums paredz sniegt labāku izpratni par to, kā notiek mācīšana un mācīšanās audzēkņiem ar autismu šādās tēmās: skolotāju apmācība, sociālā pielāgošanās, ieinteresēto pušu un vecāku iesaistīšana, politika un mācību programma un novērtējums, zināšanas par autismu, sensorā vide un visbeidzot secinājums. Rezultāti liecina, ka, lai gan bērniem ar autismu spektra traucējumiem izglītības jomā pastāv daudz šķēršļu, tomēr tie ir nepārvarami.

Introduction

During the Global Education Summit in 2015, UNESCO listed equal opportunity and inclusion as one of the crucial goals for future education by 2030 (UNESCO, 2015). There has been a great deal of debate about the best educational environment for students with Special Educational Needs (SEN). Since the United Nations (1948, Article 13), which supports the right to education for everyone, many students with SEN are enrolled in mainstream schools. The UN repeatedly encourages children who require special education to participate fully in mainstream schools (UN, 2019). Learners with Autism Spectrum Disorders (ASD) get their education in mainstream (where learners are taught in general classroom) settings more and more often (Halsall, Clarke, & Crane, 2021). It is also important to note that most people believe that integrating children with autism into

mainstream classrooms constitutes inclusive education and a better quality of life (Vidal-Esteve, & Kossyvaki, 2023).

In Western countries, the inclusion of students with autism spectrum disorder (ASD) has been a complex, contentious, and contentious topic, but non-Western countries have less literature available for learners with autism in mainstream schools. This is because very few mainstream schools include learners with autism in their teaching and learning. Every child has the right to education with an inclusive curriculum, qualified teachers, and suitable teaching and learning materials in recognition of the shift from special education to inclusive education, in accordance with the Children's Protection and Welfare Act of Lesotho and the Lesotho Educational Sector Plan 2016–2026 (Kingdom of Lesotho, 2011; MOET, 2016).

Individuals frequently begin their education in a specialized environment before switching to mainstream education once they have developed their basic abilities. While these changes take place, Cook and Ogden (2022) observe that learners with autism are badly impacted by feeling stressed and frustrated. This marks some of the traits identified among children with autism. It is generally accepted that learners with autism struggle with social-emotional reciprocity, nonverbal communicative behaviours, developing, maintaining, and understanding relationships, as well as at least two of four types of restricted, repetitive behaviours (Vidal-Esteve & Kossyvaki, 2023; Hens, 2021). This means that addressing their learning needs requires positive collaboration in the creation of supportive learning and social environments (Howard, Katsos, & Gibson, 2021). When it comes to meeting the unique requirements of learners with autism and maximising their learning potential, inclusive education falls short (Larraceleta, Castejón, Iglesias-García, & Núñez, 2022; Halsall, Clarke & Crane, 2021). Considering the wide spectrum of difficulties that learners with autism face, this article will explore teaching and learning of learners with autism in a mainstream school.

Methodology

A scoping review of the literature was undertaken to identify and clarify key concepts. A selection process was started using the following search engines, google scholar, ResearchGate, ERIC, and CORE to identify relevant literature in March, April, and May 2023. The following Key phrases were used as search terms “autism and education”, “autism and mainstream education”, “Education support and Autism”, “Educational challenges and Autism” “Autism education in Lesotho”, “Autism education in Africa”, “Autism in UK, Spain” etc.

Inclusion and Exclusion Criteria

The inclusion criteria for studies to be eligible for this review were the following: (a) to have been published between 2017 and 2023 in a peer-reviewed journal, (b) to be written in English, (c) to be an empirical study (i.e., researchers have collected evidence from participants), (d) have been

UK, Spain, South Africa, Ghana and Lesotho (i.e. any region), (e) inclusive education to be a key concept of the paper (i.e. appear on the title, abstract or keywords) and (f) to involve/refer to at least one participant with ASD.

Study Selection

This literature review adhered to the PRISMA guidance (Moher et al. 2009). The selection process was divided into four steps. The first step was to locate relevant papers. Papers that did not comply with the inclusion criteria were screened out in the second stage. At this point, abstracts and paper titles were considered. The first author alone completed the first two stages. The third stage involved a thorough evaluation of the papers by the two authors to confirm that they complied with the criteria for inclusion. The reference lists of each of the papers that had been included in the fourth phase were searched for additional papers that met the inclusion criteria. Overall, 10 papers were reviewed.

Data analysis method

Thematic analysis was used to review the papers because it focuses on identifying themes or patterns in the data that are significant. More specifically, an adaptation of Braun and Clarke's (2006) six-step process was used to analyze the papers inductively. The following is a list of the steps taken. The final analysis was then created by the two researchers after they had reviewed and further defined the themes. Through repeated readings, the first author became familiar with the papers, picked up on the papers' initial thoughts and codes, and then started grouping the codes into larger themes. Ten papers were examined. The results and their in-depth discussion are presented below.

Teaching and Learning for Learners with Autism

The teaching and learning experiences for learners with autism are explored below under six thematic areas namely: teacher training for inclusion; social adjustment; stakeholder and parental involvement; policy, curriculum and assessment; knowledge about autism; and sensory environment.

Teacher training for inclusion

Seven of the nine papers that were reviewed addressed the topic of teacher training as a crucial need to prepare teachers to include learners with autism in the teaching and learning process. According to Josilowski and Morris (2019), some teachers are unprepared to support learners with autism socially, academically, and behaviourally. Additionally, despite being aware that each student's level of learning may differ, the teacher may find it challenging to provide differentiated supports. In the opinion of Martinez, Rueda and Pérez (2022), lack of training in evidence-based intervention techniques, restricted access to consultation support, and poorly coordinated services and support leave teachers ill-equipped to teach a class of learners with autism.

Inadequate teacher support causes them stress and leads to burnout. If prompt action is not taken to support teachers with training in preparation for learners with autism, Nthibeli, Griffiths and

Bekker (2022) predict that teachers' enmity towards teaching learners with autism may worsen. Opoku et., al. (2021), concur that teachers may be able to change their teaching strategies to accommodate students with autism if they are given clear instructions and training. Mantey (2017) asserts that if teachers are not supported, they have limited access to learners as a resource to meet their needs. This is because they lack the training to instruct and support learners with autism. According to Morena and Nkoane (2021) when a teacher is the only source of information in the classroom, learners with autism become passive, which promotes rote learning. Mncina, Mukurunge and Bhila (2019) observe that a ministry of education must provide teachers with the instruction and tools they need to successfully teach learners with special needs.

Learners with autism demonstrate a variety of behaviours in the classroom, and it can be stressful and demoralizing for teachers to teach them without the proper preparation and emotional support. Understanding the needs of students with autism, paying attention to their experiences, and comprehending how they approach solving problems are all part of practical training for teachers (Schwab Nel and Hellmich 2020). It can generally be concluded that teachers require extensive training on various aspects of the teaching and learning process.

Social Adjustment

Another theme that emerged in six out of the ten reviewed papers is the challenges that learners encounter during social adjustment in mainstream schools. According to Goodall and MacKenzie (2019), attending a mainstream school for students with autism presents challenges for working cooperatively with others and interacting with peers, especially in the playground and during unstructured times. These challenges were primarily brought on by the students' lack of inclusion with peers. When making social adjustments, students with autism might try to blend in or be discrete or internalize the anxiety challenges they faced. The issue of noise in schools, a complex phenomenon that can be an exclusionary factor for children with autism, was also found to intersect with their mode of communication, (Woods 2020). Johnson and Morris (2019), note that even though learners with autism are accepted in mainstream schools, they still encounter prejudice from their peers. As a result, learning has less freedom and equitable access to education is a challenge for them. Sefotho and Onyishi (2021), emphasized that learners with autism find it extremely difficult to adapt to changes in daily routines that are necessary for social and academic outcomes because of the repetitive behaviours associated with autism. As a result, switching between school activities, such as going from an assembly to a classroom, subject period to another, and then returning from the playground to the classroom, may cause stress for students with autism and limit their academic success. The primary obstacle identified by Mantey (2017), is the pervasiveness of negative attitudes, cultural norms, and practises at the mainstream schools and community levels that prevent children from going to school and participating in its activities. Keeping in mind the argument made by Opoku

et al. (2021), teachers develop a negative attitude towards accommodating learners with autism in their teaching and learning process due to a lack of support from the educational institution and administration and ignorance of the benefits that inclusion brings. As a way forward Goodall and MacKenzie (2019)'s article recommends that teachers must take time to listen, understands the challenges and issues that each learner with autism faces in a school, recognise that a person with autism has sensory issues with noise and crowds. Teachers must offer support and assistance when necessary, recognising that it can be tough for a child with autism to make friends. They must ensure that feelings of isolation or anxiety, of not being wanted, are not increased by asking them to participate in extracurricular activities.

Knowing that some autism symptoms are non-verbal raises a concern that teachers and peers should consider before labelling autistic students as noisy. Hummerstone and Parsons (2021), note that learners with autism experience hurt and frustration when their communication is misunderstood. In other readings Mamas et al. (2021), gives awareness that friends of learners with autism are more likely to be with other autistic peers, suggesting that the commonality of contact these learners experience may act as a catalyst for friendship development and participation in peer groups to adjust in mainstream schools. Basically, it can be argued that learners with autism do not adjust well to mainstream settings because of social norms and cultural practises that do not consider how these learners cooperate and communicate. As a result, autistic students are left in solitude and loneliness.

Stakeholders and Parental involvement

A need to involve parents and other education stakeholders appeared in six out of the reviewed studies. Mantey (2017), highlights that an obstacle to inclusive education is the absence of parental involvement in issues involving their children's academic performance. Getting parents to discuss their child's learning needs in the classroom can be difficult. According to Josilowski and Morris (2019), learners with autism find it difficult to adjust from a small environment to a larger classroom setting. However, when parents are involved, children can adjust more easily and exhibit greater confidence. According to Johnson and Morris (2019) the children can also be assisted by teachers, paraprofessionals, and service providers in understanding their social and emotional needs as well as the essential life skills. When all parties involved in the process are active participants, inclusion is most successful. According to Martnez, Rueda, and Pérez (2022), there is a lack of cooperation between teachers and parents, which has an impact on how much time learners with autism spend participating in school activities. However, using the expert knowledge of some. parents may be a key element in fostering these positive experiences, thus the need for their involvement. Sefotho and Onyishi (2021) argue that academic and behavioural engagement in school as well as a sense of belonging to the school are indicators of success for the inclusion of learners with autism in mainstream classrooms. Self-determination and self-advocacy, parental involvement in school and

community inclusion, and successful completion of postsecondary education are among the long-term outcomes. Parents are regarded by Morena and Nkoane (2021), as the primary educators of children, the foremost experts on their needs, and possess special expertise in inclusion strategies. For the inclusion of students with autism in regular classrooms to be successful, teachers and parents must work together. Mncina, Mukurunge and Bhila (2019), also notes that the examination council of Lesotho (ECoL) must work with the organizations in charge of curriculum development so that teachers at the school level are well-informed and properly guided on evaluating learners with special needs.

Involvement of parents and education stakeholders play a critical role in the inclusion of learners with autism in mainstream schools as they can share knowledge that they have on the needs of learners with autism. Lebona (2020) asserts that the development of an enabling environment for learners with disabilities in the context of Lesotho depends critically on the coordination between students, teachers, and parents. The development of such an environment is essential for a strong and effective educational system, which, metaphorically speaking, must stand on three legs (learners, teachers, and parents) to succeed. Similarly, Maine (2022) reported that teachers in Lesotho believe that parents' lack of involvement in their children's education, which had a negative impact on their academic success, was a problem. To increase parental involvement, it is crucial that both the school and the ministry of education and training (MOET) implement more strategies.

Policy Curriculum and Assessment

The policy, curriculum, and assessment for mainstream schools is another theme that was prominent in six of the ten reviewed articles. Some authors believed that curriculum, assessment, and policy structuring were the three main components for successfully integrating learners with autism into mainstream classrooms. In the words of Josilowski and Morris (2019), a child with autism moving to an inclusive environment faces several challenges, including the academic gap between the general education curriculum and the curriculum in the special education setting. The teacher may have a difficult time providing differentiated supports because of the student's potential differences in learning ability. Woods (2020), notes that teachers are less certain of how to support learners with autism in terms of their access to the curriculum and their communication skills in discussion of the communication issue for learners with autism, especially a learner who is characterized as non-verbal. Mantey (2017) is of the view that education systems in adequately plan for children with autism through policies and programmes, and those that have been in place haven't been able to meet the needs of children with autism in mainstream schools. Therefore, in addition to the policy of free basic education, Lesotho government and other stakeholders must intensify their efforts to ensure that the needs of children with disabilities in mainstream schools are met. Sefotho and Onyishi (2021) note that executive function impairment makes it difficult for persons with autism to demonstrate time

management, flexible academic planning, or other organizational skills. Therefore, it is never easy for teachers and parents to decide whether the academic progress of students with autism is sufficient to meet the requirements for moving up a school grade level. Morena and Nkoane (2021), observed that Lesotho continues to provide a performance-based curriculum, the objectives of which exclude learners who do not meet established norms and standards. When it comes to including students with special educational needs in the mainstream classrooms, maintaining the same level of instruction is still a challenge. So, as per Mncina, Mukurunge and Bhila (2019), assessment for children with special needs should be formalized and professionalized like assessment for children in the normal formal education sector, under the authority of the Examination Council of Lesotho (ECoL).

These findings align with existing literature in the field. In the inclusive educational process, it is obvious that the design of the policy, curriculum, and assessment plays a crucial role in the teaching and learning of learners with autism in mainstream schools (Phasha & Mosia 2017). In the opinion of Mosia (2019), "education support" broadly refers to how an educational system is configured to accommodate the diversity of learners. This is typically reflected in a national policy that outlines the system's guiding principles for handling diversity. Without such a policy, interventions become haphazard and ineffective. Due to the Ministry's data collection procedures, it might not be possible to streamline support specifically for children with autism (Mosia & Tseeke, 2021). This might be an indication of a cloudy data handling policy.

Knowledge about autism

Four out of the reviewed papers explored the knowledge that education stakeholders regarding learners with autism. In the work of Josilowski and Morris (2019), educators are expected to create an inclusive learning environment, but frequently without any specific guidance on how to do so being provided. Despite their willingness to start the process of including learners who have autism in their mainstream classes on their own, some teachers are unsure of how to support these students socially, academically, and behaviourally. The main issues raised by Wood (2020), centre on the necessity of valuing autistic students' communication in mainstream classrooms, which presents a significant obstacle to teachers' capacity to learn about teaching and learning. Further, Wood (2020) contends that if the supporting teacher's expectations or intentions are not aligned with the learners with autism's communication in any of its manifestations, the child's wishes may be ignored. As stated by Josilowski and Morris (2019), working with learners with autism without having a thorough understanding of the condition and without knowing where to turn for support and guidance presents a significant challenge for teachers. Mantey (2017), contends that there are not enough special education teachers in mainstream schools, and those who are present often lack the skills necessary to teach these students effectively and help them reach their full potential. Nthibeli, Griffiths and Bekker (2022), observed that teachers' main concerns are that they lack the abilities to teach the

increasingly diverse learner populations, especially those that include students who have behavioural difficulties due to disorders including autism.

In general, this review reveals that the articles under consideration show findings that are consistent with other studies. In fact, most studies showed misunderstandings, false beliefs, or lack of knowledge regarding autism. This is a demoralising obstacle to the inclusion of autistic students in a mainstream school because it suggests that teachers might not have the knowledge and abilities required to adapt classrooms and teaching methods (Gómez-Marí, Sanz-Cervera & Tárraga-Mínguez, 2021). Teachers have acknowledged that they require more training in autism, particularly in handling difficult behaviour. The main areas of communication and developing social skills that teachers, special education teachers, and other professionals who work in schools want to learn more about are how to support children with autism in their classroom (Troshanska, et., al. 2022).

Sensory environment

At least five articles in the research mentioned the need to provide a sensory environment to learners with autism in mainstream schools. The focus of the paper by Goodall and MacKenzie (2019) was whether learners who have autism are treated with dignity and respect or that their opinions are heard, as these learners seem to be largely absent from discussions about what constitutes high-quality inclusive education in mainstream schools. Additionally, including learners with autism in mainstream classes without altering the curriculum, teaching methods, or environment structures is not inclusion. In the case of Josilowski and Morris (2019), academic routines in mainstream schools may be challenging for children with autism, and they may react with challenging behaviours. Nthibeli, Griffiths and Bekker (2022) report that a lot of learners with autism have trouble adjusting to changes in routine and sensory stimuli when they are in a classroom setting. Morena and Nkoane (2021) note that an inaccessible learning environment poses a serious challenge because it prevents learners with autism from attending class. As a result, these learners are marginalized and excluded from the educational process. It would be ideal, as suggested. by Mncina, Mukurunge and Bhila (2019), if the Ministry of Education and Training in Lesotho contacted international agencies like UNICEF to ask for help creating infrastructure that is user-friendly for children with special needs like autism.

Generally, articles under review demonstrated that there is a need for a welcoming and accommodating environment for teaching and learning for students with autism. The mismatch between the complex needs of autistic students and the classroom environment had an effect, but it seemed to be resolved when opportunities for home learning were made available (Hill, Keville & Ludlow 2021). Standardising autism-friendly environments that also reduce sensory triggers would create a norm, reducing the likelihood that autistic children will stand out. Belonging is a term used

to describe how much a student feels supported, included, and accepted in their educational environments (Horgan, Kenny & Flynn 2023).

Conclusion

This literature review aimed to present teaching and learning experiences for learners with autism in the mainstream schools in Lesotho compared with practices elsewhere. Several conclusions for practice and suggestions for additional research can be drawn from the discussions above. First, it has become abundantly clear that both pre-service and in-service teacher training should attend to the aforementioned challenges. This review provides some useful suggestions for specific, practical topics that such training should cover, going beyond the surface-level positive attitudes towards inclusion of learners with autism in mainstream schools. For instance, the Ministry of Education's training programmes for teachers may include tools like evidence-based intervention techniques, consultation, differentiation, and coordination support. Encouraging teachers to take the time to listen, comprehend the difficulties and challenges that a child with autism faces at school, being aware that a child with autism has sensory issues with noise and crowds, and providing support and assistance as needed. Additionally, it is critical that all parties involved in education must collaborate to support learners with autism in mainstream classroom settings so they can become successful, self-sufficient members of society. Another step that can help learners with autism feel free and welcome in a mainstream school is restructuring and innovating a sustainable inclusive learning environment. It is strongly advised that researchers in the future include autistic learners in their studies because doing so will ensure justice and equity for them.

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EMERGING ADULTHOOD RELATIONSHIPS BETWEEN PERCEIVED PARENT–CHILD RELATIONSHIP CLUSTERS AND IDENTITY STATUSES

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Abstract

Emerging adulthood relationships between perceived parent–child relationship clusters and identity statuses

Key Words: Emerging adulthood, family relationships, identity dimensions, identity statuses

The aim of the present study using person-centred approach distinguish perceived parent–child relationship clusters and explore relationships with identity statuses during emerging adulthood. Emerging adulthood is a development period in a person's life that stays between adolescence and adulthood. Emerging adults feeling themselves to be adults, often remain in the family home and continue to be financially dependent on their parents. Also, this period is characterized by a period of identity exploration thereby identity development. To study emerging adults and their parent's relationships used Perceptions of Parents Scales (POPS) the College-Student Scale measured the following 6 subscales: mother and father Autonomy Support, mother and father Involvement, and mother and father Warmth. Identity was measured using The Dimensions of Identity Development Scale (DIDS) that explores identity by following identity dimensions: Commitment making, Identification with commitment, Exploration in breadth, Exploration in depth (Reflective exploration in depth and Reconsideration of commitment) and Ruminative exploration. Based on dimensions it is possible to distinguish identity statuses – Diffusion, Moratorium, Foreclosures and Achievement. The study included emerging adults (total N = 56, 83,9% women) aged between 18–29 (M = 22,07, SD = 2,82). For the creation of perceived parent–child relationship clusters and identity statuses were used two-step cluster analyses. In the first step, a hierarchical cluster analysis was carried out using Ward's method and in the second step k-means clustering procedure. In the end were distinguished perceived parent–child relationship clusters - high quality family relationships (HQ), low quality family relationships (LQ), high mother quality family relationships (MHQ) and non-differentiated. Regarding relationships to identity statuses - Foreclosure identity status respondents were not found in low quality family relationships and individuals who were placed in achievement identity status had high quality family relationships.

Kopsavilkums

Uztevrtu vecāku-bērnu attiecību klāsteru un identitātes statusu saistības jauniešu vecumposmā

Atslēgvārdi: jaunieši, ģimenes attiecības, identitātes dimensijas, identitātes statusi

Dotā pētījuma mērķis ir pielietojot personas-centrētu pieeju izdalīt uztevrtu bērnu-vecāku attiecību klāsterus un izpētīt šo klāsteru saistību ar identitātes stausiem jauniešu vecumposmā. Jauniešu vecumposms ir attīstības periods, kas atrodas starp pusaudža un pieaugušā dzīves posmiem. Jaunieši sevi uztver par pieaugušajiem, bieži vien turpinot dzīvot pie vecākiem un esot finansiāli atkarīgi no tiem. Tāpat šis periods ir raksturojams kā laiks, kad notiek identitātes izpēte, tādējādi caur šo procesu veidojot identitāti. Lai pētītu jauniešu un viņu vecāku attiecības tika izmantota Uztevertā jauniešu-vecāku attiecību aptauja, kas sastāv no sešām apakšskalām: mātes un tēva Autonomijas atbalsts, mātes un tēva Iesaitē, mātes un tēva Sirsnīgums. Identitāte tika pētīta izmantojot Piecu dimensiju identitātes modeļa aptauja, kura pēta identitāti balstoties uz sekojošām dimensijām: Saistību izvēlēšanās, Identifikācija ar saistībām, Izpētes plašumā, Padziļinātā izpēte (Analizējošā padziļinātā izpēte un Regresējošā padziļinātā izpēte) un Domīgā izpēte. Balstoties uz dimensijām ir iespējams izdalīt identitātes statusus – Difūzo, Moratoriju, Iepriekšizlemto un Identitāti sasniegušo. Pētījumā piedalījās jaunieši (kopējais respondentu skaits N=56, 83,9% sievietes) vecumā 18 – 29 gadi (M = 22,07, SD = 2,82). Lai izveidotu uztevrtu bērnu-vecāku attiecību klāsterus un identitātes statusus tika pielietota divu soļu klāsteru analīze. Pirmajā solī datu apstrādē tika izmantota hierarhiskā klāster analīze metode „Ward's”, otrajā solī tika izmantota “k-means” klāster analīzes metode. Gala rezultātā tika izdalīti sekojoši uztevertie bērnu-vecāku attiecību klāsteri – augstas kvalitātes ģimenes attiecības (AK), zemas kvalitātes ģimenes attiecības (ZK), augstas mātes kvalitātes ģimenes attiecības (MAK) un nediferencētais. Attiecībā uz saistību ar identitātes statusiem – Iepriekšizlemtā identitātes statusa respondentiem netika identificētas zemas kvalitātes ģimenes attiecības un respondenti, kuri atradās identitātes sasniegšajā statusā bija raksturīgi augstas kvalitātes ģimenes attiecības.

Introduction

Emerging adulthood is a development period in person's life which stays between adolescence and adulthood. This period, age 18 – 29, is defined by Arnett (Arnett, 2000) based on demographic outlines – later entry to marriage and parenthood, longer and more widespread education and prolonged and erratic transition to stable work. Distinction of Emerging adulthood development period from adolescence and adulthood helps five main features – instability, self-focus, feeling in-between, possibilities/optimism and identity exploration. Identity exploration – exploration of available options for their lives in variety of areas, especially love and work, this way developing an identity, clarify their sense of who they are and what they want out of life. They become more independent of their parents and this is time when they leave home, but they have not yet entered the stable and enduring commitments (Arnett, 2015).

Turning point of identity research was Erikson (Erikson, 1968) review the concept of identity. Identity development deal with process “located” in the core of the individual and yet also in the core of his/her communal culture, a process which establishes, identity of those two identities. Following Marcia (Marcia, 1966) introduce Identity status paradigm, describing identity process in two dimensions exploration and commitment distinguish four identity statuses achievement, diffusion, moratorium and foreclosure. Two of the groups have made commitments achievement and foreclosure. Identity achievement group has made commitment via an exploratory process on another hand foreclosure had proceeded by taking on commitments from significant others, with little or no exploration in other words achievements were seen as having “constructed” identities; foreclosures were considered to have “conferred” identities. Diffusion and moratorium statuses were characterized by a low degree of commitment. In moratorium status individuals are struggling to reach commitments and are engaged in an exploratory period (prelude to eventual identity achievement) and in diffusion were not committed and had undergone little meaningful exploration relatively (relatively directionless, unconcerned about their lack of commitment) (Kroger & Marcia., 2011).

More clearly capture identity development where proposed four dimensional model (Luyckx, Goossens, Soenens & Beyers, 2006) later, a fifth dimension was added. Those dimensions are two commitment dimensions – commitment making and identification with commitment, three exploration dimensions – exploration in breadth, exploration in depth and ruminative exploration (Luyckx, Schwartz, Berzonsky, Soensen, Vansteenkiste, Smits & Goossens, 2008). To capture all five identity dimensions authors create Dimensions of Identity Development Scale (DIDS) (Luyckx et al., 2008). In later researches, identity dimension exploration in depth (ED) was subdivided in two aspects; reflective exploration in depth (EDa) and reconsideration of commitment (EDb) (Crocetti, Rubini & Meeus, 2008). New dimensions helps distinguish seven identity statuses - diffused and

carefree diffusion, searching and ruminative moratorium, two subtypes of foreclosure early closures and closures, and achievement (Andrejevs & Raščevskis, 2019). This model is following dual-cycle approach where first cycle encompasses the processes of exploration in breadth and commitment making and second cycle focuses on the evaluation of commitments and encompasses exploration in depth and identification with commitment (Luyckx et al., 2008).

The family context represents the first micro-system in which individual development occurs (Bronfenbrenner & Morris, 2006). Emerging adulthood is a period of change in family relationships, family systems anchor both individual and family development during emerging adulthood years and feeling “in between” is not only a characteristic of individuals but also a family experience (Oliveira, Fonseca, Sotero, Crespo & Relvas, 2020). Emerging adulthood represents a time of increased independence from family members, research indicates that parenting remains important (Schwartz & Petrova, 2019). As individuals prepare for adulthood, they will begin to claim more and more autonomy for themselves, although the ways in which this process occurs may vary from one cultural context to another (Soenens, Vansteenkiste, & Sierens, 2009). However, unconditional parental love and support is still needed to facilitate the personal autonomy and self-directed decision making that facilitates adaptive identity choices (Soenens & Vansteenkiste, 2010)

Parents should continue to support their children in a climate of warmth and affection during emerging adulthood, while at the same time reducing their levels of control. At least, in what concerns to control as it was exercised in previous years, since it should take the form of guidance and advice rather than behavioural supervision or rule setting during the third decade of life (Parra, Sánchez-Queija, Garcia-Mendoza, Coimbra, Egídio Oliveira & Díez, 2019).

Effects of parenting styles have received much consideration in the research literature focused on families with children and adolescents, less attention has been given to outcomes in emerging adults (McKinney & Brown, 2017). Baumrind (1971) is commonly considered a pioneer of research into parenting styles. Later on in the 1980s, Maccoby and Martin (1983) attempted to bridge Baumrind’s typology and parenting dimensions. Based on the combination of two dimensions – demandingness and responsiveness – they defined four parenting styles: authoritative (high demandingness and high responsiveness), authoritarian (high demandingness and low responsiveness), indulgent (low demandingness and high responsiveness) and neglectful (low demandingness and low responsiveness).

Research made on parenting styles during emerging adulthood authors (Nelson, Padilla-Walker, Christensen, Evans, & Carroll, 2011) concluded that authoritative and uninvolved (parents are similar to parenting styles seen during childhood and adolescence, these findings suggest that perhaps new approaches to parenting are used during emerging adulthood, given the unique challenges of parenting a child who is seeking independence and in many cases no longer lives in the home, but who is still dependent on parents. In their research they distinguish uninvolved, controlling-indulgent, inconsistent and authoritative. Authors (Nelson et al., 2011) also concludes that the clusters

that emerged in the current study did not fit perfectly the typical profiles of authoritative, authoritarian, and permissive parenting as seen in childhood and adolescence.

There is need for new conceptualisation of parenting styles during emerging adulthood and Mendoza, Queija & Jimenez (2018) propose one of them. Analysing family relationship in emerging adulthood period they distinguish three clusters. Those three clusters were: low quality family relationships (LQ, had scores below the mean in parental dimensions), high quality family relationships (HQ, had scores above the mean in parental dimensions) and intermediate quality family relationships (IQ, had scores slightly below the mean in parental dimensions) (Mendoza, Queija & Jimenez, 2018).

Analysing literature there were find only some research that explain connection between parenting and identity dimensions and there were not find any publication who explore differences between identity and parenting clusters.

Result of one publication shows associations between psychological control and identity, negative associations with both commitment dimensions and a positive association with exploration in breadth, were stable across time. Increases in psychological control were associated with simultaneous decreases in both commitment dimensions. Reciprocal effects were found: Psychological control inhibited progress in both commitment dimensions, whereas exploration in breadth led to increased psychological control (Luyckx, Soenens, Vansteenkiste, Berzonsky & Goossens, 2007).

The same result regarding parental control were found also in another research where also was evaluated paternal warmth. Maternal and paternal psychological control was associated negatively with identity commitment. With regard to identity exploration, parental psychological control was not associated significantly with identity exploration. The results revealed that neither maternal nor paternal warmth were associated significantly with identity exploration that is likely to occur independent of the level of parental warmth. On another side warmth in combination with lower psychological control appears to promote identity commitment. Specifically, lower levels of psychological control coupled with higher levels of warmth seem to promote emerging adults' identity commitment, and this association is especially strong for emerging-adult women (Romm, Barry, Kotchick, DiDonato & Barnett, 2018).

The aim of this study is using person-centred approach distinguish perceived parent–child relationship clusters and shed light on connection between identity statuses and perceived parent–child relationship clusters. Research questions are:

- 1) What are internal and external relationships between identity and perceived parent–child relationship dimensions during emerging adulthood?

- 2) What kind of perceived parent–child relationship clusters can be found during emerging adulthood?
- 3) What are relationship between perceived parent–child relationship clusters and identity statuses?

Material and methods

Participants

In this study participated 56 respondents, the age of the respondents were from 19 to 29 ($M = 22,07$, $SD = 2,82$). Other demographical indicators:

- 1) gender – 83,9% woman, 14,3% man and 1.8% undefined (1 respondent);
- 2) occupation – 37,5% students, 35,7% students and employed, unemployed 8,9%, self-employed 7,1%, employed 5,4% and others 5,4%;
- 3) education (finished) – 60,7% secondary education, 25,0% university education, 12,5% professional secondary education and lower than secondary education 1,8%;
- 4) residence – 41,1% Daugavpils, 16,1% Riga and 42,9% other parts of Latvia,
- 5) ethnicity – 76,8% Latvian, 14,3% Russian, 7,1% Polish and 1,8% Ukrainian (1 respondent);
- 6) living arrangement – 30,4% living with partner, 26,8% living with parents, 14,3% living with one of the parent, 7,1% living alone, 3,6% living in student dormitory and 17,9% other relatives;
- 7) children's – 94,6% no and 5,4% yes;
- 8) romantic relationships – 44,6% into relationship with partner, 42,9% no partner and 12,5% married.

Instrumentation

Parental context were measured using Perceptions of Parents Scales (POPS) The College-Student Scale (Robbins, 1994). The scale has 42 items: 21 for mothers and 21 for fathers rated on a 7-point Likert scale ranging from 1 (not at all true), 2, 3, 4 (somewhat true), 5, 6, 7 (very true) and measuring following 6 subscales:

- 1) mother and father Autonomy Support (MAS or FAS), sample “My mother, whenever possible, allows me to choose what to do”,
- 2) mother and father Involvement (MI or FI), sample “My mother spends a lot of time with me”,
- 3) mother and father Warmth (MW or FW), sample “My mother clearly conveys her love for me”.

Reliability measures indicate that the POPS, the Cronbach' Alpha (α) – MI $\alpha = 0,89$, MAS $\alpha = 0,88$, MW $\alpha = 0,89$, FI $\alpha = 0,91$, FAS $\alpha = 0,79$ and FW $\alpha = 0,87$.

The POPS was translated from English to Latvian by the bilingual translator and then independently back-translated by another bilingual translator blind to the original version. This translation was then discussed between the authors and translator until a consensus was reached and developed a final Latvian version of the POPS.

For exploration of respondents identity were used The Dimensions of Identity Development Scale (DIDS, Luyckx et al., 2008). DIDS were translated in Latvian language (Andrejevs, 2019), scale consist of 25 items, each identity dimensions have five items which was rated on a 5-point Likert scale ranging from 1 (completely disagree) to 5 (completely agree). Identity dimensions are:

- 1) Commitment making (CM), sample “Know what I want to achieve in my life”,
- 2) Identification with commitment (IC), sample “Value my plans for the future very much”,
- 3) Exploration in breadth (EB), sample “Think about the direction I want to take in my life”
- 4) Exploration in depth (ED) scale is separated in sub-scales:
 - Reflective exploration in depth (EDa), sample “Think about the future plans I have made”,
 - Reconsideration of commitment (EDb), sample “Think a lot about the future plans I strive for”,
- 5) Ruminative exploration (RE), sample “Keep wondering which direction my life has to take”.

Reliability measures indicate that the DIDS, the Cronbach' Alpha (α) - CM $\alpha = 0,89$, IC $\alpha = 0,89$, EB $\alpha = 0,83$, RE $\alpha = 0,71$, ED $\alpha = 0,49$, EDa $\alpha = 0,25$ and EDb = 0,58.

Procedure

Participation in the study was voluntary, anonymity was guaranteed, participants filled out Google form, firstly DIDS, than POPS and at the end answering questions regarding demographical indicators, on a time scale from 28.02.2022 – 04.11.2022. Statistical analysis was conducted in IBM SPSS 22.00.

To create clusters were used Zscores and data analysed in a two-step procedure. In the first step, a hierarchical cluster analysis was carried out using Ward's method and based on squared Euclidian distances. The second step consisted in an iterative k-means clustering procedure using the initial cluster centres what were calculated in first step of cluster analysis.

Results

Correlation Analyses

Results of correlation between identity dimensions are represented in Table 1. Correlation table shows that commitment making dimension has positive correlation with Identification with commitment ($r_s = 0,79$) and Reflective exploration in depth ($r_s = 0,43$), negative correlation with Ruminative exploration ($r_s = - 0,60$) and Reconsideration of commitment ($r_s = - 0,29$). The same

situation is with other commitment dimension Identification with commitment Reflective exploration in depth ($r_s = 0,40$), negative correlation with Ruminative exploration ($r_s = - 0,55$) and Reconsideration of commitment ($r_s = - 0,35$). Exploration in breadth has positive correlation with two exploration dimensions Ruminative exploration ($r_s = 0,29$) and Reflective exploration in depth ($r_s = 0,26$). Ruminative exploration has positive correlation with Reconsideration of commitment ($r_s = 0,54$).

Table 1. Spearman’s Correlations among the six identity dimensions

Dimensions	Means (SD)	1	2	3	4	5	6
1.CM	3,60 (0,87)	-					
2.EB	3,96 (0,74)	0,12	-				
3.RE	3,20 (0,85)	-0,60**	0,29*	-			
4.IC	3,62 (0,86)	0,79**	0,14	-0,55**	-		
5.EDa	3,68 (0,72)	0,43**	0,26*	-0,03	0,40**	-	
6.EDb	2,94 (0,83)	-0,29*	0,25	0,54**	-0,35**	0,10	-

* $p=0,05$, ** $p= 0,01$

Note: CM – Commitment making, IC – Identification with commitment, EB – Exploration in breadth, EDa – Reflective exploration in depth, EDb – Reconsideration of commitment, RE – Ruminative exploration

Correlation between six parent context dimensions are represented in Table 2. Mother Involvement positively correlates with other two mother dimensions Mother Autonomy Support ($r_s = 0,71$) and Mother Warmth ($r_s = 0,77$), and with two Father dimensions Father Involvement ($r_s = 0,42$) and Father Warmth ($r_s = 0,27$). Mother Autonomy Support positively correlates with both Mother dimensions previously mentioned Mother Autonomy Support and Mother Warmth ($r_s = 0,81$). Mother Autonomy Support positively correlates only with Father Involvement ($r_s = 0,32$). Mother Warmth positively correlates with all other Mother dimensions, mentioned previously, and all father dimensions Father Involvement ($r_s = 0,36$), Father Autonomy Support ($r_s = 0,28$) and Father Warmth ($r_s = 0,39$). Regarding father dimensions, correlates are mentioned previously, missing correlates are between father dimensions. Father Involvement positively correlates with other two dimensions Father Autonomy Support ($r_s = 0,77$) and Father Warmth ($r_s = 0,77$), between those two dimensions correlation also is positive ($r_s = 0,89$).

Table 2. Spearman’s Correlations among the six parent context dimensions

Dimensions	Means (SD)	1	2	3	4	5	6
1.MI	4,96 (1,60)	-					

2.MAS	4,79 (1,38)	0,71**	-			
3.MW	5,26 (1,50)	0,77**	0,81**	-		
4.FI	3,78 (1,92)	0,42**	0,32*	0,36**	-	
5.FAS	4,34 (1,26)	0,26	0,19	0,28*	0,77**	-
6.FW	4,70 (1,69)	0,27*	0,19	0,39**	0,77**	0,89**

* p=0,05, ** p= 0,01

Note: MI - Mother Involvement, MAS - Mother Autonomy Support, MW - Mother Warmth, FI - Father Involvement, FAS - Father Autonomy Support, FW - Father Warmth

Table 3 shows correlation between identity and parent context dimensions. Results of the correlation analyses show that Exploration in breadth has correlation only with Mother Involvement ($r_s = 0,27$). Identification with commitment and Reflective exploration in depth has positive correlation with all Mother parent context dimensions: Mother Involvement ($r_s = 0,36/0,34$), Mother Autonomy Support ($r_s = 0,37/0,34$) and Mother Warmth ($r_s = 0,37/0,42$). Also Identification with commitment has positive correlation with Father Involvement ($r_s = 0,29$).

Table 3. Spearman’s Correlations among identity and parent context dimensions

Dimensions	CM	EB	RE	IC	EDa	EDb
MI	0,19	0,27*	0,09	0,36**	0,34**	0,20
MAS	0,22	0,13	-0,12	0,37**	0,34*	0,01
MW	0,18	0,12	-0,01	0,37**	0,42**	0,09
FI	0,19	0,08	-0,07	0,29*	0,08	0,08
FAS	0,09	0,11	0,00	0,25	-0,02	0,05
FW	0,04	0,09	-0,03	0,23	0,02	0,02

* p=0,05, ** p= 0,01

Note: CM – Commitment making, IC – Identification with commitment, EB – Exploration in breadth, EDa – Reflective exploration in depth, EDb – Reconsideration of commitment, RE – Ruminative exploration

MI - Mother Involvement, MAS - Mother Autonomy Support, MW - Mother Warmth, FI - Father Involvement, FAS - Father Autonomy Support, FW - Father Warmth

Empirically Identity derived statuses

In the beginning as cluster number were chosen four clusters based on Identity status paradigm (Marcia, 1966) and also based on small number of respondents analyse was not made with optimal number of clusters seven (Andrejevs & Raščevskis, 2019). Result is presented Figure 1. Based on results of four cluster analyses there was possibility identify three clusters of four Diffusion,

Foreclosure and Moratorium. Fourth cluster was named Non-differentiated There were not possible identify Achievement cluster, for this reason were continued cluster analyses with five clusters.

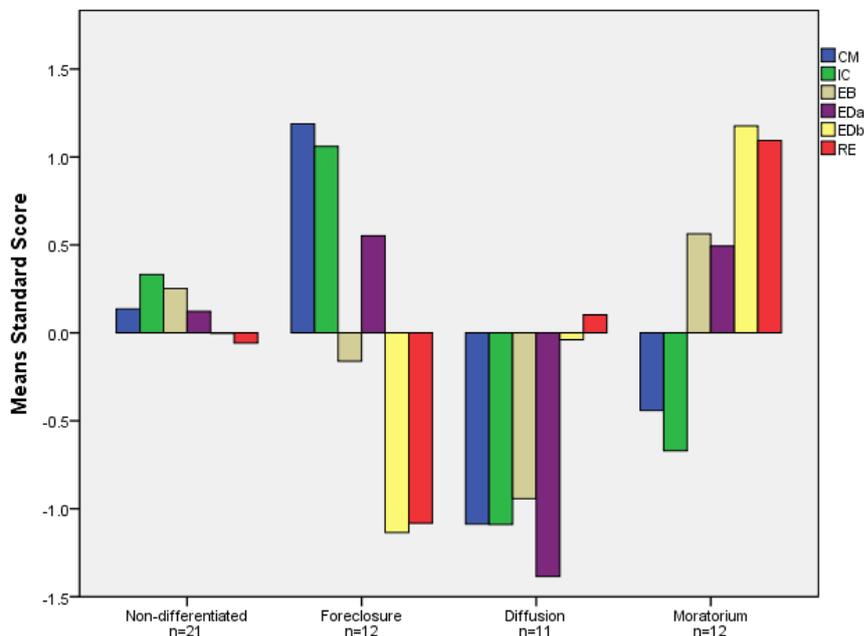


Figure 1. Identity four cluster solution in Latvian emerging adult sample

Note: Z scores for Commitment making (CM), Identification with commitment (IC), Exploration in breadth (EB), Reflective exploration in depth (EDa), Reconsideration of commitment (EDb) and Ruminative exploration (RE)

Five cluster solution is represented in Figure 2. Results of cluster analyses gives opportunity identify four clusters - Diffusion, Foreclosure, Moratorium and Achievement. Foreclosure and Achievement clusters are identified by high score in both identity commitment dimensions. Foreclosure cluster have not Exploration in breadth and characterised by Ruminative exploration dimensions. Moratorium status is characterised by exploration, but no made commitments and Diffusion no commitments and no exploration. More detailed description how to name clusters by identity statuses and theoretical analyses can be find in master theses (Andrejevs, 2019). Fifth cluster was named Non-differentiated.

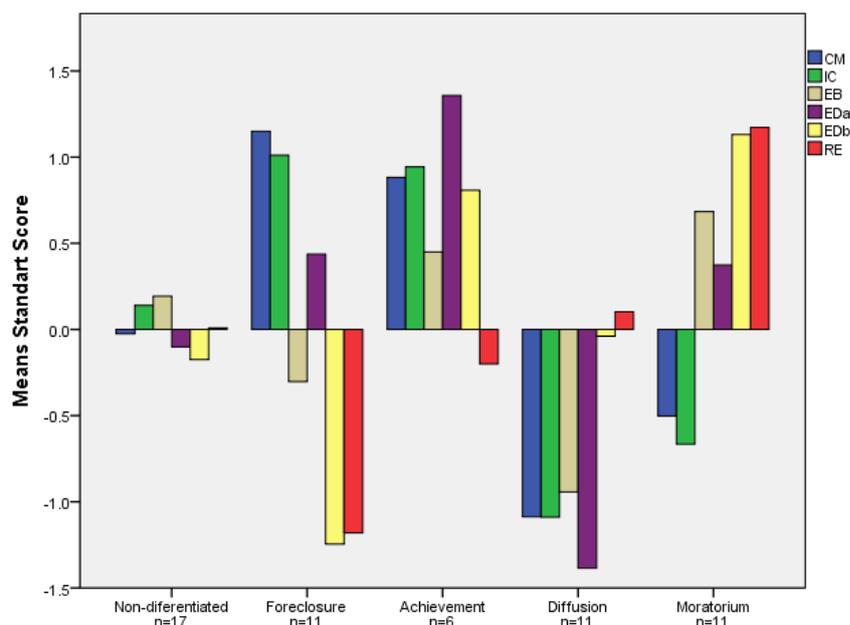


Figure 2. Identity five cluster solution in Latvian emerging adult sample

Note: Z scores for Commitment making (CM), Identification with commitment (IC), Exploration in breadth (EB), Reflective exploration in depth (EDa), Reconsideration of commitment (EDb) and Ruminative exploration (RE)

Empirically parent context derived statuses

To identify optimal cluster number analyses were made starting from 3 cluster solution and finishing with 6 cluster solution. During analyses the optimal numbers of clusters were found 4 clusters, in following steps 5 and 6 cluster solutions fourth cluster is starting to separate in smaller clusters with tendency to have negative Means Standard Scores regarding mother parent context dimensions. Figure 3 represents four cluster solutions for parent context.

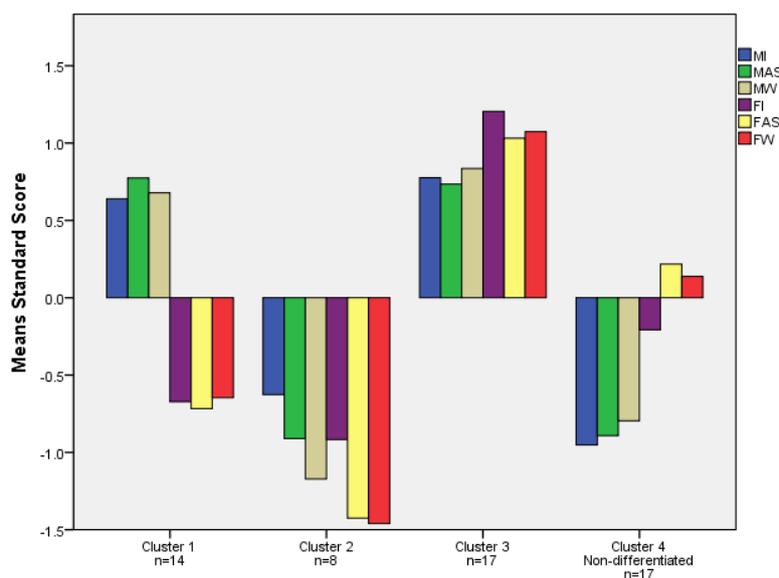


Figure 3. **Parent context four cluster solution in Latvian emerging adult sample**

Note: MI - Mother Involvement, MAS - Mother Autonomy Support, MW - Mother Warmth, FI - Father Involvement, FAS - Father Autonomy Support, FW - Father Warmth

To describe parental context cluster will be used Means Standard Scores Cohen's (1988) conventional criteria: 0,2 small effect, 0,5 medium effect and 0,8 large effect (Scholte, van Lieshout, de Wit & van Aken, 2005). In following analyses data will be analysed small Zscore [0,2 – 0,5), medium Zscore [0,5 – 0,8) and large Zscore [0,8 - ...). Cluster canters are presented in Table 4. Results show that 1.cluster is characterised with positive medium Zscore in all Mother dimensions and positive medium Zscore in all Father dimensions. Second cluster characterised with negative Zscore in all dimensions being medium in MI dimension and large negative Zscore in all other dimensions. Third clusters described us positive in all dimensions with medium Zscore in MI and MAS dimensions and large positive Zscore in other dimensions. Fourth cluster is classified us non-differentiated cluster with large negative Zscore in mother dimensions and mixed Zscore in Father dimensions: FI – negative small Zscore, FAS – positive small Zscore and positive very small Zscore.

Table 4. Parent context final cluster centres Means Standard Scores (z-value)

Parent context dimensions	Clusters			
	1	2	3	4
Zscore(MI)	0,64	-0,63	0,78	-0,95
Zscore(MAS)	0,77	-0,91	0,73	-0,89
Zscore(MW)	0,68	-1,17	0,84	-0,80
Zscore(FI)	-0,67	-0,92	1,21	-0,21
Zscore(FAS)	-0,72	-1,43	1,03	0,22
Zscore(FW)	-0,65	-1,46	1,07	0,14

Note: MI - Mother Involvement, MAS - Mother Autonomy Support, MW - Mother Warmth, FI - Father Involvement, FAS - Father Autonomy Support, FW - Father Warmth

Respondents cluster membership Identity and parent context statuses

In Table 5 are showed results of how many respondents is in different identity statuses placed in different Parental context clusters. Results are shoving that there are no one respondent who is in Foreclosure identity status and have no one respondent in Parental context Second cluster characterised with negative Zscore in all dimensions, being medium in MI dimension and large negative Zscore in all other dimensions. Respondents who is in Achievement identity cluster mainly (except one respondent) Parental context are placed in Third cluster positive in all dimensions with medium Zscore in MI and MAS dimensions and large positive Zscore in other dimensions.

Table 5. Identity statuses membership comparison with Parental context clusters

Identity statuses	Parental context (n)			
	1.cluster	2.cluster	3.cluster	4.cluster
Non-differentiated	3	4	4	6
Foreclosure	4	0	3	4
Achievement	1	0	5	0
Diffusion	3	2	2	4
Moratorium	3	2	3	3

Discussion

What are internal and external relationships between identity and perceived parent–child relationship dimensions during emerging adulthood?

Regarding identity dimensions there were found statistically significant positive relationship between both commitment dimensions. Those commitment dimensions has statistically significant positive relationship with Reflective exploration in depth (EDa) and negative relationship with Ruminative exploration (RE) and Reconsideration of commitment (EDb). Also there is positive relationship between RE and EDb. Exploration in breadth has significant positive relationship with RE and EDa. Similar relationship were found in another research (Andrejevs & Raščevskis, 2019) with exception regarding Exploration in breadth that has significant positive relationship with Identification with commitment, this missing relationship in this study can be explained based on small number of respondents for this research. Also where found mixed results comparing with other research (Andrejevs & Raščevskis, 2019) regarding EDb identity dimension that can be explained by the fact that questions for this dimension were improved. One of the differences are EDb significant negative relationship with both commitment dimensions that were found in other researches (Zimmermann, Lannegrund-Willems, Safont-Mottay & Cannard, 2015, Mannerstrom, Hautamaki & Leikas, 2016, Skhirtladze, Javakhishvili, Schwartz, Beyers & Luyckx, 2016) and have not found in previous research with Latvia emerging adults (Andrejevs & Raščevskis, 2019). For another side in this research there were no found relationship between EDb and EB that were showed in other studies (Zimmermann et al., 2015, Mannerstrom et al., 2016, Skhirtladze et al., 2016, Andrejevs & Raščevskis, 2019) this one difference can be explained with small number of respondents.

Regarding perceived parent–child relationship that were measured separately by mother and father, showed positive relationship regarding all dimensions – Involvement, Autonomy Support and Warmth. Following looking what kind of relationship appears between mother and father dimensions, result showed that Father Autonomy Support has not relationship with Mother Autonomy Support and Mother Warmth also relationship have not appeared between Father Warmth and Mother Autonomy Support. Comparing with other research (Litalien, Gillet, Gagn'e, Ratelle & Morin, 2019) where was found relationships between all dimensions except relationship between Father Involvement and Mother Warmth. Also need to acknowledge literature there is missing data for comparison with other researches for a reason that there are missing correlation tables and also there is not so much research with emerging adulthood respondents comparing between countries and gender. Gender-differentiated socialization patterns (perceived parental involvement and perceived psychological and behavioural control) persist during emerging adulthood and that these patterns may be affected by the socio-cultural context (Spain vs Portugal) (García-Mendoza, Parra, Sánchez-Queija & Oliveira, 2022).

Exploring relationships between identity and perceived parent–child relationship dimensions, results showed that there are relationships. Following dual-cycle approach (Luyckx et al., 2008) where identity development starts with Exploration in breadth where significant relationships show Mother Involvement, followed by Commitment making that has not any relationship with any perceived parent–child relationship dimensions. In a second cycle that follow Exploration in depth (Reflective exploration in depth) shows relationship with all perceived mother dimensions. Identification with commitment shows relationship with all perceived mother dimensions and Father Involvement.

What kind of perceived parent–child relationship clusters can be found during emerging adulthood?

Cluster analyse showed three stable clusters and fourth non-differentiated. One of the clusters were characterised with high Z-value in all dimensions of perceived parent dimensions, another cluster were opposite with low Z-value. Third cluster appeared to differentiate mother and father characterised by high Z-value regarding mother and low Z-value regarding father perceived parent dimensions. Fourth cluster where identified as non-differentiated because there were made decision stop cluster analyses, based on results that fourth cluster in 5 and 6 cluster solution where divided into smaller cluster characterised by low Z-value in mother perceived parent dimensions and different Z-value regarding father perceived parent dimensions.

Following by other authors (Mendoza, Queija & Jimenez 2018) parental cluster classification cluster:

- 1) high quality family relationships (HQ) - high Z-value in all dimensions of perceived parent dimensions,
- 2) low quality family relationships (LQ) - low Z-value in all dimensions of perceived parent dimensions,
- 3) high mother quality family relationships (MHQ) - high Z-value regarding mother and low Z-value regarding father,
- 4) non-differentiated – need for future research with bigger number of respondents.

What are relationship between perceived parent–child relationship clusters and identity statuses?

Result of comparison of perceived parent–child relationship clusters and identity statuses showed that respondents who was identified in Foreclosure identity status was not found in low quality family relationships. This finding is in one line with literature where foreclosure status emerging adult have not experienced a crisis, but having commitment, for example, based on parent's choices (Marcia, 1966) and those who have internalized their sense of themselves from others—tend to report idealized images of their parents (Kroger & Marcia, 2011).

Other most important findings showed that individuals who placed in achievement identity status has high quality family relationships (Latvian ethnicity). Except one respondent who was from Russian ethnicity showed to have high mother quality family relationships.

Limitations of the study mainly is connected to small number of respondents and 83,9% woman respondents. Suggestions for future research to explore if there is gender different or ethnicity regarding perceived parent–child relationship clusters and in relationships between perceived parent–child relationship clusters and identity statuses.

Conclusion

Exploration in breadth has significant relationships with Mother Involvement, Exploration in depth (Reflective exploration in depth) has relationship with all perceived mother dimensions. Identification with commitment has relationship with all perceived mother dimensions and Father Involvement.

Using cluster analyses were distinguished following perceived parent–child relationship clusters - high quality family relationships (HQ), low quality family relationships (LQ), high mother quality family relationships (MHQ) and non-differentiated.

Foreclosure identity status respondents were not found in low quality family relationships and individuals who placed in achievement identity status has high quality family relationships.

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FEATURES OF TEACHING ELECTRIC POWER INDUSTRY AND COMMUNICATION IN AN INTERDISCIPLINARY WAY

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Abstract

Features of teaching electric power industry and communication in an interdisciplinary way

Key words: *technical disciplines, physics, mathematics, electrotechnics, interconnection of disciplines, interdisciplinary, electric power industry, education*

The purpose of this article is to determine the relationship between natural and general technical disciplines as viewed through the field of electric power industry. The development of science in education, the relationship of disciplines, and modern teaching methods are considered relevant today. This article pays special attention to the main subjects studied in the direction of training engineers in the energy field. The basicity of physics, mathematics, and electrical engineering is determined. Tests were taken from the subjects of mathematics and physics among 70 students of the 1st year level, and knowledge was examined in these subjects. Results show that the level of knowledge of 1st-year students in basic subjects is satisfactory for studying specialized disciplines. Furthermore, this shows the necessity of mathematics, physics, and electrical engineering subjects. Their relevance and the connection between natural and general technical disciplines in the energy field are substantiated. The residual knowledge of students is tested in the main subjects and their correspondence with the specialty.

Kopsavilkums

Elektroenerģētikas mācīšanas īpatnības un starpdisciplināritāte

Atslēgvārdi: *tehniskās disciplīnas, fizika, matemātika, elektrotehnika, disciplīnu mijiedarbība, starpdisciplināritāte, elektroenerģētika, izglītība*

Pētījuma mērķis ir atklāt saikni starp dabas un vispārīgajām tehniskajām disciplīnām, kuras tiek pētītas elektroenerģētikas jomā. Izglītības kā zinātnes attīstība, disciplīnu savstarpējā saistība un mūsdienu mācību metodes pašlaik ir ļoti aktuālas. Šajā rakstā īpaša uzmanība tiek pievērsta galvenajiem priekšmetiem, kas tiek pētīti saistībā ar inženieru sagatavošanu enerģētikas jomā. Ir noteikts fizikas, matemātikas un elektrotehnikas priekšmetu kopīgais pamats. Autori uzsver, ka 1.kursa studentu zināšanu līmenis ir apmierinošs specializēto disciplīnu apgūvē. Lai to izdarītu, starp 70 1.kursa studentiem tika veikti testa uzdevumi no matemātikas un fizikas, tika pārbaudītas zināšanas šajos priekšmetos. Pētījuma rezultātā tiek pamatota matemātikas, fizikas, elektrotehnikas priekšmetu nepieciešamība, to aktualitāte un dabas un vispārīgo tehnisko disciplīnu saikne enerģētikas jomā. Tāpat tiek fiksētas studentu atlikušās zināšanas pamatpriekšmetos un atbilstība specialitātei.

Introduction

With the emergence of new teaching methods in vocational education, we must explore and study them and propose new methods. This allows one to make the study of subjects more effective. In the electric power industry, subjects are quite complex. New methods are needed to master and increase effectiveness of training quickly. It is more straightforward with a connection between the subjects of physics, mathematics, and electrical engineering; one might say that it is possible to study specialized subjects. The use of new methods that show the connection of these subjects in the learning process is a topical issue and a problem. The main problem is that nowadays students do not study disciplines so competently, due to the complexity of the subject and the disciplinary approach. This article reveals the relevance of basic subjects in the electric power industry field and recommends the use of interdisciplinarity in the study of relatively complex subjects.

To use an interdisciplinary approach and the degree of readiness of students and the sufficiency of their knowledge to study core subjects, the remaining knowledge of students in basic subjects, mathematics and physics, was tested.

Interdisciplinarity is the use of knowledge of several subjects within the same discipline and conducting integrated classes (Alekseevna, 2019).

Methodology and research methods.

The authors used general scientific theoretical methods of research: theoretical analysis, comparison, establishment of cause-and-effect relationships and generalization.

The connection between natural and general technical disciplines

In today's society, the electric power industry is a constantly evolving area. There are many educational institutions for training specialists in this field, each offering new approaches and valuable methods for effective education and training specialists that meet the requirements of time. Natural-mathematical subjects are closely related to general technical and particular subjects in this area. Mathematics and physics are crucial for the study of electrical engineering and other general technical and specialized subjects. With the development of these subjects in the field of the electric power industry, further study of other subjects is possible.

Physics is the science of structure, movement, and nature's most straightforward and general laws while mathematics is a tool for the theoretical and graphical reflection of natural phenomena. Electrotechnics is a science that studies the receipt, distribution, transformation, and use of electrical energy.

Several laws, terms, and formulas of physics are widely used in electrical engineering, for example, Coulomb's law, Ohm's law, Ampère's law, formulas for voltage, current, resistance, electric power, and others. Mathematics is mandatory and necessary for electrical engineering students' computational-analytical, computational-graphical work. Electrotechnics is a fundamental subject in the study of general technical and specialized disciplines in energy. By interdisciplinary connections, the authors mean the integrity of knowledge, which allows students to transfer knowledge, skills, and abilities acquired while studying one academic discipline to another (Mirskij, 1980).

You can reflect on this relationship along with the tree in Figure 1 which shows the ratio of primary and special subjects.

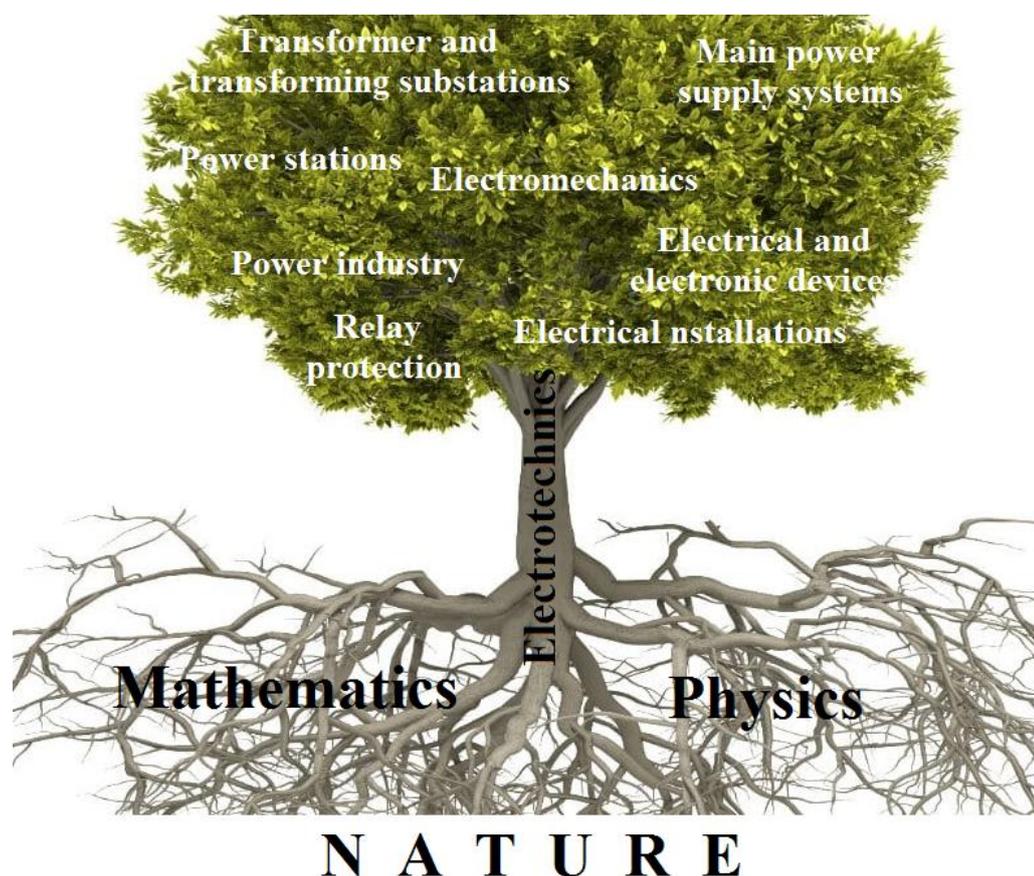


Figure 1. **Communication of disciplines in the field of electric power industry**

The tree's roots show the fundamental subjects of mathematics and physics that study nature. No tree can grow without firm roots, and future engineers also need these disciplines. The subject of electrotechnics is reflected in the tree trunk. Electrotechnics is the basis and an integral part of studying other subjects in the field of electrical engineering. Using an approach or method that includes and fully reflects this interrelationship of disciplines is necessary. An interdisciplinary approach helps to strengthen the connection between subjects and effectively master relatively complex subjects.

Interdisciplinary approach

Interdisciplinarity represents individual disciplines, their structure, content, and particular methodologies at the level of integration (all-unity) as a structuring of the individual, unique, and universal based on the unity of semantic and axiological criteria. The basis of the interdisciplinarity of the educational process is not the opposition of individual scientific disciplines but their interpenetration and mutual completion of content, methods, etc. Interdisciplinarity is not a display by a separate science of its subject or method but the inclusion of knowledge about the subjects and methods of each science into a single-holistic scientific picture.

The interdisciplinary approach as a complex methodological norm of research practice changes the epistemological opposition "subject - object" to the epistemological opposition "knowledge - object". In such situation where a lot of scientific information has been developed and it is often scattered into isolated fragments (sometimes even within the same scientific discipline), a key is needed for its synthesis or integration, which can provide an interdisciplinary approach, which also acts as a factor confirming its relevance (Snopkova 2015).

Osmolovskaya, I. M., & Krasnova, L. A. In their works covering certain aspects of interdisciplinarity, they revealed the following signs of interdisciplinary research.

1. General subject of research. Most often, such a subject is designed specifically for a specific interdisciplinary research and is a hybrid that affects the research fields of the sciences participating in the interdisciplinary research.

2. Complementation of methods: the methods of integrating sciences participate on an equal footing in the research.

3. The theoretical foundations of the research belong to the integrating sciences.

4. The result of an interdisciplinary scientific research does not belong to one scientific discipline, it contributes to those sciences that were involved in the research or initiated it (Osmolovskaya & Krasnova 2017).

Interdisciplinarity creates an educational space in which future specialists can master knowledge, skills, and abilities in science. Each scientific discipline studied at a university has its particular subject of study. It presents a unique knowledge system with a specific system of concepts around which facts are grouped. Students must master this knowledge system's concepts, necessary skills, and abilities (Vaskivska, Tanaś & Loboda 2017).

In the article “Epistemology of interdisciplinary relations,” J. Piaget distinguishes several forms of interaction between disciplines: he considers multidisciplinary as an addition of one discipline to another, interdisciplinarity as the interaction of disciplines, and transdisciplinarity as the construction of integral structures (Piaget 1972).

Malin Mobjork analyzed the interdisciplinary connection in his article (Mobjork 2010).

Table 1. **Analytical framework over cross-disciplinary approaches**

	Multidisciplinarity	Interdisciplinarity	Transdisciplinarity
Collaboration	Cooperation between researchers within each discipline.	Cooperation between researchers crossing the disciplines	Cooperation between researchers and practitioners.
Motives	Mainly instrumental.	Both instrumental and critical.	
Integration	Integration concerns mainly the synthesis phase.	Integration is pivotal and a shared problem definition is needed.	

The author's analysis shows that interdisciplinarity differs from multidisciplinary and transdisciplinarity. Considering the relevance of the above subjects, interdisciplinarity can be used in the study of relatively complex subjects in the field of the electric power industry (Horlick-Jones, Sime, 2004; Mobjork 2010)

To determine the degree of readiness of students to conduct integrated classes at the Polytechnic Institute, a small exam was conducted among first-year students, in which tasks were given that helped determine their residual knowledge of physics and mathematics from the school year. Seventy students of the specialty "1-430103 - Power supply" participated in the testing. It is shown that the level of knowledge of the 1st-year students in basic subjects is satisfactory. With this residual knowledge, one can gradually use interdisciplinarity in teaching professional disciplines. Before the use of interdisciplinarity, it is possible to conduct integrated lessons to adapt to interdisciplinarity.

Interdisciplinarity can become both a factor in improving the quality of research projects and make it difficult to obtain new knowledge. The benefits of interdisciplinary research can only be realized if there are clear principles for the work of interdisciplinary teams and the areas of responsibility of its scientists, the critical use of terminology, the development and application of an effective methodology that allows for a true synthesis of knowledge (Lysak 2016).

There are also minor problems with conducting integrated lessons and using an interdisciplinary approach. Teachers have been trained in traditional disciplines; they must learn to use an interdisciplinary approach. For interdisciplinarity, appropriate training programs are needed. Partial complication due to using unusual or new tools is the need to master an atypical scheme (Kreps 2019, Magnus 2004).

Conclusion

Interdisciplinarity can be viewed as a sphere of freedom, as an opportunity to escape from the strict control of disciplinary specialists, to approach true creativity, free from any restrictions. From such positions, G.B. Kleiner writes that "disciplinarity is order, and interdisciplinarity is freedom." Interdisciplinarity applies to complex subjects that can only be understood by combining the viewpoints of two or more fields. Many general technical disciplines are complex, and interdisciplinarity facilitates the assimilation of these subjects. Replenishes students' professional competencies: teaches them to use new tools, if necessary, to correctly select new techniques for studying a particular topic or for term papers. By the use of this approach, qualified engineers can be trained. In future research, the authors will consider the results of implementing an interdisciplinary approach in the study of electrical subjects at the Khujand Polytechnic Institute.

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POSSIBILITIES OF DEVELOPING SOFT SKILLS THROUGH VOLUNTEERING

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Abstract

Possibilities of Developing Soft Skills through Volunteering

Key Word: *competences, “soft” skills, volunteering, pedagogical studies students*

The article describes possibilities of developing soft skills through volunteering based on the analysis of scientific literature and data of conducted research. Following the common opinion, volunteering allows to explore personal values, to solve arisen issues, to get acquainted with different cultures, teamwork and human relations. Volunteering helps to develop critical thinking, problem solving and managing skills, thus assists in future career and increases confidence. Research was conducted by questioning preschool and pre-primary education students from higher education institutions in Lithuania and Latvia. Problem question – what are the possibilities of developing soft skills through volunteering. The aim of research – to reveal the possibilities of developing students’ soft skills through volunteering. The method used is analysis of scientific literature and documents, written survey, statistical analysis of the obtained data. The results revealed that students who participated in questionnaire are positive about the importance of soft skills in pedagogical activity and actively participate in volunteering.

Introduction

Relevance of the topic. Nowadays, human resources is one of the most important aspects of institution or organization that directly affects the results of its day-to-day performance. Competences of an employee, work experience, individual characteristics are the key elements of development and success of an organization. It is crucial to adapt to continuous change, remain in good working shape, be open and flexible novelties, constantly seek challenges at work or during studies and understand that cooperation is the basis for better results (Valickas, Chomentauskas, Dereškevičiūtė, Žukauskaitė, Navickienė, 2015: 11). The role of a pedagogue to educate the future generation is essential, and this is the reason why pedagogues must obtain vast professional knowledge, be creators of innovations who participate in planning and implementing changes in education system. Pedagogical studies will provide an accredited education, however alternate skills such as personal and interpersonal characteristics (also known as soft skills) will need to be developed individually. Developing soft skills will help a person to become more mature in solving arisen problems and be active in working environment. In most cases, institutions and organizations are giving priority to employees who are flexible, adaptable, responsible, initiative, can work individually and in group and

deal with unexpected situations (Valickas ir kt., 2015: 10). Studies for future pedagogue in high school institution are dedicated to obtain professional qualification and certain competences as well as possibility to use after-class practical activities to develop soft skills. Later in career, soft skills can “Enable to adapt to constant social transformations, changes of the world and requirements for individuals in professional field.” (Lamanauskas, Augienė, 2015: 24).

Problem relevance. To commemorate the 10th anniversary of legalizing volunteering in Lithuania and to emphasize the participation of society in volunteering and the contribution of volunteers, in 2021 Seimas of the Republic of Lithuania has passed a resolution on “2022 as year of volunteering” (lt., Dėl 2022 metų paskelbimo Savanorystės metais). The government of the Republic of Lithuania has approved the Plan for the Year of Volunteering 2022 that included educational and cultural initiatives, training, events, future methodologies, research and legal framework that will regulate volunteering activities. It is necessary to add soft skills to professional skills for successful future career. One way to acquire soft skills is to volunteer in associations and non-governmental organizations (Khasanzyanova, 2017: 363). The research goal was to find out the amount of future preschool and pre-primary education students who would volunteer and the possibilities of developing soft skills during volunteering that will be needed in career. The scope of this research includes the volunteering experience of Lithuanian and Latvian higher education students studying preschool and pre-primary education and the influence of volunteering to developing soft skills. Educational practice involves communication of educators and preschoolers, exchanging opinions and experiences, supporting communication between institution partners and communities. Volunteering can complement the educational process by providing opportunities for students to develop soft skills through after-class activities. For this reason, students studying preschool and pre-primary education are selected for this study.

Research problem – possibilities of developing soft skills through volunteering.

Research object – influence of students’ volunteering on developing soft skills.

Research aim – to reveal the possibilities of developing students’ soft skills through volunteering.

Research objectives:

1. Theoretical analysis of the connection between volunteering and developing soft skills.
2. Revealing the students’ of Kauno kolegija Higher Education Institution, Rezekne Academy of Technologies and Liepaja University attitude towards volunteering and its possibilities to develop soft skills.

Research methods: methods of collecting data – analysis of scientific literature and documents, written survey; methods of processing data – descriptive statistics and summary.

Explaining the concept of volunteering

It is claimed in the report of European Economic and Social Committee about EU policy and volunteering (2011: 2) that volunteering is the important citizenship expression which encourages social solidarity and cohesion. Volunteering is providing practical economic use for society and allows to fulfill personal potential. Volunteering is the expression of social inclusion that contributes to creating society and building social capital. S. Karasevičiūtė claims that “Volunteering encourages personal development, increases the sense of social usefulness and common abilities – it is one’s time for the benefit of others” (Karasevičiūtė, 2013: 5). Volunteering is included in the EU’s list of priorities. European commission acknowledged the significance of volunteering for Europe’s demographic and economic changes and designated 2011 as the “European Year of Volunteering”. This initiative allowed to focus on the importance of volunteering by encouraging it in the EU and granted the basis for legislative framework. Volunteering in Lithuania and Latvia started developing only after restoration of independence. To achieve free, flexible and safe volunteering, the law of voluntary activities was passed in 2011 in Lithuania, and in Latvia law of voluntary work was passed in 2015. In comparison with other European countries, the concept of volunteering is relatively new in Lithuania and Latvia but it keeps advancing. This research is based on the volunteering definition that is provided in Ministry of Social Security and Labour of the Republic of Lithuania website <https://socmin.lrv.lt/> (Savanoriška veikla, 2022) – volunteering is a non-paid public benefit activity of volunteer who is no younger than 14 years old by written or oral agreement. Volunteering Agreements must be signed if the organization reimburses the costs incurred by the volunteer or if at least one of the parties to the contract requests. The peculiarities and principles of volunteering, the rights and obligations of the volunteer and the organizer of the volunteering activity, the procedure for organizing the volunteer, the insurance of volunteers and the reimbursement of expenses are determined by the Law on Voluntary Activity of the Republic of Lithuania. Volunteering can be organized in different forms such as voluntary activity and voluntary service, local, national and international voluntary activity, specialized activity, activity of certain age group, long and short term. Each form mentioned above has advantages so it is essential to choose not only topic of voluntary activity that suits personal needs but form as well.

Soft Skills in the Pedagogy Profession

This research is based on definitions of soft skills defined by Lippman, Ryberg, Carney, Moore, Trends (2015), Kechagias (2011), Cinque (2016) which defines soft skills as the set of must have characteristics, abilities, competences and regulations for each specialist that can be obtained during studies, through certain activities and job process. These abilities are developed in the context of lifelong learning, self-education, self-development, professional activity. Soft skills are recognized a key element for career success. Soft skills are the behavior, values, and personal qualities that allows

people to successfully navigate their work environment, teamwork, and achieve personal goals. These abilities complement professional skills (Lippman, Ryberg, Carney, Moore, Trends, 2015: 4).

Soft skills are defined as inner and interpersonal (social and emotional) abilities that are crucial for self-development, interaction with society and career success (Kechagias, 2011: 33). Soft skills also referred as Life skills, Transversal skills, Key competencies for a successful life and a well-functioning society, Key competences for lifelong learning, Generic competences, 21st century skills, Future work skills (Cinque, 2016: 167). During the educational project “Tuning” in 2006, higher education institutions and companies identified three common groups of competencies as the most relevant: instrumental competencies – including the ability to organize and plan tasks, solve problems, communicate effectively in writing or orally, and speak a foreign language; interpersonal competencies – such as being critical and self-critical, working well in a team, and communicating with specialists from different fields; and systemic competencies – including the ability to apply knowledge in practice, adapt to various situations, demonstrate leadership and management skills, work independently, and show entrepreneurship (Tuning, 2006: 21). Based on studies by the international organizations UNESCO, WEF and OECD, it was revealed that competencies in 21st century are different from traditional academic and professional skills. These skills are associated with deeper learning and competences such as analytical thinking, problem solving and teamwork (Trepulè, 2019: 2). On regular basis these abilities are not subjects of targeted education. “At first employers mention that the decisive key element for choosing candidate is ability to communicate but later adding critical thinking, problem solving skills and ability to write concisely. Employers also point out other aspects related with social, emotional and personal character traits” (Trepulè, 2019: 2). In 2015, American Child Trends research institute presented study “Key soft skills for youth workforce success”. After reviewing over 380 pieces of empirical research, employer surveys, and findings from international projects in the USA, UK, Canada, and other European countries, and evaluating the opinions of experts, a group of researchers identified the main categories of soft skills that can help individuals adapt to the work environment (Lippman, Ryberg, Carney, Moore, Trends, 2015: 5). These categories are: social skills – adequate behavior, respect for other, conflict solving; communication skills – written, non-verbal and listening skills; higher-order thinking – problem solving, critical thinking, decision making; self-control – maintaining mental balance, managing emotions, focusing attention; a positive self-concept – self-confidence, self-respect, self-awareness.

Higher education institutions that prepare future preschool and pre-primary education pedagogues are more likely to develop academic and professional skills. Large number of graduates have higher chance to encounter challenges in professional activity due to lack of soft skills. To achieve professionalism, it is essential to have skills in communication and cooperation, time management, teamwork, and conflict resolution. On the basis of the research done in cooperation

with Academic Information Centre in Latvia (lv. Akadēmiskās informācijas centrs), Estonian Archimedes Foundation and Study Quality Evaluation Center (lt. SKVC) it can be said that Lithuania and Latvia have common traits in education systems because of their geographical position, historical context, current social and economic situation (Automatinis pripažinimas tarp Lietuvos, Latvijos ir Estijos, 2015). Lithuanian legal documents on pedagogue education, such as the Teacher Training Regulations (lt. Pedagogų rengimo reglamentas, 2010) and the Pedagogical Competence Profile (lt. Mokytojo profesijos kompetencijos aprašas, 2007), as well as Latvia's Teacher Profession Standard (lv. Skolotāja profesijas standarts, 2020), include the soft skills required to obtain a pedagogue qualification. These soft skills are described as leadership, creativity, problem solving, critical thinking, social justice, citizenship, management of changes, social-emotional, communication and cooperation skills.

Volunteering Effect on Expression of Soft skills

Volunteering is the expression of social inclusion that has transformative effect on society and helps to create civil society. Volunteering can also be described as the basis of economical growth, prerequisite to increase employment and reduce social and economic separation. Seimas of the Republic of Lithuania pronounced 2022 year of volunteering recognizing that volunteering helps to develop personal skills, increases socialization, self-realization and becomes the experience that society especially youth will put into action in job market (LR Seimo 2021-05-13 Nutarimas Nr. XIV-314). The EU council recommendations state that informal and self-learning plays essential role when developing interpersonal, communication and cognitive skills such as critical thinking, analysis, creativity, problem solving and resistance. Skills mentioned above assist to become active citizens and increase labor productivity (ES Tarybos rekomendacija, 2018: C 189/3).

Volunteering promotes personal development, increases the sense of social usefulness and enhances common abilities. It involves spending time on useful activities for others (Pevnaya, Pevnaya, 2019: 384; Karasevičiūtė, 2013: 5; Jaunimo savanoriškos veiklos vystymas Lietuvoje, 2020: 3). Sociological research has shown that a high level of education alone cannot provide all the knowledge and skills needed to successfully adapt to modern society. Soft skills, often referred to as personal and interpersonal skills, complement professional skills and are key to personality development. Volunteering in associations and non-governmental organizations can be a way to acquire soft skills (Khasanzyanova, 2017: 363). Volunteering is one factor that can improve students' career management opportunities, future career prospects and chances of obtaining higher positions at work. Students who volunteer have the opportunity to understand their personal potential and gain the soft skills needed for future career management. Engaging in volunteering allows individuals to discover their personal values, develop problem-solving abilities, learn about and accept different cultures, understand human relationships and work in a team. Volunteering fosters critical thinking,

conflict resolution and management skills that increase self-confidence and prepare individuals for their future careers (Fényes, Markos, Mohácsi, 2021: 4; Boru, 2017: 148; Giancaspro, Manuti, 2021: 8).

Research Methodology and Organization of Work

Research part of article is based on statistical analysis of preschool and pre-primary education students' questionnaire concluded on October-December, 2022. Respondents are from Faculty of Arts and Education Kauno kolegija Higher Education Institution, Rezekne Academy of Technologies, University of Liepaja. The questionnaire is prepared to identify students' experience of volunteering and its impact on development of their soft skills. Questions are based on criteria described in theoretical part: volunteering characteristics, volunteering experience actuality, the importance of soft skills in pedagogical experience. Questionnaire is a quantitative survey that is conducted in website www.apklausa.lt. For further actions, collected data is transferred to excel worksheet and article provides only summarized data of questionnaire in tables. Continuous survey is applied to conducted survey where the link to survey is sent to all students' e-mails. Research is conducted in all three high school education institutions: Kauno kolegija Higher Education Institution, Rezekne Academy of Technologies, University of Liepaja. The research population consisted of 464 individuals, with 327 students surveyed (with a 95% probability and a 3% margin of error). The questionnaire return rate was 77.50%. 263 questionnaires are sent to preschool and pre-primary education students in Kaunas and 162 questionnaires are submitted (return rate– 62%), 54 questionnaires are sent to preschool and pre-primary education students in Rezeknes and 49 questionnaires are submitted (return rate– 91%), 147 questionnaires are sent to preschool and pre-primary education students in Liepaja and 116 questionnaires are submitted (return rate– 79%). Article describes and compares data from Lithuania Kauno kolegija Higher Education Institution (hereinafter referred to as the “LT”) and Rezekne Academy of Technologies and University of Liepaja (hereinafter referred to as the “LV”) as two separate entities. Research is carried out by following ethical requirements. The research aim and usability are presented to participants and they are allowed to willingly participate in anonymous questionnaire.

Analysis of research

Recent years there is an increase of voluntary activity among youth. 2019 Questionnaires of Eurobarometer show that voluntary activity in Lithuania was 31,3% and 27,9% in Latvia in the last 12 months. The average of voluntary activity in EU is 31,8% (Eurobarometer 478, 2019: 33). The analysis shows the scale of volunteering in Lithuania and Latvia. The preschool and pre-primary education students' experience of volunteering is 57,4% in Lithuania and 66,4%. It is noted that experience was not systematic (Table 1).

Table. 1. The Students' Experience of Volunteering

Statement	LT students (%)	LV students (%)
I volunteer regularly	14,6	17,9
I occasionally volunteer	50,4	61,5
I volunteer by chance	47,1	48
I have never volunteered but I would like to	49,2	45,13
I have never volunteered and I don't want to	8	5,3

Source: created by author according to results of questionnaire

Only 14,6% Lithuanian students and 17,9% Latvian students regularly volunteered. Large amount of students volunteered occasionally – LT-50,4%, LV-61,5% or by chance – LT-47,1%, LV-48%.

Results of analysis proves the details about volunteering discussed in theoretical part and the statement in of European Economic and Social Committee “People in Europe are now increasingly likely to commit to short-term volunteering activities, often with a clear personal gain, e.g. volunteering at a festival or concert, rather than making a long-term commitment to address an identified societal need“ (Official Journal of the European Union 2022: C 152/25).

According to results of questionnaire, almost half of students who never volunteered expressed a desire to participate in voluntary activity: LT – 49,2%, LV – 45,13%. It is noted that the main reasons for volunteering are (table 2): to help others – LT-21,3%, LV-26,3%; to challenge oneself in different activities – LT-14,3%, LV-14,7%; to develop personal characteristics – LT-13,2%; to seek for new challenges – LV-15%.

Table. 2. Motives for Students' volunteering

Statement	LT students (%)	LV students (%)
Desire to help other	21,3	26,3
Building a circle of new friends and connections	7,9	8,7
Getting to know yourself and your character traits	11,1	2,7
Gaining confidence	10,2	3
Feeling important	3,5	4,5
Trying oneself in different activities	14,3	14,7
Developing personal characteristics	13,2	10,2
Desire to participate in social life	10,5	14,1
Seeking for new challenges	7,3	15

Source: created by author according to results of questionnaire

Lithuanian respondents are the least motivated by desire to feel important – 3,5% while Latvian respondents – to get to know yourself and your character traits – 2,7%. 64,8% of Lithuanian students and 73,3% of Latvian students agreed with statement “does the volunteering help to develop and strengthen soft skills?”.

After evaluating the general competencies presented in the “Tuning” project (2006) and reviewing the main documents for pedagogue preparation in Lithuania and Latvia, a set of 19 key soft competencies was identified. The block is divided in 5 categories: social skills, communication skills, higher-order thinking skills, self-control skills, positive self-concept skills (Lippman, Ryberg, Carney, Moore, Trends, 2015, 4). This set of blocks is given for students to rate according to the

importance of category in career of pedagogy and which are being developed during volunteering (5 – very important, 1 – irrelevant) (Table 3).

Table 3. Key soft skills for pedagogical career; key soft skills developed and strengthened through volunteering

Soft skills categories	Soft skills	Lithuanian students		Latvian students	
		Key skills for pedagogical career	Developed through volunteering	Key skills for pedagogical career	Developed through volunteering
Social skills	Teamwork	4,8	4,6	4,6	4,5
	Communication and cooperation	4,9	4,6	4,8	4,5
	Average:	4,85	4,6	4,7	4,5
Communication skills	Organization and planning	4,9	4,3	4,8	4,2
	Foreign language skills	3,6	3,1	3,7	3,2
	Information management	4,6	3,8	4,6	3,7
	Intercultural communication skills	4,2	3,6	4	3,4
	Average:	4,3	3,7	4,3	3,6
Higher-order thinking skills	Problem solving	4,8	4,2	4,8	3,9
	Decision taking	4,8	4,4	4,8	4,2
	Application of knowledge in practice	4,9	4,2	4,7	4
	Adaptation in new situations (management of changes)	4,8	4,4	4,6	4,1
	Generating new ideas (creativity)	4,8	4,1	4,6	3,9
	Leadership	4,4	3,8	4,5	3,5
	Working independently	4,6	4,2	4,5	3,9
	Entrepreneurship	3,8	3,2	3,8	3,3
	Critical thinking	4,5	4	4,4	3,9
	Social justice and citizenship awareness	4,6	4	4,6	4,1
	Average:	4,6	4,05	4,53	3,88
Self-control skills	Controlling emotions	4,9	4,3	4,6	4
	Average:	4,9	4,3	4,6	4
Positive self-concept skills	Self-criticism	4,4	4,1	4,4	3,9
	Initiative skills	4,7	4,1	4	3,4
	Average:	4,55	4,1	4,2	3,65
Total average:		4,64	4,15	4,5	3,9

Source: created by author according to results of questionnaire

Results of questionnaire show that both Lithuanian and Latvian students rate highly all soft skills and agree that they are significant and important in pedagogical career (LT – 4,64, LV – 4,5). All respondents agree that social skills are critical in professional activity (LT – 4,85, LV – 4,7). Communication skills are considered to be less critical (each LT and LV 4,3). Though, for Latvian students, positive self-concept skills are considered to be less important in professional activity (4,2). According to results of questionnaire, students claim that out of communication skills category foreign language skills are least needed in pedagogical career (LT – 3,6, LV – 3,7). Both Lithuanian and Latvian students have an accord that the least important skill from higher-order thinking skills is entrepreneurship (both LT and LV 4). Lithuanian students claim that the essential soft skills are

communication and cooperation (4,9), organization and planning (4,9), application of knowledge in practice (4,9), controlling emotions (4,9), teamwork (4,8), problem solving (4,8), decision taking (4,8), adaptation in new situations (management of changes) (4,8), generating new ideas (creativity) (4,8), whereas Latvian students state that the essential soft skills are communication and cooperation (4,8), organization and planning (4,8), problem solving (4,8), decision taking (4,8).

According to results, Lithuanian students rate soft skills obtained in volunteering higher than Latvian students (LT – 4,15, LV – 3,9). During volunteering, future pedagogues are mostly developing social category skills (LT – 4,6, LV – 4,5), the least – communication skills (LT – 3,1, LV – 3,2). Out of communication skills category, foreign language skills (LT–3,1, LV–3,2) and intercultural communication skills (LT – 3,6, LV – 3,4) are least developed during volunteering. Out of higher-order thinking skills category, students think that entrepreneurship is least strengthened during volunteering (LT – 3,2, LV – 3,3). What is more, Latvian students note that leadership is least developed during volunteering (3,5).

After analyzing obtained results, it is certain that number of students in Lithuania who strengthened their soft skills during volunteering is larger in comparison with the number of Latvian students. Lithuanian students claim that during volunteering they acquired teamwork (4,6), communication and cooperation (4,6), decision taking (4,4), adaptation in new situations (management of changes) (4,4), organization and planning (4,3), controlling emotions (4,3), problem solving (4,2), application of knowledge in practice (4,2), working independently (4,2). While Latvian students strengthened – teamwork (4,5), communication and cooperation (4,5), organization and planning (4,2), decision taking (4,2).

More than half of respondents are positively evaluating the correlation between strengthening soft skills during volunteering and self-confidence in future career (LT – 57,4%, LV – 54,6%).

Analysis of data proves the actuality of volunteering (Khasanzyanova, 2017; Pevnaya, Pevnaya, 2019; Karasevičiūtė, 2013), the importance of soft skills in pedagogical career (Lippman, Ryberg, Carney, Moore, Trends, 2015) and positive impact of volunteering when developing soft skills (Fényes, Markos, Mohácsi, 2021; Boru, 2017; Giancaspro, Manuti, 2021; Lamanauskas, Augienė, 2015). Results of questionnaire revealed that Lithuanian and Latvian preschool and pre-primary education students volunteer on irregular basis. Both Lithuanian and Latvian students rate soft skills that are important in pedagogical career highly. Students from both analyzed countries mostly strengthen and develop social skills, the least – communication skills. Based on the results of analysis, it is recommended to join voluntary activities for students who are planning to choose pedagogical studies and studies related to pedagogy. Volunteering will help to develop personal abilities, skills, competencies that are needed in pedagogical career. What is more, volunteering will provide useful activities for society.

Conclusions

1. After theoretical analysis of scientific literature and documents, it can be said that volunteering is the expression of social inclusion that influences changes in societal attitudes and building civil society. Students who volunteer have an opportunity to understand their potential, gain soft skills that are crucial for future career management. Volunteering provides a chance to strengthen and develop soft skills. It allows to realize personal values, solve problems, get to know and accept different cultures, work in a team. Volunteering helps develop skills in conflict resolution, critical thinking, and management, which can build self-confidence and prepare individuals for their future careers.
2. Results of analysis revealed that most of high school students who participated in questionnaire irregularly volunteer. It is noted that students volunteer with the encouragement of others. Half or participants marked that they have never volunteered but would like to volunteer in the future. Soft skills are evaluated highly in pedagogical career. Future pedagogues positively evaluated soft skills and admitted their importance in future pedagogical activity. Both Lithuanian and Latvian respondents noted that they obtained key abilities which will be needed in pedagogical practice.

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EKONOMIKA UN MENEDŽMENS / ECONOMICS AND MANAGEMENT

ECONOMIC EVALUATION METHODS OF NATURAL RESOURCES

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Abstract

Economic Evaluation Methods of Natural Resources

Key words: *Natural capital; Natural resources asset; Effective use of natural resources*

During the recent years, questions about environmental sustainability have been brought into sharp focus. Natural resources ensure the development and sustainability of national economy. Serious problem is caused by increasing intensity of extraction and use of natural resources which is not always connected with the resources being fully utilised and gaining maximum economic benefits from the resources.

Economic evaluation methods of natural resources provide information about evaluation techniques of stores of natural resources, effectiveness of extraction and utilising natural resources and deciding on further action.

The aim of the scientific work is to research the main conceptual methods of economic evaluation of natural resources.

Research objectives: To research the role of natural resources in development planning and analysis; To research the indices of the most applied economic approach to the economic evaluation of natural resources; To evaluate the main economic criteria of the 'future' decision making.

Theses:

- Efficient use of natural resources is the basis for economic sustainability and development.
- Economically viable use of natural capital is essential, and it ensures economic sustainability and development.
- There is a correlation between using the outcomes of economic evaluation of natural resources in decision making and maximising the economic gain.

To achieve the objectives, EU regional statistic data, scientific publications, and industry specific literature were used.

Methods used in the research: abstract logical, monographic, document analysis, mathematical statistics, deduction, synthesis.

Kopsavilkums

Dabas resursu ekonomiskā izvērtējuma metodes

Atslēgvārdi: *Dabas kapitāls; Dabas resursu aktīvs; Dabas resursu efektīva izmantošana*

Vides ilgtspējas jautājumi ir būtiski aktualizējušies pēdējo gadu laikā. Dabas resursi ir viens no galvenajiem ražošanas resursiem tautsaimniecībā, kas nodrošina tās attīstību un ilgtspēju. Aizvien vairāk tiek aktualizēta dabas resursu ieguves un izmantošanas intensitātes pieauguma problēma, kas ne vienmēr ir saistīta ar resursu ekonomisku izmantošanu un maksimāla labuma gūšanu tautsaimniecībā. Dabas resursu ekonomiskā izvērtējuma metodes sniedz informāciju par paņēmieniem, kā novērtēt esošos dabas resursu krājumus, izvērtēt to ieguves un izmantošanas efektivitāti un pieņemt lēmumus tālākai rīcībai.

Zinātniskā raksta mērķis ir izpētīt galvenās dabas resursu ekonomiskā izvērtējama konceptuālās metodes.

Ar mērķi saistītie uzdevumi: Izpētīt dabas resursu kā aktīvu lomu ilgtspējīgas attīstības plānošanā un analizē; Izpētīt plašāk lietotās ekonomiskās pieejas rādītājus dabas resursu ekonomiskajai izvērtēšanai. Izvērtēt galvenos ekonomiskās kritērijus "nākotnes" lēmumu pieņemšanai.

Tēzes:

- Efektīva dabas resursi izmantošana ir balsts tautsaimniecības ilgtspējai un attīstībai.
- Dabas kapitāls un tā ekonomiski pamatota izmantošana ir kā būtiska kapitāla forma, kas nodrošina tautsaimniecības ilgtspēju un attīstību.
- Pastāv sakarība, ja dabas resursi tiek ekonomiski izvērtēti un iegūtie rezultāti tiek izmantoti lēmumu pieņemšanai, ekonomiskais labums tiek maksimizēts.

Pētījuma uzdevumu risināšanai izmantoti Eiropas savienības statistikas reģiona dati, zinātniskās publikācijas un speciālā nozares literatūra. Pētījumā tiek pielietotas šādas pētījuma metodes: abstrakti loģiskā, monogrāfiskā, dokumentu analīzes, matemātiskās statistikas, dedukcijas un sintēzes metode.

Introduction

Environmental sustainability has become increasingly important during the recent years. Natural resources are one of the most important manufacturing resources that ensures economic development

and sustainability. Economic evaluation methods of natural resources provide information about evaluation techniques of natural resources' stores, effectiveness of extraction and utilising of natural resources and deciding on further action.

The objective of this work is to research the main conceptual methods of economic evaluation of natural resources. The tasks are:

- To research the importance of natural resources in sustainability planning and analysis;
- To research indices of the most widely used economic methods used in economic evaluation of natural resources;
- To evaluate main economic criteria in making future decisions

Key words: *Natural capital; Natural resources asset; Effective use of natural resources.*

Theses:

- Effective use of natural resources is the basis of economic sustainability and development.
- Natural capital and its economically viable utilisation will ensure economic sustainability and development.
- There is correlation – economic gains are maximised when outcomes of economic evaluation of natural resources are considered in decision making.

In this research, statistic data from the European Union, scientific publications, and specialist literature were used. The following methods were used: abstract logical, monographic, analysis of documents, mathematical statistics, deduction and synthesis.

Results and discussion

Modern society has a substantial impact on nature. Understanding of economic and sustainable use of natural resources is basis for decision making when planning economy or development of an area. Changes in legislation and Eco innovation have already shown results. Although statistic data does not yet show positive indicators, sustainability and effective use of natural resources, as well as their sustainable extraction is gaining increasing importance. Solutions are being sought to find a more 'correct' way of economic evaluation of natural resources and their use in economy.

Economy consists of four factors – land, labour, capital, entrepreneurship (currently, we can also talk about the fifth factor which is information). Each of these factors is explained by a manufacturing resource. For example – land is natural resources which is best described as Natural capital which is one of the most significant indices which provides information about natural resources and their economic evaluation.

Natural capital is formed of clusters of ecosystems (sea, forest, agro etc) elements that create and sustain natural resources and their services that are necessary for the existence and survival of humankind.

Ecosystem services include – food production, water, air, and climate regulation, maintaining fertility of soil, nutrient circulation, aesthetic and cultural value of nature etc. (Millennium Ecosystem Assessment, 2005)

Natural capital is physical active in natural environment which shows the spectrum of the economic value of natural resources. It can ‘pay dividends’ but it also can be destroyed. Various forms of natural resources ensure multi-level income.

There are three types of natural resources – critical, constant and sellable. Reduction of this natural capital reduces access to resources that are necessary for human life quality and their survival (Millennium Ecosystem Assessment...., 2005)

Figure 1 shows connection between natural resources, renewable resources, non-renewable resources and eco-system services.

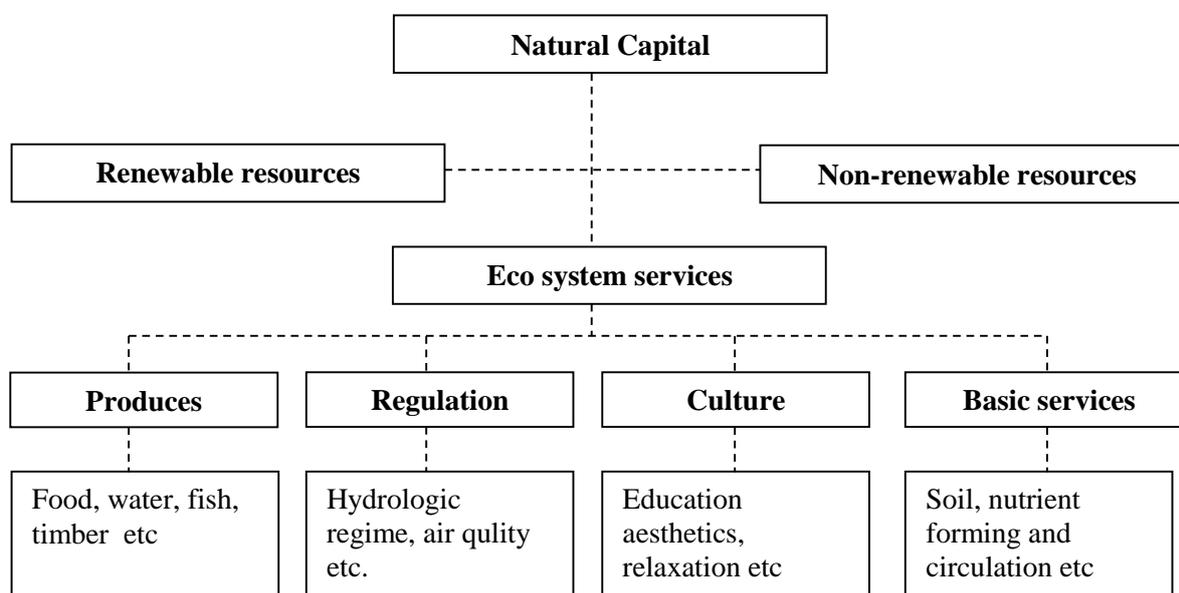


Figure 1. **Natural capital**

Source: Created by the Authors. Based on Aaronson, J, Milton S, Blignaut J.N.....2007.

Natural capital cannot always be substituted with different forms of capital. Its substantial decrease may have significant effect on sustainability and development of other areas of economy. Currently, the speed of reduction of the world’s natural resources is increasing which means that economic evaluation and effective use of natural resources has gained more importance.

There is a correlation – natural resources are limited, human our wants are unlimited. This means that the speed of extraction and use of natural resources constantly increases and is nearing reaching the maximum. Natural resources are limited but the rising population and its standard of living requires more resources. This correlation has turned attention to nature and its sustainability. Mathematically, it can be shown as follows: (Vasiljeva L., Vides ekonomika, 2007)

$$(\alpha+\beta)*N<P$$

Where α and β – usage of natural resources per one person for their personal and manufacturing needs; N – world population; P – total volume of natural resources in the world.

This formula shows that increase of α and β needs to be reduced due to the fact that the volume of natural resources in the world is limited. This formula also shows that renewable resources should be used instead of non-renewable natural resources. The possible solutions, according to the world's scientists, are to either reduce the population or consumption. However, this is only a mathematical solution. In my opinion, the most viable solution is economical use of natural resources and maximising of production.

The world's economic model is to constantly increase the standard of living. In this model, income is increased by manufacturing and another mathematical function comes into equation (Vasiljeva L., Vides ekonomika, 2007):

$$f(\alpha, \beta, N) \rightarrow \max$$

This contradiction of limitations and wants adds complexity to decision making. Comprehensive cost benefit analysis and economic analysis of natural resources must be carried out. It is important to combine natural and economic axioms and economic decision making with progressive management of natural resources and decision making based on worldwide positive practices.

One of the significant natural resources in Latvia is peat. Swamps (peat swamps) cover 10% of Latvian territory.

In peat stores, 1.7 billion tonnes of peat have accumulated already and each year peat stores increase by 1.6 million tonnes (if it is assumed that the speed of accumulation is 2mm per annum). Peat is extracted in 4% of the peat store territories. On average (across 10 years) 0.95 million tonnes of peat (assuming that peat extraction increases every year by 0.65 tonnes) is extracted annually. (Data of SLLC “Latvian Environment, Geology and Meteorology Centre”).

When analysing the speed of mining peat and the speed of renewing of the natural resource (peat), following information was obtained:

The average peat extraction – 0.95 million tonnes < yearly peat deposit – 1,6 million tonnes
This means that the speed of extracting natural resources can be increased.

In 1987, the UN Brundtland Commission published a report ‘Our Common Future’, which defines the meaning of sustainable development as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. (Our Common Future)

The three pillars of sustainability are shown in Figure 2.

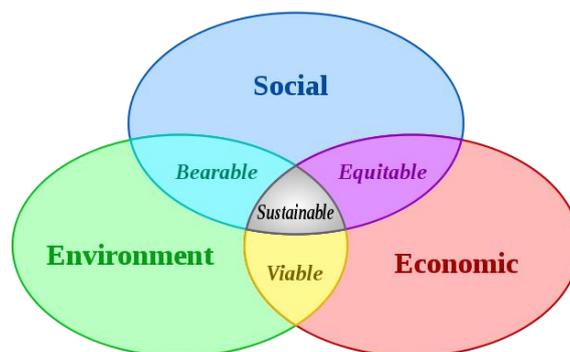


Figure 2. **Three Pillars of Sustainable Development**

Source: Johann Dréo , Sustainable development

As shown in Figure 2, sustainable development can be possible only when there is a balance among social environment, natural environment and economic environment. In Latvia, it is evident that balance is being sought by considering only two sustainability pillars. The third is not always considered.

The concept of natural capital is a potential to find balance between economic development and sustainability of nature. The figure of natural capital (value) must be an important consideration in decision making, for example in cost benefit analysis.

When economically evaluating natural resources, two different approaches can be used. These approaches help develop understanding of connection between economic systems and natural resources. Positive economics shows the current position, the past position and the future position. Normative economics determines what the position should be. Discrepancies between these two approaches provide continuous development. Both approaches are useful and serve as basis for decision making.

For example, positive economics is used to evaluate the dynamics of the use of natural resources and to show whether the use has increased, reduced or has remained the same. (Table 1).

Table 1. **Indices of peat extraction in Latvia**

Year	Peat extraction thousands of tonnes	Increase / reduction	Absolute Increase		Rate of Growth		Rate of Increase	
			Chain	Base	Chain	Base	Chain	Base
1999	824,6							
2000	399,1	-51,6%	-425,5	-425,5	48%	48%	52%	-52%
2001	467,5	17,1%	68,4	-357,1	117%	57%	-17%	-43%
2002	846,6	81,1%	379,1	22,0	181%	103%	-81%	3%
2003	585,2	-30,9%	-261,4	-239,4	69%	71%	31%	-29%
2004	595,1	1,7%	9,9	-229,5	102%	72%	-2%	-28%
2005	791	32,9%	195,9	-33,6	133%	96%	-33%	-4%
2006	1000	26,4%	209	175,4	126%	121%	-26%	21%
2007	541,2	-45,9%	-458,8	-283,4	54%	66%	46%	-34%

2008	865,5	59,9%	324,3	40,9	160%	105%	-60%	5%
2009	855,5	-1,2%	-10	30,9	99%	104%	1%	4%
2010	720	-15,8%	-135,5	-104,6	84%	87%	16%	-13%
2011	947	31,5%	227	122,4	132%	115%	-32%	15%
2012	738,64	-22,0%	-208,36	-86,0	78%	90%	22%	-10%
2013	1237,89	67,6%	499,25	413,3	168%	150%	-68%	50%
2014	907,26	-26,7%	-330,63	82,7	73%	110%	27%	10%
2015	12 22,28	34,7%	315,02	397,7	135%	148%	-35%	48%
2016	820,11	-32,9%	-402,17	-4,5	67%	99%	33%	-1%
2017	997,58	21,6%	177,47	173,0	122%	121%	-22%	21%
2018	14 83,40	48,7%	485,82	658,8	149%	180%	-49%	80%
2019	11 82,71	-20,3%	-300,69	358,1	80%	143%	20%	43%
2020	11 70,11	-1,1%	-12,6	345,5	99%	142%	1%	42%
2021	12 42,37	6%	72,26	417,8	106%	151%	-6%	51%

As shown in Table 1, the volume of peat extraction is cyclical. Until 2008, it was a 3 year cycle during which the volume of peat extraction incrementally increased. After this growth, follows reduction which is explained by new capital investments. After 2008, the cycle is only one year. When comparing 2021 with 1999, the basic growth of peat extraction is 51% which shows the intensity of peat extraction volume.

31% of the EU horticultural peat is extracted in Latvia. 97% of peat extracted in Latvia is used in horticulture to grow vegetables and decorative plants and trees. 1.4% is used in energy (in 2020). 93% of peat gets exported.

According to International Trade Centre data, Latvia was the world leader in peat export in 2020.

Information about Latvian peat export and import is shown in Figure 3.

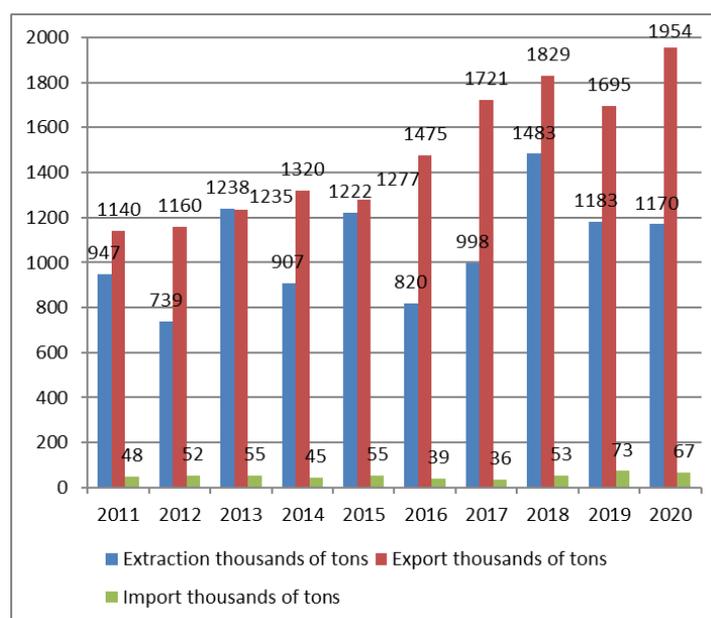


Figure 3. **Peat export and import in Latvia** (created by the Author from Central Statistics Bureau data)

Figure 3 shows cyclical growth of Latvian peat export. This partially coincides with cyclicity of peat extraction. When comparing 2011 with 2020, export has increased (814 thousand tonnes). The data shows that Latvia is a stable peat exporter in the world market. Latvian peat export when compared with extraction (2018-2019) was 98%. Latvia also imports peat – mainly from Estonia, Lithuania, Belorussia and Russia. Latvian peat export in 2020 was 67 thousand tonnes.

Figure 4 shows information about Latvian peat export (mil EUR)



Figure 4. **Latvian peat export mil EUR** (created by the Author from Central Statistics Bureau data)

Figure 4 shows a positive tendency – income from peat export is growing. Latvian peat export has a low added value. Mostly peat gets exported to be processed. Gains from peat export could increase if peat’s added value can be increased.

Figure 5 shows the world’s main peat export countries.

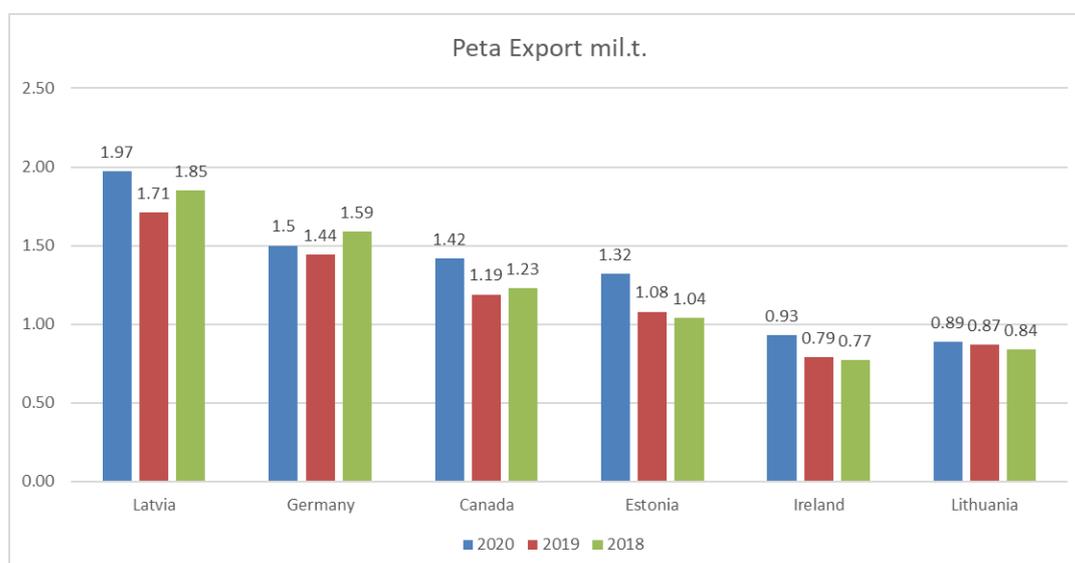


Figure 5. **Peat export** (created by the Author from Eurostat data)

Figure 5 shows that since 2019, Latvia is the biggest peat export in the world. Until 2018, the biggest peat exporter was Germany. In 2020, Latvia's share in the global peat market is 14.7%. The main peat importers in the global market are Germany, Italy, China, The Netherlands, Belgium, Poland, Spain, and South Korea.

To establish whether the current speed of use is appropriate and also to analyse the possible ways to use the natural resources, normative economic approach must be used.

Normative economic approach can be used in various circumstances. For example, to model the desired situation and to evaluate the effectiveness of the existing situation.

Normative criteria in decision making

If it is necessary to establish whether the suggested actions are desirable the first step is cost benefit analysis. If benefits exceed the cost then the action can be supported. This simple system provides economic basis in decision-making.

This can be formulated as follows: if B is benefit from use of natural resources and C is cost then:

- $B > C$ action is to be supported;
- $B < C$ action is not appropriate;
- $B = C$ point of no loss.

And also, if $B/C > 1$ action is to be supported

All benefits and costs are evaluated based on their impact (widely defined) on humankind.

Peat extraction data from 2011 to 2021 are shown in Table 2.

Table 2. Economic Data of peat extraction in Latvia

Year	Extraction thousands of tons	Turnover	Profit or loss before taxes	Profit or loss after taxes	Costs before taxes	Number of companies	Number of employees
2011	947	737488	42176	37024	695312	50	28
2012	739	836461	22565	14661	813896	51	26
2013	1238	762279	64453	61293	697827	54	21
2014	907	795118	45078	42903	750040	57	19
2015	1222	628760	25067	19104	603693	60	10
2016	820	317968	10199	8642	307770	64	11
2017	998	357373	32411	310858	324962	63	12
2018	1483	739670	66208	66030	673462	60	19
2019	1183	720993	72773	72773	648220	61	12
2020	1170	782076	79468	79455	702608	59	18
2021	1242	779915	112520	112520	667395	59	18

In 2021, turnover / Cost = $779915/667395 = 1,16$

The Author's calculations based on Lursoft data.

Data in Table 2 show that since 2018 the volume of peat extraction has increased. The number of companies in the industry is constant, between 50 and 64 companies during the 10 years. The industry is seasonal and therefore the average number of employees does not provide accurate information about the average number of employees within the industry.

The data show that the industry is overall profitable. However, when analysing data from 60% of individual companies within peat industry individually rather than the industry as a whole data about maximum loss to maximum profit can be obtained. In 2021, the factor (turnover / cost =1.16) is higher than one. This means that the action is to be supported which concludes that the industry is to be supported and it plays an important role in the economic development.

To test whether profit or loss within the industry is dependent on the extraction volume, the correlation factor was calculated.

Figure 6 shows the correlation between peat extraction and profit or loss.

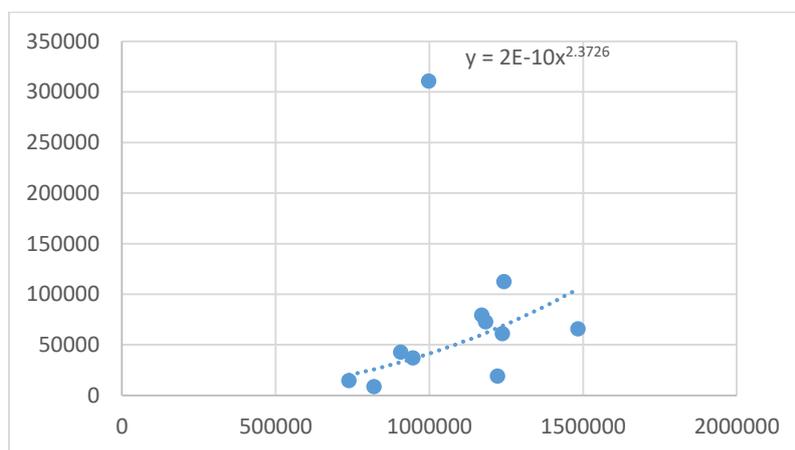


Figure 6. **The correlation between peat extraction and profit or loss** (The Author’s calculations based on Lursoft data)

The results show that the correlation between these factors is weak – 0,12.

This means that profit is not dependent on the volume of extraction. This may be explained either by inefficient use of investment into the industry or not including all income into the companies’ accounts.

To promote rational extraction and use of peat resources, natural resources’ tax has been introduced (action indicator). Tax to peat is 0.55 EUR/t, according to The Law ‘About Natural Resources’ Tax’.

60% of the taxes are transferred into the state budget, 40% are transferred into the budget of the local authority where extraction takes place. These funds are to be used to fund nature protection projects and actions.

Figure 7 shows the Natural resources’ tax for peat extraction.

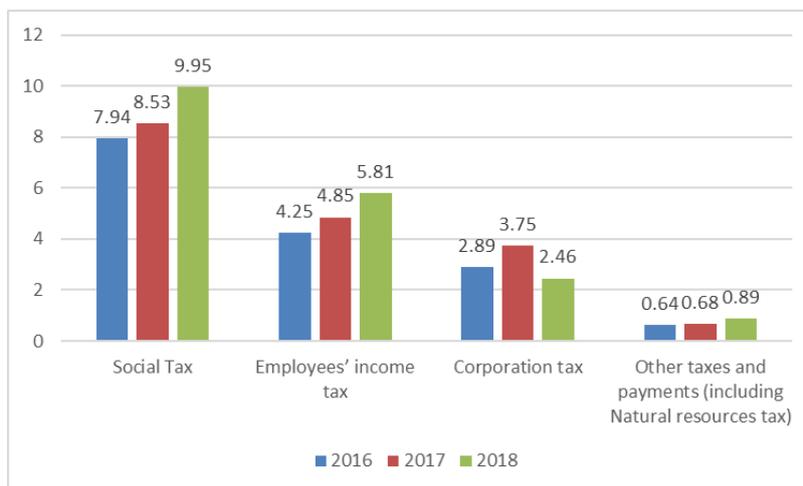


Figure 7. **Taxes paid by peat industry mil EUR** (Data created by the Author from Central Statistics Bureau data)

Data shows that during the three years, the tax payments have increased. This means that extraction volume and the number of employees within the industry has increased. In 2018, the reduction on taxes is in line with losses sustained by many businesses within the industry.

Latvian Peat Association has estimated that, in 2019, 0.59 mil EUR was paid in natural resources taxes.

Reaching higher productivity of a resource (for example higher added value that is achieved by using and / or processing one tonne of a resource) higher dematerialisation is achieved.

Productivity of natural resources in the EU and Latvia are shown in the figure 8 and figure 9 below.

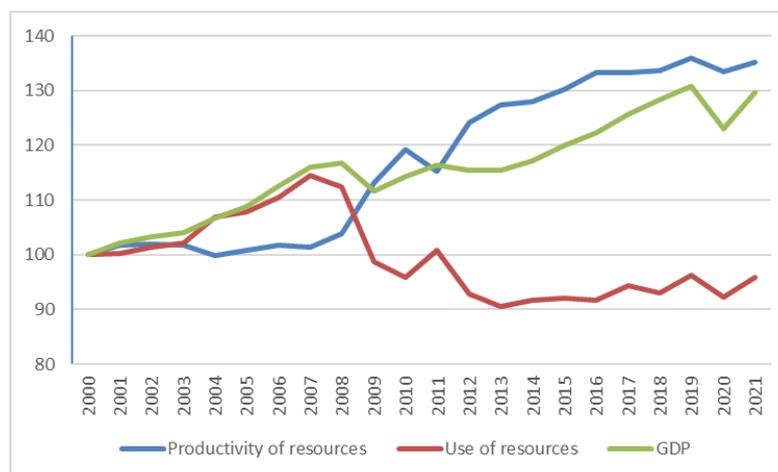


Figure 8. **Productivity of natural resources, DMC and GDP in the EU in 2000-2021** (created by the Author from Eurostat data)

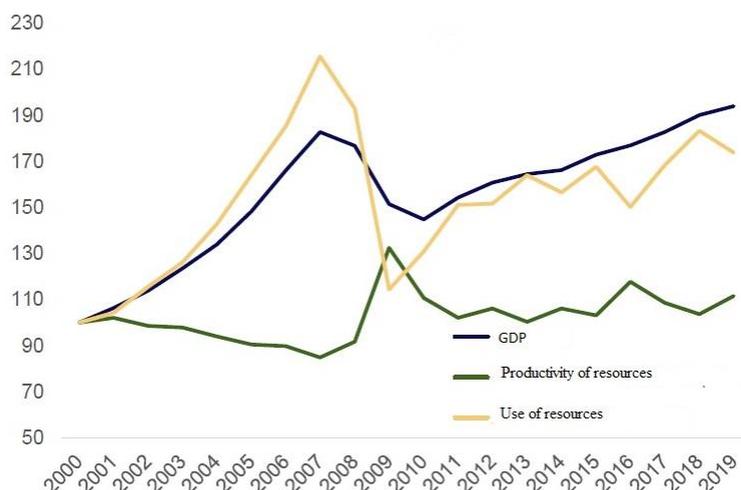


Figure 9. **GDP, use of resources and productivity of resources in Latvia (2000=100)** (Created by the Author using CSP data)

The Figure shows that, in the EU, the productivity of natural resources is increasing faster than the GDP. Growth of productivity of natural resources means that the volume of the necessary natural resources decreases.

In Latvia, however, this tendency is negative – the use of natural resources is rapidly increasing and productivity from the resources is low.

It can be concluded that use of natural resources in Latvia is ineffective and non-economical. Complex approach is necessary to change this. It must include economic evaluation methods of natural resources, expert methods as well as the three pillars of sustainable development – natural environment, economy, and social environment. To achieve a higher level of dematerialisation in Latvia, higher productivity of natural resources must be achieved. For example, higher added value which is achieved when processing and / or using one tonne of resources.

Conclusions

- Nowadays, when the world society has become a major impacting factor on the environment, knowledge about sustainable and economic use of natural resources has become the basis of decision making and economic or territorial development planning.
- Natural capital is a physical active in natural environment which shows the spectrum of the economic value of natural resources. It can bring profit or it can be destroyed.
- The concept of natural capital is a potential to find balance between economic development and environmental sustainability. The figure of natural capital (value) must be considered when making decisions.
- When higher productivity of natural resources is achieved, for example, higher added value which is achieved when processing and / or using one tonne of a resource, a higher level of dematerialisation is achieved.

- Peat resource is significant to national and territorial development but its economic potential is not being fully utilised.
- Data about peat extraction is widely available but their varied interpretation and discrepancies in information prevent viable analysis from being carried out. The currently available data allow to analyse the tendencies.

Recommendations

- Before plans of economic evaluation and management are put in place, a unified economic approach must be created. This must include both, positive economic approach and normative economic approach. This will help obtain more accurate comparable data.
- When planning development of a territory, basic principles of economy must be used. Future situations of use of natural resources must be modelled and analysed taking into consideration both, the speed of development and productivity over a period of time.
- When planning economic development, the three sustainability pillars must be used as the basis for decision making. Various research methods must be used to enable a more complex analysis of development possibilities.
- Economic role of peat in regional and national development must be increased.
- To achieve a higher level of dematerialisation, Latvia needs to reach higher productivity of natural resources. For example, higher added value which is achieved when processing and / or using one tonne of resources.

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