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Original research paper

TEACHERS' PERCEPTION AND UNDERSTANDING OF SCHOOL LEADERSHIP IN RURAL NIGERIA

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Abstract. *This study focused on teachers' perception and understanding of school leadership in rural Nigeria. Two strategies were used; interaction (exclusion strategy) and interview (inclusion strategy). The interview instrument used was 'open-ended. The rural schools of Kogi State made up the study's universe. For the purpose of the study, inclusive and exclusive criteria adopted. Based on the interview, data were gathered for qualitative analysis. The data were organized on the basis of responses. The data were systematically scrutinized and are organized based on similarity in the responses of participants. Findings revealed that leaders are inspirational and are conscious of the goals of the individual teachers. Finding further showed that teachers have positive perception about their school leaders. The study concluded that leadership of schools in the rural areas of Kogi State is deduced satisfactory, and that majority of principals in the rural schools possess the common qualities of transformational leaders. The study recommended that stakeholders of education in Kogi State including the government should boost the principals' leadership practices towards achieving effective teaching and quality learning in the rural schools, and that principals should adopt 'transformational leadership practice' in the rural schools of Kogi State.*

Key words: *school leadership, school leadership practice, teachers' perception, motivation, transformative learning, rural schools*

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1. INTRODUCTION

School leadership play a pivotal role towards the socio-economic development of the rural Nigeria. School leadership cannot be separated from overall educational goal from both the narrow (students' academic achievement) and the broad perspectives (alleviating mass illiteracy and socio-economic development). "Teachers are leaders during teaching-learning processes in their various schools" (Durowoju and Onuka, 2015, p. 109) and transformative learning process is critical to the socio-economic development of rural Nigeria. The fact remains that the perceived leadership position of teachers in the classroom is critical to learning success and achievement of students.

Teachers' perception and understanding of school leadership in the rural Nigeria has overtones of practices in schools. That is teachers exhibit specific practices sequel to the level of effectiveness of leaders in the schools. The perception of teachers may be viewed from two perspectives: perception of self as the classroom leader and perception of the leadership practice of school principal. It is apparently clear that teachers in rural Nigeria get accolade from their professions (such as 'Mr. Teacher' or 'School Master'). This accolade symbolically confers respect or sense of superiority to the teachers in the rural areas of Nigeria. This has provided a platform for some teachers in the rural Nigeria to undermine the goals of education. For instance, some teachers in the rural areas take advantage of their profession to engage in sharp practice, sexual immoralities/abuse of students (female teachers engaging in sexual immorality with male students and male teachers engaging in sexual immorality with the female students) and examination malpractice. Leach (2013) also confirmed the emergence of sexual immoralities in schools. The research report of Whawo (2015) provides evidence that "bribery, aiding and abetting examination malpractice and sexual harassment of female students" are high unethical practices perpetrated by teachers in secondary schools in Nigeria (p. 53). Whawo (2015) expressed that "teachers in secondary schools extorts money from students, promotes examination malpractice and sexually defiled female students" (p. 54). Alabi, Festus Oluwole (2014) supported that examination malpractices in secondary schools in Nigeria is on the increase. On the other hand, the perception of teachers regarding the school leadership practices of principals is believed to have driven individual teachers' practices in the classroom and beyond. For instance, if teachers perceive poor or unethical leadership practices of principals, they may also take cue owing to the fact that they can neither change their principals. Thus, there is likelihood that there is a relationship between teachers' class leadership practices and the school leadership practice of principals in the rural schools in Nigeria.

However, this study explores teachers' perception and understanding of their school leadership in the rural areas of Kogi State, Nigeria. The understanding of school leadership varies among teachers in the rural schools in Kogi State, and may be evaluated based on their perceptions. A principal with unacceptable leadership practice or approach may lose his/her popularity or approval of teachers. For a principal with a transformative leadership approach, the perception of teachers towards him/her may be positive. Nosike and Oguzor noted that "every person within the school system looks forward to the principals to give the appropriate leadership for others to follow" (2011, p. 145). Where a particular principal adopts arbitrary school leadership practice the reverse may be the case. It is in this regard this study is related to rural schools in Kogi State. There are

varying school leadership practices by principals in the rural areas of Kogi State other than transformative leadership approach.

However, some factors are observed to be associated with the perception of teachers, and this in turn constitutes a challenge for holistic leadership practices in the rural schools of Kogi State, Nigeria. These factors may be termed controllable (such as the work condition, welfare, leadership skill/competence, technology orientation, leadership style, principal's support and facilities availability) and uncontrollable (such as societal perception of teachers, religious, economic and political) factors. These factors affect the perception and understanding of school leadership in the rural areas of Kogi State, Nigeria.

1.1. Objectives of the Study

The main objective of the study was to determine the teachers' perception and understanding of school leadership in the rural Nigeria. The specific objectives of the study were to:

i. Ascertain whether teachers are feeling satisfactory with their principals' leadership practices towards achieving effective teaching and quality learning in the rural schools of Kogi State.
ii. Assess the perceptions of teachers about the principals who allow them to take complete responsibility of leadership in their school.
iii. Determine the specific leadership practice that can inspire the teachers to perform better in their schools.

1.2. Research Questions

The research questions below were developed to proffer necessary answers. The questions were that:

i. Are teachers feeling satisfactory with their principals' leadership practices towards achieving effective teaching and quality learning of students?
ii. What are the perceptions of teachers about the principals who allow them to take complete responsibility of leadership in their school?
iii. What specific leadership practice can inspire the teachers to perform better in their schools?

2. LITERATURE REVIEW

2.1. Conceptual Framework

School leadership takes two forms in Kogi State; those in the senior cadre (principals) with clearly stated managerial or administrative functions and those within the junior cadre (head teachers). School leadership style varies and is adopted based on orientation or mentorship. The choice of leadership style may also be explained by the perception and understanding of principals.

Teachers go through essential cognitive processes in their perceptions. Unveiling the cognitive process that affects the teachers' perception at rural schools in Kogi State is very important. Wang, Treat and Brownell (2008) reported that 'cognitive processing' in

how teachers perceive things needs to be investigated. This is important to understand the perception of leadership in the rural schools.

The fact remains that perception of teachers relates to sensory experience. Perception of teachers is cardinal to their cognitive function. The major 'cognitive processes' that drives the perception of teachers are motivation, emotion and attitude (Wang, 2006). Interesting, motivation is a vital aspect of leadership in schools. The perception of teachers may take a particular shape when the teachers get enough of motivation from the school. For instance, positive principals' motivation (in terms of adequate support and inspiration at work) and government's motivation (in terms of payment of salaries and benefits) are likely to enhance positive teachers' perception. In addition, the attachment of emotion process to the perception of teachers is worth investigating. "Emotion is a cardinal part of teachers, and whether they are positive or negative, schools are full of them" (Hargreaves, 2011, p. 835). Feelings of individuals established through 'the school environment' relates with perceptions' control (Baumeister, DeWall, Ciarocco, and Twenge, 2005). Emotion process cannot be separated from perception process (Fried, 2011). Emotions are also developed by teachers in the 'context of salaries payment' (Zaretsky and Katz, 2018).

It is very much significant for this study to conceptualize perception of teachers with different kinds of school leadership. In this study, attention will be given to only 'transformational and laissez-faire leadership style'. The explanation for this is that principals of schools in the rural areas of Kogi State can only inspire the commitment of teachers or leave the school leadership and administrative process for all staff. The reason for this is that teachers' welfare condition is too poor, government has little respect for education and job insecurity is extremely worrisome in Kogi State. Regardless of these leadership styles, principals should be upright in their tasks and operation of the schools. Generally, there are common tasks that all principals must perform in their various schools. Some of these were outlined by Sergiovanni (1996) as follows:

i. **Purposing:** This has to do with embracing ethics as action-guiding principle for all the school stakeholders in order to transform 'a shared vision'. In a narrow sense, having and following an ethical guide for acceptable conducts of teachers and students, including other members of the school is one way to achieving success.
ii. **Maintaining harmony:** This begins with the respect for others and the understanding of differences. Importantly, teachers have their own individual goals which they believe will be achieved by pursue the goal of the school. A balance must be striken between teachers' goal and the school's goals. The school leaders can also ensure positive environment for work to keep long-lasting harmony. Martin (2016) added that "building accord based on the shared vision and respecting the individual uniqueness of the stakeholders" is the key to maintaining harmony in schools (p. 16).
iii. **Institutionalizing values:** This task is strategic to creating a common view among staff members in schools. Martin (2016) expressed that the idea of institutionalizing values is to translate the "shared vision into practices and standards that guide behavior" (p. 16).
iv. **Motivating:** The principal is supposed to play the role of a motivator. Stimulating the interest of teachers and inspiring them may translate into the positive influence of their commitment to quality teaching and the school's success.
v. **Managing:** This involves the principals putting all structure and resources together in accordance with plan to achieve the school success. Probably managing may

procedural or involves taking on the right principles to ensure the effectiveness of the school.

vi. **Enabling:** Resource availability and judicious utilization of it provides an avenue for the effectiveness, efficiency or productivity of the school. It is duty of the principal to provide enabling environment for effective utilization of resources in their scarce nature. Martin (2016) expressed that when resources are provided, the achievement of common goal will be facilitated. Meanwhile, the key among resources is the teachers (human resource). Schools must recruit the right teachers and use 'their resources' to efficiently and effectively achieve success (Kwasi, 2014). It is widely accepted that human resource accounts for ample success and failure of schools today (Uysal and Çağanağa, 2018). The teachers must also be used to coordinate other resources.

vii. **Modelling:** This simply means that it will be thoughtful of principal to 'lead by example'. Only an ethical and principled principal can instill discipline in teachers. Martin (2016) opined that "modelling involves living according to the purposes and values of the community in thought, deed and expression" (p. 16).

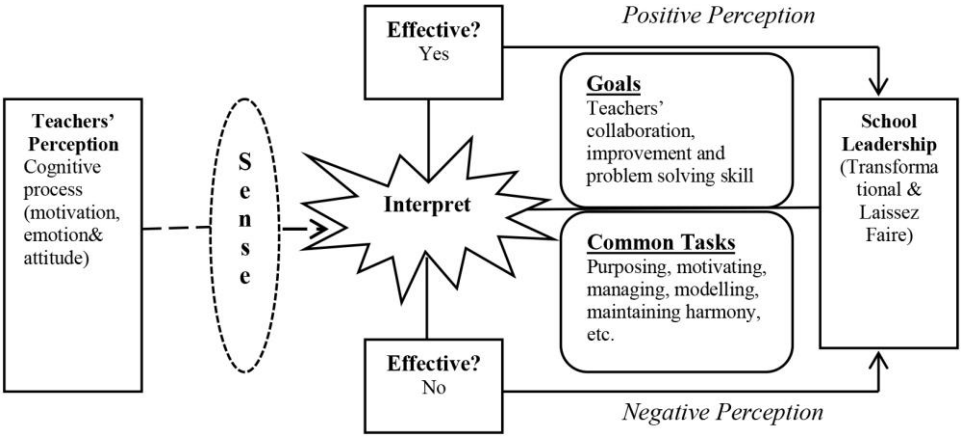

Fig. 1 Teachers Perception and School Leadership Model

Source: Gathered from Jantzi and Leithwood (1996); Sergiovanni (1996); Ringler, O'Neal, Rawls and Cumiskey (2010); Hardman (2011).

Robbins and Coulter (2007) viewed a 'transformational leader' as one who sees the stimulation and motivation of others as keys to achieving 'extraordinary outcomes'. The 'extraordinary outcomes' here may imply goals. Leithwood (1992) insisted that the three main goals of 'transformational leaders' are to:

i. Help teachers collaborate
ii. Encourage teachers' improvement
iii. Help teachers to solve problems in effective manner.

Achieving the three goals will create an understanding that the effort of principals and teaching correlates to facilitate school's success. The practice of transformational leadership gives credence to the fact that principals' leadership vision and teachers' talents are complementary to achieve success in schools (Leithwood, 1992). When the teachers perceive that their principals' leadership style targets the three goals highlighted by Leithwood, their commitment to achieving the best for their schools becomes high. The study conducted

by Geijsel, Sleegers, Leithwood and Jantzi (2003) reported that transformational leadership influences 'teachers' commitment and additional effort'. The explanation to back up this position is provided by the finding of Demir and Kamile (2008) that 'transformational leadership' leads to the self-efficacy of teachers in their various schools.

The adoption of 'laissez-faire leadership style' seems to be inappropriate today. 'Laissez-faire leadership style' is all about giving freedom unduly to teachers who do not worth it. For instance, a teacher who is naturally lazy may take more leisure compared to work. Also, laissez-faire principals may not take the development of teachers seriously, and this is likely to spring up different perceptions among teachers. Alvoid and Black (2014) supported the position of this study that 'the changing landscape of school leadership' spans from rising expectation around teachers' development. Teachers' perceptions of principals that give total freedom (in terms of curriculum design, teaching and learning) in rural schools seem to be negative. They seem to believe that such principals are weak. In some cases, the incompetent and inexperienced teachers may handle sensitive subjects. Hardman (2011) stated that "teachers who are abandoned to teach independently without knowledge or accountability to the school's mission experience a negative perception of their leader" (p. 25). In their study, Ringler, O'Neal, Rawls and Cumiskey (2010) proposed the active participation of principals in all aspects of the school activities, particularly in teaching and learning. The reason is that teachers perceive themselves being overloaded with works. This may cause stress and negative mind-set about their school leadership. Hardman (2011) reported that "laissez-faire leadership style predictably held the most negative effect on the teachers' perceptions of leadership" (p. 25). In respect of this, Glover (2007) suggested the avoidance of 'laissez-faire attitude' in school leadership.

There is need for change in rural schools in Kogi State. Specifically, change in technology orientation and how leadership is practised. The big challenge in the rural schools of Kogi State are low awareness and adoption of schooling technology and effective leadership practices in relation to ethics, discipline, effective teaching and transformative learning. For principals to institute changes, he/she must possess the ability to be able to do so, and equally possess technology-know-how of schooling. Even Burns (2003) argued it out that "the ability of a leader to lead is influenced by the ability of such leader to initiate change". The challenges seem to be slowing down the pace of growth of rural schools in Kogi State. Jantzi and Leithwood (1996) suggested that "transformational form of leadership is well suited to these challenges because of its potential for building high levels of commitment to the complex and uncertain nature of the restructuring agenda and for fostering growth in the capacities that school staffs must develop to respond productively to this agenda" (p. 514). Sergiovanni (1996) also posited that schools need leaders who are competent and can inspire the stakeholders to pursue the common goals of the school.

2.2. Theoretical Review

Transformational Leadership theory is credited to James MacGregor Burns in 1978. It was later revisited and reviewed by Bass. The theory has been widely used in leadership researches in education and other disciplines. According to Tengi, Mansor and Hashim (2017), the theory seeks to explain transformational leadership as a game changer. Burns (1978) believes that change can be instituted by envisioning, supporting the development and the transformation of teachers. This means conferring to teachers the spirit of leadership

and ethical stewardship. The understanding that principals are in agreement with the goals of transformational leadership may make teachers to pursue transformation in their schools. Also, teachers are likely to portray a positive understanding and perception of the school leadership since transformational leadership incorporates the teachers in the operations of their schools. Kruger, Witziers and Sleegers (2007) also added that transformational leadership seeks not only to motivate teachers, but to encourage professional growth and institute change in schools.

The role of Leithwood and his colleagues towards the application of Transformational Leadership in educational discipline is quite appreciative. Following Leithwood, Tengi *et al.* (2017) stated that "the principals who adopt transformational leadership shows high leadership value through commitment to achieving intent by encouraging the involvement of teachers, develop intellectual and stimulating teacher motivation to give full commitment" (p. 795). These seem to be describing "transformational leadership' in a very limited way. Studies (Leithwood, 1994; Jantzi and Leithwood, 1996; Leithwood and Jantzi, 2005) identified that clear vision, acceptance of group goals, individualized support, intellectual stimulation and high expectations' are dimensions that can explain in detail the 'dimensions to transformational school leadership'. These dimensions have attracted the attentions of researches in the field of education. Ergeneli, Gohar and Temirbekova (2007) claimed that the attention given to 'Transformational Leadership theory' in previous studies has led to the understanding of how significant the motivation of behavior is, and how to 'appeal to followers' minds and hearts'.

Among other leadership theories, Transformational Leadership seems to interest this study as it explains the behaviour of principals. It developed an outstanding theoretical framework about principals as transformational leaders who purse desirable success for the school through reformed initiatives (Ross and Gray, 2004). It contributes to 'teacher's professionalism in schools' decision making (Leithwood, 1993).

2.3. Teachers' Perception as Determinant of School Leadership Style

There is a growing need to establish the leadership styles of principals in the rural schools of Kogi State. MacNeill *et al.* (2018) argued that a principal may be appointed to take up the leadership of a particular school, and yet a vacuum still exists. Vacuum in leadership may occur when a newly appointed principal lacks competence and supports from others, leaving him/her to ask several questions in his/her routine tasks. Leadership styles of principals in the rural schools seem to be difficult to identify based on developed literatures. As noted, transformational and laissez faire leadership styles interest this study. According to Devine (2008), "leadership style is the manner and approach of providing direction, implementing plans and motivating people" (p. 2). Regardless of whatever leadership style adopted by principals in the rural schools, the core focus of principals is to manage and influence the school for better outcomes. MacNeill *et al.* (2018) stated that:

> "School leadership literature is filled with the stories of the hero principal riding into town, saving the failing school, riding out of town and the teachers, students and parents returning to their previous practices. Leadership is always about change, otherwise it is simply management aimed at preserving the status quo" (p. 11).

Teachers' perceptions can be used as measuring tool for confirming principals' leadership styles in the rural schools of Kogi State. The perceptions of teachers are valid reality that is established through their sensory organization of facts and the interpretation they attach to it. Teachers are close to their principals, and they often sense things around their principals and interpret those things in their minds. A number of studies have proven that teachers' perceptions are viable instrument for determining or measuring the school leadership style of principals. Finding of the study of Leithwood (2005) has shown that 'principal's transformational and transactional styles of leadership' influences high perception of teacher. The study conducted by Williams (2006) also reported that the kinds of leadership style adopted by principals were identified through the perception of teachers. Arikewuyo (2007) expressed that the "competence of principals can only be easily measured from the perceptions of teachers" (p. 4). Hang (2011) also argued that the best method to assess principals' leadership style is by examining the teachers' perceptions of the principals. This is because teachers often have contact with their principal on daily basis. Hardman (2011) also concluded that the perception of teachers about their principals' 'behaviors and school performance' can be helpful to determine the effectiveness of leadership styles in their schools. The positions of these scholars and researchers were theoretically and empirically supported, but this does not mean that 'school leadership style' is only subject of the perceptions of teachers. For instance, Noonan and Walker (2008) noted that the routine function and tasks of leaders; including their decisions can certify or prove the style of 'school leadership' adopted by principals.

The leadership practice of principals is beneficial to schools, particularly when it is effective and supported by 'knowledge, competence and capacity' (KCC). Martin (2016) supported that the place of principals in the leadership of schools is very much paramount to its overall success. The study of Ward (2013) revealed that principals' leadership in school is pivot to the achievement of students' success. Mohammed (2016) added that principals play vital role in schools, and this provides opportunities to all school members to achieve their 'goals and objectives'. There is a noticed exclusion of the school's goals and objectives in the fundamental role of principal in the statement of Mohammed (2016). Maintaining a balance between the goals of the school members and the school itself is quite thoughtful of the role of an effective principal.

According to Mulford (2003), "perceptions of the role of school leaders are a shortage as well as a possible declining candidate quality, except perhaps for those schools in 'non-challenging circumstances' (p. 3). This assertion seems to be erroneous because inexperienced and incompetent principal may decline in leadership quality, and perhaps all schools are expected to achieve success. In the case of rural schools in Kogi State, principals are challenged with a number of issues. Nosike and Oguzor (2011) noted "high rate of failure in school certificate examinations yearly, increasing examination malpractice, cultism, and intolerable fight between the principals and teachers in schools in Nigeria" (p. 147). These alone show that the term 'non-challenging circumstances' of Mulford (2003) is an understatement. Teachers' perceptions of the school leadership roles inspire adjustment in daily decision regarding students in the classroom (Bandura, 2008; Demir, 2008).

3. RESEARCH METHODS

3.1. Research Design

A qualitative research design was used. Two strategies were used; interaction (exclusion strategy) and interview (inclusion strategy). The interaction was exclusive because few participants were chatted on a limited ground. The interview was inclusive in the sense that it focused on achieving the objectives through research questions. The adoption of these strategies was supported by the zeal to free the study from being bias.

3.2. Role of Researcher

Conducting interviews in the rural schools of Kogi State was stressful and time consuming. The permission of the school authority was first sought, with the lengthy explanation and proofs that the study is conducted for academic purpose. After the school authority's consent, the researcher took time to educate the teachers regarding the subject matter and goals of the study. The researchers interviewed four teachers from four schools. They also engaged in unstructured chat with few other teachers using the interview questions on a random basis. The main interview took one week. It took the researcher an average of 5 hours to interview one participant.

3.3. Selection Criteria

In the study areas, inclusive and exclusive criteria were followed. For inclusive criteria, teachers with 5 years' experience and above, punctual and with higher level on ranking were selected. For exclusive criteria, teachers with less than 5 years' experience, sick or travelled were not selected.

3.4. Interview Guide

Though, the interview instrument contained concise and specific questions, but interviewing the participants took much time. The questions in the interview instrument however did not deviate from the goals of the study.

The interview instrument used was 'open-ended'. The instrument provided for expansion of contribution of the participants without restriction. The good thing is that this supports the objectives of the study largely. In fact participants were discovered so free to be objective, and maintain high quality and control of their submissions.

3.5. Method of Data Analysis

Based on the interview, data were gathered for qualitative analysis. The data were organized on the basis of responses. However, the data were systematically scrutinized and are organized based on similarity in the responses of participants. For instance the response of participant 'A' was aligned with response of participant 'B'. Discussion of findings was based on the responses of the participants. This is because 'qualitative research' produces subjective data. The researcher based analysis on the recorded tape. The quotations in the analysis were verbatim; as expressed by the interviewees.

3.6. Ethical Considerations

There was issue of confidentiality. The participants were afraid of losing their jobs. Also, they were found making some statements and trying to withdraw them immediately due to security issue and political mayhem. The interviewers were able to protect the participants by ensuring confidentiality. The interviewers conducted the interview with the teachers in their private places and office. The choice of the interview venue was made by the interviewees. The interviewers only had objections on the choice of seriously remote area where it is not motor-able because of security issues (such as kidnapping, robbery and terrorism). The interviewers also discouraged the interviewees from submitting their names during the interview. The researchers promised to allow the respondents to peruse over the result of the study before it is published.

4. Results and Discussion

Question one to three elicits the demographic information of the participants, and this helps the research to ensure that the selection criteria are not breached. For example, none of the participants have less than five years teaching experience. Participant 'A' has 8 years of teaching experience with level 8 grade 2 but no professional certification; participant 'B' has 6 years of teaching experience with level 9 grade 2 and also has professional certification from Nigerian Institute of Management; participant 'C' has 9 years of teaching experience with level 10 grade 4, and possess master degree in Banking and Finance from Kogi State University; and participant 'D' has 6 years of teaching experience with level 8 grade 2. Participant 'D' has professional certification in International Strategic Management Institute and currently pursuing his M.Sc in Management in Kogi State University.

All the participants have the teaching experiences which seem to be above the study's chosen baseline of 5 years. This implies that none of the participants has shortfall in the knowledge and historical records of their school leadership.

1. *Please, how many principals do you have in your school?*

Participant 'A, C & D' expressed that their school has three principals (the chief principal, the vice principal I for administration and vice principal II for academics). The responses to the question seem to be similar, but participant 'B' expressed that his school has three principals; the principal I stands for administrative function. This seems to contradict the answers of participant 'A, C & D'. However, the responses of participant 'A, C & D' will be considered based on the degree of similarity. This may mean that the secondary school's organogram in Kogi State captures principal and two vice-principals at the top echelon. The principal is the chief according to participant 'A', the vice-principal I takes care of administrative issues while vice-principal II takes care academic related issues. Participant 'C' further stated that "the management of my school also consists of exam officer who coordinates both the junior and senior West African Examination Council (WAEC) and also the clerks who are in charge of the collection of students' fees".

2. *Have you in any way been supported or inspired by your principals?*

Participant 'A' agreed that he is inspired by his principals through their level of commitment. He stated that "they are always encouraging them that they are destiny moulders and that they should be ready at all times". Participant 'B' also agreed that he has been inspired and supported by his principals. Participant 'B' stated that "firstly, I

must commend the effort of my principal. Before I got the job, I have been proud of the school success and the success of the school could not have been possible without the effort of the principal". Participant 'B' expressed that the principal has supported him morally. He claimed that the principals in their school entrusted him with disciplinary measures in the school. This is a sense of responsibility that makes him concerned about the wellbeing of the school. Participant 'C' also agreed that he has been inspired and supported by his principal. He expressed that he has good relationship with the principal and that the principal do delegate responsibilities to him during WAEC. Participant 'C' also expressed that the principal conferred onto him the supervision of other staff and collection of extra-moral fee from the students. He expressed that all these form incentives and motivation to him. On the contrary, Participant 'D' opined that his principals have motivated him to a very low extent. He stated that "the discipline, the way things are done and the structure is not in order". According to participant 'C', his school lacks instructional materials to aid effective teaching. It is on this ground that he felt uninspired.

3. *Are you presently undergoing professional leadership programme to advance your job? If yes, state its likely effects on your job.*

Participant 'A' expressed that he is not currently undergoing professional leadership programme to advance his job because of the state he finds himself. He stated that "some of the fund necessary for capacity building are not made available, and it has become a limitation. He explained that non-availability of fund has been a constraint to going for professional leadership programme. Participant 'B' expressed that he is not presently undergoing professional leadership programme. Participant 'C' made an emphatic 'yes'. He expressed that he is currently running his master programme in Kogi State University. He said this will upgrading him and his profession. Possessing M.Sc in Banking and Finance will give him the opportunity of being promoted. According to him, "having obtained my master the law is that I should be upgraded". Participant 'D' also acknowledged that he is presently undergoing professional leadership programme. He said he is undertaking a master programme in the field of Management in Kogi State University. He opined that this will have positive effect on both the school and the student. He also buttressed that his master programme in Management is leadership and administratively oriented.

Based on the responses of the participants, there is likelihood that leadership of their schools will improve at the long-run. However, teachers are deduced to have flair and keenness for additional degree or certification. Participant 'C' noted that the possession of additional degree or certification is a panacea for promotion on the job. This thus implies that teachers have no other alternative than to upgrade themselves regularly for promotion.

4. *Do you think your principals pursue the shared vision of your school?*

Participant 'A' expressed that the principals pursue the shared vision of the school in all fairness. He stated that "in spite of the situation of the State the principals found themselves, they are still at their personal best". He expatiated that:

> *We deal with children, especially children in their 'teen'. At that age, they are in their formative age. Whatsoever we do at that time is very important to their future. So we are always encouraged by the principals, despite the lack of motivation, to look into the future of young people (students).*

Participant 'B' also expressed an emphatic 'yes'. He argued that the school is located in a rural area, and yet the principal is well inspired. According to him:

My principal is a genius. He loves academics, and he wants students to come from far and near to acquire education. So the vision of his kind is not measurable in any way.

On the contrary, Participant 'C' expressed that his principal does not pursued the shared vision of the school. Though his response was observably tentative, but he expressed that his principal is good at encourage the staff to secure and promote the school to a greater height. The principal is also known for his job placement and effectiveness of teachers. The response shows that teachers do not really have clear understanding about the vision of the school. Meanwhile, shared vision is strategic to managing school in the 21st century.

Participant 'D' also gave a contrary response that his principal did not pursue the vision of the school. He added that the situation of the State is contributory to the principals' lack of zeal to doing so. He alarmed that non-payment of salary is in no doubt tied to the principals' attitude towards the pursuit of the school's shared vision. He expressed that salary is a motivating factor that can drive the principal to pursue the goals of the school. He said principals are likely to find alternative when salary is absent. Alternative in this sense, may be engaging in examination malpractices to have money or moonlighting during the school hour to cover for non-payment of salary. Moonlighting means that principals are elsewhere doing another job when they are supposed to be in the school during the working days and time.

5. *Are your principals applaudable for empowering you towards effective teaching and quality learning?*

Participant 'A' acknowledged that the principals are applaudable for their empowering effort. He expressed that his principals shouldered empowerment of staff within the meagre resources that they have. Participant 'B' also acknowledged with emphatic response 'very well'. He said even when the State Government is not helping issues (salaries are not being paid regularly), the principal has ensured conducive environment and fair working condition. Participant 'B' emphasized that:

The principals make moves sometimes to support the teachers financially. The principal sources for fund through the Parent Teachers Association (PTA) or other means. Funds are not forthcoming from the government, and the principal understands our situation. It is in this regard that he source for fund to help teachers out of their financial situation.

Participant 'C' expressed that the empowerment of teachers is a cardinal quality of his principal. He added that one of the principal's primary responsibilities is to put machineries in place to ensure that teachers are at work, and that they are diligently doing their jobs (doing the right thing at the right time). He also noted that his principal often give token to the teachers to motivate the teachers towards effective delivery of their jobs. Regarding the source of fund, Participant 'C' stated that:

The school that I am serving has economic trees, and from the proceeds of the economic trees that is in the school premises the principal will call on the staff and negotiate with the staff on how to go about the sharing of the proceeds from the economic trees. Through this, all teachers are encourage and happy about the leadership of the principal.

Participant 'C' claimed that his school does not necessarily engage in Agribusiness. The economic trees is only being managed and controlled by the principal. The principal only ensures proceeds from the economic trees to provide financial support to empower teachers towards effective delivery of their jobs.

Participant 'D' objected that his principal is not empowering the teachers towards effective teaching and learning. He expressed that the only form of financial empowerment comes from the PTA purse. He posited that to get financial support from the PTA requires a tough procedure, and sometimes access to this finance will be impossible. He said since the state is not paying salaries most of the teachers will often request for finance from the PTA purse.

Based on the responses of the participants, it is discovered that teachers get both financial and non-financial empowerment either through the effort of the principals or the PTA. It is also found that financial empowerment of teachers is very much crucial at this present time that salary payment is irregular. Effective teaching and quality learning are likely to take place in schools where salary payment is non-issue at all.

6. *In what ways have your school leaders empowered you towards upgrading your profession?*

Participant 'A' responded that any training outside the school is always difficult due to lack of fund. He expressed that his principal does not deny teachers opportunity to have training on the job particularly if it is within the school premises. This implies that the principal is aware of the need for teachers' training to pursue the success of the school.

Participant 'B' made emphatic 'yes'. He expressed that the school leaders are conscious of the essence of the upgrade. They make provisions for teachers in order to pursue their professional careers. He stated that:

> *They give us time off-service to pursue advance education. Sometimes they give us financial support especially when salaries are not paid. They understand our situation because it is not easy to pursue a professional career or to upgrade your profession without finance.*

Participant 'C' opined that his school leaders, most especially the principal, have so much empowered the staff towards upgrading their profession. He said the leaders do grant the teachers 'study leaves with pay'. Based on the grant a 'grace time' will be given that when school is not in section such teacher benefitting the grant will return to his/her own school where he/she works to do the normal routine activities.

Participant 'D' expressed that the kind of empowerment he gets is through discussion and advice. He further explained that the 'advice' from the school leaders is based on the fact that teachers will not be promoted until they get themselves upgraded. He stated that:

> *The laydown rule is 'acquire your certificate and get promoted'. If not, you will remain where you are.*

It is discovered from the responses of the participants that teachers get motivated to proceed on further learning through study leaves and advice. This is based on the understanding that promotion of teachers on the job requires the possession of higher certificate. The irony of this is that the educational system of Kogi State attaches more value to paper than knowledge. The Kogi State educational system does not give attention to absorptive capacity of schools. Absorptive capacity involves that ability of the school to possess staff with 'distinctive knowledge, ability and skills'.

7. *Are you feeling satisfactory with your school leaders' practices towards achieving effective teaching and quality learning of students?*

Participant 'A' responded that he is satisfactory with his school leaders' practices towards achieving effective teaching and quality learning of students to a very reasonable extent. He explained that despite the odds in the state the school leaders still try to put in their best. In respect of this, teachers are directly motivated via the school leaders' efforts.

Participant 'B' also responded that he is satisfied, but the school's operation is affect by the political environment. He explained that:

> *The school circle is like a functionalist system where one part works with the other part to maintain solidarity and stability. When one part is cut off, the school will not be efficient and there won't be consistent result.*

Participant 'B' expressed that his school leaders have put in place mechanism to ensure effective teaching and quality learning in the school. He opined that non-payment of salaries is only the constraint of his principal's idea, and derail the transfer of knowledge to the students. Yet his school leaders have been trying their best towards achieving effective teaching and quality learning of students.

Participant 'C' responded that he vehemently likes the leadership practice of his principal because the principal often encourages the teachers to upgrade their certificate as at when due. This is a form of motivation without money. Equally, the principal encourage the teachers to further their studies through financial package from the proceeds of the economic trees. This implies that his leaders are inspirational and are conscious of the goals of the individual teachers.

Participant 'D' responded that he is not satisfactory with his school leaders' practices towards achieving effective teaching and quality learning of students. He explained that:

i. On the part of the educational board of Kogi State, there is total abandonment of the school. The teachers and leaders of the school are left alone. There is no reasonable form of motivation in the school.
ii. On the part of the school leaders, the teachers are left alone to do anything they like. Teaching and learning is not being monitored.

Participant 'D' gave an example that his school does not have Mathematics Teachers for a very long period of time. The school gets help by outsource the service of teachers from other schools on a contractual agreement. He added that the school make use of N-power beneficiaries (beneficiaries of Social Investment Programme of the Federal Government) to teach the Mathematics subject. He alarmed that these beneficiaries are not always punctual at the school. These affect quality learning in the school since there are no tenure staffs.

8. *What is your perception about your school leaders?*

Participant 'A' expressed that he has the right perception about them. Participant 'B' expressed that his school leaders are worthy of emulation. He reiterated that even when salaries are not forthcoming, they are still concerned about the success of the student and the school. Participant 'C' expressed good perception about his leaders due to the motivation he get from them in most cases. Participant 'D' expressed that he does not feel good about the practices of his school leaders.

9. *What kind of perception and understanding (negative or positive) do you have regarding the leadership practice of principals in your school?*

Participant 'A' expressed that he has positive and negative perception about the leadership practice of principals in his school. He explained that his positive perception is driven by their effort, and that principals could have done better if fund are made available in the school. He also added that he has negative perception about the leadership practice of principals in his school, and that principals have been found deficient in some areas of their functions and plan due to lack of educational funds. He argued that the present government makes educational acquisition difficult. He buttressed his point that the negligence of the government of Kogi State has made some schools non-functional. According to him,

> *Where there are no funds educational motivation is lacking. This is one of the things we suffer as a school.*

Participant 'B' also expressed that he has positive perception about the leadership practice of principals in his school. He argued that the shortcomings in the leadership practice of principals in his school are connected bad governance in Kogi State. He made reference to past government that have supported the leadership of his school. He ended on a note that despite the bad governance in the State, the principal is still up and doing in his leadership practice.

Participant 'C' expressed that he has a positive perception about the leadership practice of principals in his school based on what they have done. They are good at motivating teachers financially and non-financially.

Participant 'D' expressed that he has a negative perception about the leadership practice of principals in his school. He supported his position by saying the main principal is not effective. The principal is not motivating the teachers. In most cases, he stays in his office to do his paper work instead of going round classes to monitor teaching and learning.

5. Emerging Themes

Few terms emerged during the interview. For example, the participants repeatedly mentioned support, study leaves and non-payment of salaries. Participant 'C' made emphasis on support through saving scheme, proceeds from economic trees and staff contribution scheme. Majorly, the two of the participants were emphatically mentioning support as financial aid as remedy in the phase of unpaid salaries.

i. **Support:** The support meant by participants is both financial and non-financial in nature. The financial support has to do with the provision of token or grant for teachers who are going for further studies. The non-financial support has to do with the study leave granted by the principal, but the teacher in question is still paid anytime the salary comes. Teachers (under such leave) will come back to their place of work when they are on break in the school where he or she is doing his or her programme.
ii. **Study Leaves:** Teachers are given study leaves by the principal to allow them to obtain higher degree or certificate. It is a rule in the educational system of Kogi State that teachers must acquire higher degree to be rated high in the annual evaluation form and get promoted.

iii. **Non-payment of Salaries:** This is a situation faced by teachers in Kogi State. Their salaries are not being paid regularly. Some of the teachers are owed for several months. Some of them are paid percentage.
iv. **Saving Scheme:** This is a scheme that takes care of contingency of teachers. Teachers who have cogent and urgent financial need can often obtain aids from the saving scheme.
v. **Staff Contribution Scheme:** It is all about assisting all the staff in the school financially. The scheme embraces contributions of all staff to take care of emergency among teachers in the school.
vi. **Division of Labour:** This is the breaking down of school activities into units which can be handled with specialty by teachers. Individual teachers have their area of specialization. So teachers handle a particular unit of the school activities skillfully.
vii. **Proceeds from Economic Trees:** These are money from the sale from the economic trees in the school premises. Though, participant 'C' claimed that his school does not engage in agribusiness. The school only plants these trees for the benefits of all staff.

6. Conclusion

The leadership of schools in the rural areas of Kogi State is deduced satisfactory. Majority of principals in the rural schools possess the common qualities of transformational leaders. Teachers have different perception about their school leadership. From the findings of this study, it is deduced that teachers' perceptions in the rural school of Kogi State are positive. There are number of factors that are responsible for the kind of perception that the teachers developed about their school leadership. Finding reveals that teachers' perceptions are influenced by their own experience, personal lifestyle the level of commitment and dedication of the principals, financial support of the school leaders, leadership-by-example, culture and religion. The study recommends that:

i. The stakeholders of education in Kogi State including the government should provide financial supports for rural schools. This will systematically boost the principals' leadership practices towards achieving effective teaching and quality learning in the rural schools.
ii. Principals should avoid allowing teachers to take complete responsibility of leadership in the rural schools of Kogi State. This will curb the excessiveness of some teachers who may feel they are totally free and can take any decision without caring about its consequence on the school and students.
iii. Principals should adopt 'transformational leadership practice' in the rural schools of Kogi State. This leadership practice can inspire the teachers to perform better in the rural schools.

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PERCEPCIJA NASTAVNIKA I RAZUMEVANJE RUKOVOĐENJA ŠKOLOM U RURALNOJ NIGERIJI

Fokus ove studije je na percepciji nastavnika i razumevanju rukovođenja školom u ruralnoj Nigeriji u okviru koje su korišćene dve strategije i to: interakcija (strategija isključenja) i intervju (strategija inkluzije). Studija je sprovedena u seoskim školama države Kogi za čije potrebe su postavljeni odgovarajući kriterijumi inkluzije i isključenja, dok je kao instrument korišćen intervju otvorenog tipa. Na osnovu sprovedenog intervjua prikupljeni su podaci za kvalitativnu analizu koji su sistematski pregledani i organizovani na osnovu sličnosti u odgovorima ispitanika. Dobijeni rezultati ukazuju na to da nastavnici pozitivno percipiraju školske rukovodioce i da ih posmatraju kao osobe koje na njih deluju inspirativno, kao i da su svesni ciljeva svakog pojedinog nastavnika. Na osnovu rezultata dobijenih u studiji može se zaključiti i da nastavnici smatraju da je rukovodstvo u školama u ruralnim oblastima države Kogi zadovoljavajuće i da većina direktora u seoskim školama poseduje zajedničke kvalitete transformacionih lidera. S obzirom na dobijene rezultate, preporuka je da zainteresovane strane, uključujući i vladu, trebaju da poboljšaju praksu koja se odnosi na rukovođenje direktora kroz poboljšanje efikasnosti nastave i kvaliteta učenja, a da direktori treba da usvoje „praksu transformacionog liderstva" u ruralnim školama države Kogi.

Ključne reči: *rukovođenje školom, praksa rukovođenja školom, percepcija nastavnika, motivacija, transformaciono učenje, ruralne škole*

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Original research paper

ASSISTING THE STUDENTS MASTERING LITERARY TEXT COMPREHENSION THROUGH SCHEMATA

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Abstract. *Reading comprehension presents one of the ways of getting some information and the information that readers read differs one from another. Understanding different information is influenced by reader's previous knowledge: the more previous knowledge readers have, the better they understand the text read. Considering that there are different texts genres, the texts within one genres are designed in a manner that each of them has their own writing style. As an assistance to memorize the facts related on the reading comprehension and to understand what is read, and when it is about all texts genres, the schemata technique is used. Some researchers states that in the readers' memory there is predictable structure of knowledge which can be taken as a base that the readers, using these structures in reading, understand all texts genres easily. For improving students' abilities to master the literature texts, especially the prose and poetic texts, the schemata technique is applied in this research. In the preliminary study, it is determined that the student's achievements in mastering the prose texts were below the set criteria of the success, and that students were less motivated to learn, too. Students achieved an average of 70.20 points, while the criteria of the success set by the Sekolah Tinggi Bahasa Asing Malang (STIBA) Academy were 75.00. After applying the schemata technique, students achieved an average of 85.85 points in the prose course and were more motivated to learn. In the preliminary study, in the poetry course, students achieved an average of 66.05 points, and the motivation to learn was low. After applying the schemata technique, students achieved an average of 84.15 points, and the motivation to learn increased. Based on the obtained results, it can be concluded that the application of the schemata technique affects the improvement of students' abilities to understand literary texts, especially prose and poetry, as well as their motivation to study these contents.*

Key words: *Schemata technique, pervious knowledge, prose, poetry, literary text*

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1. INTRODUCTION

Reading comprehension in English classrooms has undergone much advancement in terms of research and practices of teaching. This is due to the fact that the reading and comprehension of texts have been admitted as a very complex activity which is highly valued in industrialized societies in this globalization era. Throughout their biggest part of their lives, people encounter many kinds of texts which need to be glanced at, skimmed, carefully read or deeply interpreted. In order to be able to carry out these actions successfully, people get access to new and often valuable information about their environment, present and past events, facts, opinions and emotions. This information will probably influence their lives and give them a kind of advantage over those lacking this ability.

However, given the fact that there are so many different types of texts, it is unlikely to think that every text is mentally processed in the same way. A news story in a daily newspaper, for instance, is absolutely read to acquire information about real-world events, while a literary text may be read for entirely different purposes such as for aesthetic pleasure.

In formal language classrooms, this awareness of the possible mental processing has led to the dichotomy between literature and language classrooms. That is to say that one should not try to use literary text for language teaching since it may cause a lot of problems due to the uniqueness of literary discourse. However, there has been an increasing amount of research on the use of the so-called authentic literary texts in language classrooms. It has been widely discussed that, using authentic literary texts and encouraging students to join literary discussions, can enhance their language development (Carter & McRae, 1996).

To some extent, this indicates that very few researchers (Donato & Brooks, 2004; Mantero, 2002) have been concerned with the mediational role of literary texts in language classrooms. In fact, most of the studies investigated ways to incorporate the academic disciplines into a language and literature discipline, while there are many more commonalities between these two fields than differences. According to Burnett and Fonder-Solano (2002), the disconnections between language and literature are not more than imaginations and misconceptions of the scholars trained separately in those academic fields. Therefore, this research is primarily based on the assumption that, the literature perspective leading to reader response theory and schema theory and the language perspective which emphasizes the sociocultural perspective, are important theoretical backgrounds that support the use of authentic literary texts in the second/foreign language classrooms.

First, the schema theory suggests that readers construct meaning from a text with the help of their background knowledge. Thus, comprehending a text is an interactive process between the readers' knowledge (schemata) and text. Cook (1994) distinguished the schemata into: language schemata, textual schemata and World schemata. However, scholars put too much emphasis on the refreshment of schemata leading to defamiliarization, while ignoring the fact that in turn, the defamiliarization causes readers to create new schemata in order to adjust to the material in the text. This process is guided by "affect" (according to Miall, 1989), which is defined as subjective feeling of emotions and feelings which including little or no cognitive content but which operate immediately as judgments, preferences, and the like.

Second, the reader response theory rejects the notion that readers need to be given expository texts so that the vocabulary, structure, and the content of the text can be appropriated by the learners. This means that, using these texts helps narrow down numerous possible meanings for mental processing or, in other words, the use of expository texts tend to limit readers' use of schemata. Iser (1981) proposed that reading an authentic literary text

can "open up an increasing number of possibilities, so that the combination of schemata entails selective decisions on the part of the reader".

Third, Bakhtin's sociocultural theory suggest that learning a language is associated with being exposed to a variety of speech genres, not learning lexical, syntactic and morphological functions of the language (1986). Further, he also says that "text is the stimulus and map of language acquisition" where learners create their own understandings of a language through a text. This means that all genres of authentic literary texts are supposed to be applicable in language classrooms. One does not necessarily limit to narrative form, but poetry as well as drama may be used as authentic texts.

Concerning with the fact found by the researcher above, the main goal of this research was, how to help students of foreign languages college to improve their capability in mastering literary text comprehension in subjects such as prose, poetry and drama.

The research was conducted in Sekolah Tinggi Bahasa Asing Malang (STIBA MALANG) college of foreign languages specified for the study of literature. In addition, that college is also completed with skill and linguistic courses which all involve the reading power. Because a large number of students had difficulty understanding prose and poetry texts, this research was only focused and limited on this literature courses.

There are some reasons why prose is hard to understand:

- Prose is the product of fiction and non-fiction story. To those who read prose, without life experience or previous knowledge, it is difficult to understand it.
- Prose is written in such a way that it sends messages to the reader that he can use in real life. In order to understand them, it is necessary for the reader to have many references of life and experience as well.

Poetry is also hard to understand, since it is written typically for expressing something special in an artistic way. The language of poetry tends to be more expressive or decorated, with comparisons, rhyme, and rhythm contributing to a different sound, feel and meaning in addition. Figurative speech used in poetry is also hard to understand directly without relating the style of poet in writing the poetry.

The application of shemata technique in working with students should help them in all activities related to reading comprehension, especially those related to understanding the content that contains philosophical ideas and hidden messages. This paper deals with this problem.

2. METHOD

The method used in this research is action research. Kurt Lewin (2008) states that action research is a plan to improve teaching and learning program which cover, reconnaissance or preliminary study, planning, acting, observing and reflecting. In addition, Stringer (2008, p. 1) states that action research is an applicable approach for the teaching and learning process and it is beneficial for teachers to make better their teaching and students' learning. Kemmis and Taggart (1988, p. 14), states that action research is a spiral form, first cycle to next cycle to get perfect results. This action research was begun by preliminary study. The researchers met 2 different lecturers; prose lecturer and poetry lecturer of STIBA Malang (Colleges of Foreign Languages located in Malang each Java Indonesia) fifth semester students, and interviewed them concerning with:

- the method used by the lecturers of prose and poetry,
- student responds in the classes while having class of prose and poetry,
- students' capability in reading prose and poetry and to the student scores.

The next preliminary study was concerned with the students. The researchers interviewed the students concerning the prose and poetry course and their mood of study in learning prose and poetry.

After getting information completely, the researchers observed the two classes in 4 meetings each. The observation done by the researchers was to see directly the students' capability to understand the text of prose and poetry given by the lecturers.

After the preliminary study was over, the researchers got the description problems experienced by the students in reading prose and poetry clearly. The researchers began planning to solve the problem of the students. The planning covered preparing the teaching method, designing lesson plans and choosing material going to be used in the classes.

With the finishing of planning, the next step was acting. The acting for prose ran for 3 meeting, 2 meeting for proses activity and with test as last activity. Both classes applied the schemata. The teaching process covered three stages; pre-teaching, while-teaching and post-teaching.

The **pre-teaching** stage was begun by introducing the topic. In this stage the teachers used the novel entitled *Jane Eyre*. The reason for choosing that novel for one of the schemata models is that:

- the novel is famous for those who take the literature department and in that manner could calling students previous knowledge and
- the number of pages is not too many or too thick.

Since schema is defined as "A conventional knowledge structure that exists in our memory" (Yule, 2010), due to that understanding, the lecturer began asking the students about the exposition of the novel plot such as asking about the setting. For example; where Jane Eyre lived, what school she went to and where she was born. The next questions were about characters such as Jane Eyre father, mother, aunt and teacher. After the students got a description of exposition, the schemata model moved to recall the students' memory about the complication. The researchers asked them about what is meant by the protagonist, antagonist, and kinds of conflict and characterization of the main character. The last schemata model was asking them about the rising, falling and denouement. This model of schemata is called textual schemata.

Language schemata and word schemata were also discussed in pre-teaching. For the word schemata, the lecturer asked and discussed the difficult vocabularies encountered by the student and for the language schemata, the researchers asked and discussed language use they did not understand. In addition, the lecturer also paid attention to the student's responses while giving questions to raise the students 'previous knowledge'. As the action research is focused more on the process of student improvement that's why every step in this research was carefully planned.

In a **while-teaching**, the researchers asked the students to read a complete novel of Jane Eyre. As the novel pages are 608, the students were given two days to read it before being given exercise to answer the questions dealing with the plot of the novel. On the third meeting or day three, the class was begun with the simple schemata. The lecturer only reminded or reviewed the novel plot. After that, the researchers asked the students to fill the story map which is, according to Wright (2014) a new medium for sharing not only data, but also photos, videos, sounds, and maps, as a way to tell a specific and compelling story by way of that

content. Concerning teaching and learning, it can be interpreted that the readers of the novel may map the story through the story plot such as writing down what they have read.

The researchers used a model of story map as follows.

The students were asked to fill the following questions:

1) **Beginning:** a) Who is the main character? b) Where does the story take place? c) When does the story happen?
2) **Middle:** a) What is the problem? b) How are the characters trying to solve it?
3) **End:** a) How is the problem finally solved? b) What did the main character find out about herself/himself?, c) Is it happy ending or sad ending story?

After all students answered the question, the researchers asked the students to present the results of story map one by one, the researchers controlled them and evaluated the results. The evaluation comprehension elements covered: 1) story elements including characters, setting, problem, event sequence and resolution, 2) detail, 3) inference, prediction and conclusions. See the below scoring rubric in the table 1.

Table 1 Rubric for Story Retellings

Comprehensions Elements	Score of 4	Score of 3	Score of 2	Score of 1
Story Elements: ( ) characters, ( ) setting, ( ) problem, ( ) even sequence, ( ) resolutions.	Without prompting, the reader includes, all Story elements.	The reader includes most of the story elements or the reader includes all of them when prompted.	The reader includes some of the story elements	The reader is unable to state or confuses story elements
Details	The reader laces retelling with significant & accurate details and some minor one in a subordinate way.	The reader laces retelling with significant & accurate details.	The reader includes some accurate details.	The reader does not include accurate details or gives inaccurate details
Inferences Predictions, and conclusions	Reader between the lines to make an insightful interpretation supported by through evidence from the next	Reads between the lines to make an accurate interpretation with sufficient evidence from the next.	Makes a partially accurate interpretation of the next	Does not read between the lines or makes an inconsistent of accurate interpretation.

The scoring system of this rubric was counted as follows: The perfect scoring system is 12 which is obtained from comprehension element consisting of story element, detail and inferences prediction and consultation. Each is given score 4 for the perfect story telling of the novel. The score the students get is divided into $100 : 12 \cdot$ student score. For example, when the student get 10, it will be counted as follows; $100 : 12 \cdot 10 = 83.3$.

In **post-teaching** the activities done by the lecturers were evaluating every element presented by the students by using the above rubric, giving feedback and motivated the students. The second course to be investigated is poetry. Poetry is one of three literature genres considered the most difficult one. Interpreting poetry means interpreting the poet's feelings. In writing poem the poet involved some elements such as word choice, rhyme, and rhythm to express his or her ideas of a certain thing or a situation, experiences they or other people had, humane feelings such as love, revulsion, admiration, friendship, faith and descriptions of certain things as well or some conditions they may experience. The biggest problem experienced by the STIBA Malang students is to understand figurative speech (word choice), as the words cannot be understood literary. The words usually go beyond their literal meaning and the word themselves.

To visualize the words the readers should understand the atmosphere, rhythm and mood of the poet. Using the schemata technique implemented by the lecturer, it would be of great help to students to interpret the meaning of the content in poetry. The teaching of poetry also applied the schemata like what was done in the teaching of prose above. The model of teaching used three stages: 1) pre-teaching. 2) while-teaching and 3) post-teaching. The poetry used was entitled *The Road Not Taken* by Robert Frost.

The **pre-teaching** stage was begun by introducing a few about the poet (Robert Frost) his background of life and biography. The teaching was continued by asking students questions still related to the more poet background of life. The goal of this stage is to enliven students' previous knowledge of the poet to make them easy to analyze his poetry, as the mood of poetry usually was created inter-textual with the experience of his life through other people.

In the next step, introducing word choices used in poetry, students were given question related to the words of figurative speech used in the poetry entitled *The Road Not Taken*. Knowledge of the types of figurative speech such as simile, hyperbole, metaphor, personification, synecdoche, etc. would help the students to interpret the meaning of the poetry contents, intrinsically or extrinsically.

After the students got a description completely about the poetry, the lecturer ran the **while-teaching** step of teaching in which students were asked to answer the questions related to the poem such as: 1) the name of the poet, 2) the meaning of the poem including the poet's purpose and message, 3) the poetic element included in the poem. By answering those three questions above, the content of the poem could be easily understood by the students.

The last step of teaching was **post-teaching** activity in which we wanted to see how far the students can apply schemata and how is the effect of the schemata to the students 'capability' in analyzing the literature genres poetry and prose. As the teaching run for 3 hour, the last 45 minutes were used by the lecturer to ask some students to present their analysis concerning the students' comprehension, analysis and interpretation. In addition, the lecturer gave feedback directly to the result of presentation as well. The last post-teaching activity was question and answer and giving motivation to the students. The fifth meeting was done like the fourth meeting yet it used different poetry. After the fifth meeting, the lecturer gave a poetry test. The scoring system used for poem analysis is given in the table 2.

Table 2 Poem analysis Rubric

Category	4	3	2	1
Comprehension	Student clearly understands the poem and accurately answers questions related to the story.	Student seems to understand most of the poem and accurately answers most questions related to the poem.	Student understands some parts of the poem and accurately answers some question related to the poem.	Student has trouble understanding most parts of the story or answers are incomplete.
Analysis	Insightfully describes several dominant elements and poetic devices used by the poet and thoughtfully relates how they are used by the poet to reinforce the theme, meaning, mood, or feeling of the poem.	Accurately describes a couple of dominant elements and poetic devices used by the poet and accurately relates how these are used by the poet to reinforce the theme, meaning, mood, or feeling of the poem.	Describes some dominant elements and poetic devices used by the poet, but has difficulty describing how these relate to the meaning of feeling of the poem.	Has trouble identifying the dominant elements and poetic devices used in the poem.
Interpretation	Forms a creative hypothesis about the symbolic or metaphorical meaning of the poem and is able to support this with evidence from the text.	Forms a somewhat reasonable hypothesis about the symbolic or metaphorical meaning and is able to support this with evidence from the work.	Student identifies the literal meaning of the work and/or can relate how the work makes him/her feel personally.	Student finds it difficult to interpret the meaning or mood of the work.

While doing the acting process in the form of teaching, the lecturers did the observation to all activities beginning from the first meeting up to the last meeting (meeting 1 – meeting 5). The observation covered: 1) the students' response while the lecturers were applying the schemata, 2) the students' mood changes when the lecturers applied schemata and 3) the student capability after the lecturer used the schemata technique.

The last activity in the action research was reflection. The reflection was done to see the whole activities in the action research. It was begun by: 1) comparing the student's response before and after the application of schemata, 2) the student's mood of change in learning using schemata and 3) comparing the scores before and after using the schemata. The criteria of success used by the lecturer is the academic scoring standard of passing grade in College of foreign languages (STIBA). It is as follows: a score from 85 to 100 – A, from 80 to 84 – A-, from 75 to 79 – B, from 60 to 74 – C and from 59 to 40 – D. Thereby, A means – Excellent, A- means – Very well, B – Good, C – Fair and D – Fail.

3. FINDING AND DISCUSSION

From the preliminary study of lecturers, it was found that the lecturer mostly used an old method called Grammar Translation Method (GTM). This is, actually, method of second language instruction based mostly on the translation of passages from the native language into the target language at the same time. Using this method students are enlightened about the grammar rules, etymology, and syntax of the target language. It is focused more on linguistics than communication (Plotz, 1819-1881). The lecturers' reason still used it was that the method was still effective and easy to make the student understand, especially for the slow learner. When the class began, the lecturer usually explained more the prose theories and poetry such as the theme, plot, literature critics and ended by asking the students to read the novel and poetry chosen by the lecturers. The next meeting, the lecturers discussed the content of the novel dealing with the theory he/she explained. This activity was done repeatedly. The students' response are passive and only few tried to answer and respond to the lecturer's answer due to the heterogeneous student capability. The students' ability was considered from low to average and it depended on the pages of the novel. If the novel has a larger number of pages, they are in low capability and if it has a smaller number of pages, such as a short story, they are in average one.

From the results of the students' interview, it is found that 15 students of 20 said that poetry and prose were difficult and hard to understand. They also said that they were quite bored to learn both of the courses. The result of the researchers' observation showed that the students responded to the prose and poetry course, while in the classes were less enthusiastic, as it was difficult to them to accept the lecturer's explanation. They said that it was caused by the lecturers' explanation being too theoretical and too long, and their capability too short. This can be seen from the fact that the same students always answered the questions while the others were passive. The number of students who answered the questions was much smaller than those who did not.

The last preliminary study done by the researchers was interviewing the lecturers related to the criteria of success used by the lecture. They said that there were two criteria of success (for passing grade) used by the lecturers:

1) The first was determined by the academic of the campus. The success of the teaching and learning process was determined by passing the test and achieving the minimum score 75 with converted score B.
2) The second was the mean score of the student. When the students' mean score is above the minimum score 75 with converted score B+, the teaching and learning process was considered successful.

From the table given by the lecturers, the 20 students they taught never fulfilled both criteria. Thus, the students could not fulfill both the mean score and all students cannot pass the test. Obtained results are given in table 3.

The table 3 shows that 6 students failed the test, 2 students got fair predicate, 5 students got good predicate, 6 students got very good predicate and 1 student got excellent predicate. The mean score got from the test result given by the lecturer was 70.20 (see table 5) which is below 75. The conclusion from the score given by the lecture in preliminary study is that the students could not pass the criteria of success determined by the academic; passing the test 100 % and fulfilling the mean score 75.

From the results of the preliminary above, the researchers used schemata technique to teach the students and the designed activities that involved 5 meetings where the schemata techniques were applied and 2 meetings for having tests.

Table 3 The score given by lecturer before using schemata

No	Reg Number	The Score of Story Element	The Score of Story Detail	The Score of Inference, Prediction and Conclusion	Total and conversion score
1	0012019	3	3	3	75 = A-
2	0022019	3	2	1	50 = D
3	0032019	4	3	3	83 = A-
4	0042019	3	2	3	66 = C
5	0052019	4	2	2	66 = C
6	0062019	3	4	3	83 = A-
7	007209	4	3	3	83 = A
8	0082019	2	2	2	50 = D
9	0092019	4	3	3	83 = A-
10	00102019	4	3	4	92 = A
11	00112019	3	4	3	83 = A-
12	00122019	4	3	3	83 = A-
13	00132019	2	1	3	50 = D
14	00142019	3	3	3	75 = B
15	00152019	4	2	3	75 = B
16	00162019	3	1	2	50 = D
17	00172019	3	2	2	50 = D
18	00182019	2	2	2	50 = D
19	00192019	2	4	3	75 = B
20	00202019	3	3	3	75 = B

In first 5 meetings, the prose used is entitled *Jane Eyre* and poetry called *The Road Not Taken* by Robert Frost. The meetings was divided as follows; 3 meetings for discussing prose and 2 meetings for poetry.

The first meeting in acting, the researchers applied the textual schemata technique to begin the class in pre-teaching. The students' respond was enthusiastic to answer the questions. As the textual schema was applied in the form of question and answer, almost half of the students wanted to answer the questions given by the researchers. It showed that the textual schemata could assist and open the students mind to recall the course they got before. The language schemata and word schemata were applied after the textual schemata. The result of both applications significantly helped the students to understand the content of the novel. It was signed by their brief explanation of the novel content was understood easily by the researchers. In addition, the students completed each other's answer. The students were actually active to discuss the content of the novel.

While teaching, the application of story maps such as the questions of: a) Who is the main character? b) Where does the story take place? c) When does the story happen? d) What is the problem? e) How are the characters trying to solve it? f) How is the problem solved? g) What did the main character find out about herself/himself? h) Is it a happy ending or sad ending story? could be answered correctly by the student, even if their answers were not perfect. In these steps, the students complained about the time given to finish the questions. The researchers gave more time to read the novel at home for 2 days. The third day, the researchers gave them a quiz.

In the post-teaching of the first meeting, the students shared their learning experience using the schemata. They said that schemata was really helped them to understand the novel. The assistance they received covered their understanding of content through textual

schemata as well as their understanding of sentences and vocabulary through language schemata and word schemata. They also said they felt easy to learn prose. The third day of the teaching, the student got quiz by doing story telling of the novel. Students were separated into two groups, each with ten students, and each group was assigned to a different teacher. The teachers were the researchers themselves. The evaluation of the story telling of the novel used method is given in table 4. The result of score counting is based on the Table 1 rubric for story retelling.

Table 4 The results of the story retelling test

No	Reg Number	The Score of Story Element	The Score of Story Detail	The Score of Inference, Prediction and Conclusion	Total and conversion score
1	0012019	4	3	3	83 = A-
2	0022019	3	3	3	75 = B
3	0032019	4	4	3	92 =A
4	0042019	3	3	3	75 = B
5	0052019	4	3	4	92 = A
6	0062019	3	4	3	83 = A-
7	007209	4	4	3	92 =A
8	0082019	4	3	3	83 = A-
9	0092019	4	4	3	92 =A
10	00102019	4	3	4	92 =A
11	00112019	4	4	3	92 =A
12	00122019	4	3	3	83 = A-
13	00132019	3	3	3	75 = B
14	00142019	3	4	4	92 =A
15	00152019	4	4	3	92 =A
16	00162019	4	3	3	83 = A-
17	00172019	4	3	3	83 = A-
18	00182019	3	3	3	75 = B
19	00192019	4	4	3	92 =A
20	00202019	4	3	3	83 = A-

The obtained results given in the Table 4 showed that the students have improved their capability in learning prose and that they are able to fulfill the criteria of success determined by academic. All the students passed the exam and the mean score of the students is above 75. Table 5 shows the results before and after using schemata technique for poetry.

Table 5 Paired Samples Statistics for poem

		Mean	N	Std. Dev.	Std. Error Mean
Pair 1	Score from the lecturers	70.20	20	15.07036	3.36984
	Score from lecturer after using schemata	85.85	20	6.31852	1.41286

Based on the results given in the Table 5, it can be seen that the mean score gotten by the students is higher than the score given by the lecturers before using schemata, furthermore the passing score of the students changed drastically. Only two students got B or good predicate while others got A and A- excellent and very good predicate.

On the fourth day of the research, the schemata technique was applied to the poetry class. When the schemata were begun, almost all students responded enthusiastically. Students' was answered correctly on every question given by researchers and all of them participated to answer the questions. When students were not motivated to learn and replied incorrectly on the majority of the questions, the results of the schemata technique were largely different from the results of the observation before using it. Also, from the result of the interview, it was found that they did not understand the content of the poetry, which they justified by saying that poetry is difficult to understand.

On the fifth day, the researchers gave the students a test to evaluate their understanding in interpreting poetry. Since the students acquired the score above the average and could exceed the criteria of success, the test results are categorized as successful. The success of the students' poem test will be given in table 8 after being compared with the score given by the lecturers before (Table 6) and after (Table 7) applying the schemata technique.

Table 6 Poem score before applying schemata

No	Reg Number	Comprehension	Analysis	Interpretation	Total and conversion score
1	0012019	2	2	2	50 = D
2	0022019	3	2	2	58 = D
3	0032019	3	1	2	50 = D
4	0042019	3	3	3	75 = B
5	0052019	3	3	2	66 = C
6	0062019	2	2	2	50 = D
7	007209	3	3	3	75 = B
8	0082019	3	3	3	75 = B
9	0092019	4	2	2	66 = C
10	00102019	2	2	2	50 = D
11	00112019	3	1	2	50 = D
12	00122019	4	3	2	75 = B
13	00132019	3	3	3	75 = B
14	00142019	2	2	4	66 = C
15	00152019	3	3	3	75 = B
16	00162019	4	3	3	83 = A-
17	00172019	2	3	2	58 = D
18	00182019	3	3	3	75 = B
19	00192019	2	3	3	66 = C
20	00202019	4	3	3	83 = A-

The results of the score given by lecturer before application of schemata showed that 7 students got D with fail predicate, 4 students got C fair predicate, while 7 students got B with good predicate and 2 students got A- with very good predicate. Since the students' scores did not exceed the criterion of success given by the academy, it can be concluded that the students learning in the class were not successful. In the following table were given the score after applying the schemata.

Table 7 shows the results of students' capability in analyzing the poem after being taught how to apply schemata in the same. Seven students got A score with excellent predicate, 8 students got A- score with very good predicate while 5 students got B with predicate good.

Table 7 Poem score after applying schemata

No	Reg Number	Comprehension	Analysis	Interpretation	Total and conversion score
1	0012019	4	4	3	92 = A
2	0022019	3	4	3	83 = A-
3	0032019	4	3	3	83 = A-
4	0042019	4	3	4	92 = A
5	0052019	3	4	4	92 = A
6	0062019	3	3	4	83 = A-
7	007209	4	3	3	83 = A-
8	0082019	4	3	4	92 = A
9	0092019	4	3	3	83 = A-
10	00102019	3	4	4	92 = A-
11	00112019	3	3	3	75 = B
12	00122019	3	3	3	75 = B
13	00132019	3	3	3	75 = B
14	00142019	4	4	3	92 = A
15	00152019	4	3	3	83 = A-
16	00162019	4	3	4	92 = A
17	00172019	3	4	3	83 = A-
18	00182019	3	3	3	75 = B
19	00192019	4	3	2	75 = B
20	00202019	4	3	3	83 = A-

The students capability exceed the criteria of success and passing score determined by academic, was determined by comparing the arithmetic mean before and after applying schemata. The obtained results are given in the Table 8.

Table 8 Paired Samples Statistics for poetry analysis

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Before schemata	66.0500	20	11.59163	2.59197
	After schemata	84.1500	20	6.72994	1.50486

From the result given in the table above, it can be seen that the mean score of the class before schemata was applied was 66.05. It showed the mean score of the class was lower than criteria of success (75). After the schema was applied, the mean score of the class was 84.15 which is higher than criteria of success. The results obtained in this way indicate that the application of the schemata technique can improve the students' abilities in learning literature genre, especially prose and poetry.

4. CONCLUSION AND SUGGESTION

This current research is trying to help improve the students learning literature genres especially prose and poetry. Those two courses are regarded to be difficult courses by semester 5 students. Actually, it is not absolutely true. If the method given in the research is used, the courses can be understood easily and the learning could be conductive as well. Then the choice of schemata to be applied in the learning literature genre is

appropriate, since the learners actually are not those who never know the courses. They experience what they learn in those courses every day.

Prose and poetry are non-fiction stories created from the daily life of people. To learn those courses, the lecturers just need to remind what they have experienced and activated their previous knowledge by asking them appropriate questions. Learning literature genres must not always be theory-based, yet experiences of lives are also needed to sharpen the students' analysis. The success of improving the students' capability in exceeding the success criteria (75) determined by academics is becoming the proof that the students 'experience' need to be involved in learning.

Schemata approach not only can be applied in learning that involve reading skills such as prose and poetry but also in others skills such as listening, speaking and writing. Every learning process needs previous knowledge to support the students' idea before learning, as learning everything cannot run well without reminding things in their mind at beginning. From the result of this current research, it is suggested that every teacher applied the schemata technique, not only in teaching prose and poetry, but also in other courses before coming to the main learning process. It will lighten the students to comprehend the previous course they learned to support the new things they learn. The application of schemata should not be limited only to that, yet should be done based on the text needed. The more schemata are done the easier the learning will be.

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PRIMENA TEHNIKE ŠEMA KAO POMOĆ STUDENTIMA U RAZUMEVANJU LITERARNOG TEKSTA

Razumevanje pročitanog teksta predstavlja jedan od načina za dolaženje do informacija, a informacije koje čitaoci pročitaju razlikuju se jedne od drugih. Na razumevanje različitih informacija od strane čitalaca utiče i njihovo predznanje: što više predznanja imaju, to bolje razumeju pročitani tekst. S obzirom na postojanje različitih žanrova tekstova, tekstovi u okviru jednog žanra dizajnirani su tako da svaki od njih ima svoj stil pisanja. Kao pomoć čitaocu da shvati činjenice koje se odnose na razumevanje pročitanog kada se radi o svim tekstovnim žanrovima, koristi se tehnika šeme. Rezultati nekih istraživanja ukazuju na to da u pamćenju čitalaca postoji predvidljiiva struktura znanja koja se može uzeti kao osnova da oni, korišćenjem ovih struktura u radu sa tekstom, lakše razumeju sve tekstovne žanrove. Za unapređivanje sposobnosti studenata u savladavanju literarnih tekstova, posebno proznih i poetskih, u ovom istraživanju primenjena je tehnika šema. U preliminarnoj studiji utvrđeno je da su postignuća učenika u savladavanju proznih tekstova bila ispod postavljenih kriterijumima uspešnosti, kao i da su studenti bili manje motivisani za učenje. Studenti su ostvarili u proseku 70.20 poena, dok su kriterijumi uspeha postavljeni od strane STIBA akademije, među čijim studentima je sprovedeno istraživanje, bili 75.00. Nakon primene tehnike šema, studenti su na kursu proze ostvarili u proseku 85.85 poena i bili su motivisaniji za učenje. U preliminarnoj studiji, na kursu poezije, studenti su u proseku ostvarili 66.05 poena, a motivacija za učenje bila je niska. Nakon primene tehnike šema, studenti su u proseku postigli 84.15 bodova, i bili su motivisaniji za učenje. Na osnovu dobijenih rezultata može se zaključiti da primena tehnike šema utiče na poboljšanje sposobnosti studenata za razumevanje literarnih tekstova, posebno proze i poezije, kao i na motivaciju istih za izučavanje ovih sadržaja.

Ključne reči: *tehnika šema, prethodna znanja, proza, poezija, literarni tekst*

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Original research paper

METHODOLOGICAL APPROACH TO CONGRUENCE OF QUADRILATERALS IN HYPERBOLIC GEOMETRY

UDC 514.12/.13; 514.112.4

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Abstract. *In this paper we will prove new criteria for the congruence of convex quadrilaterals in Hyperbolic geometry and consequently, display the appropriate methodological approach in teaching the same. There are seven criteria for the congruence of hyperbolic quadrilaterals, while there are five for the congruence of Euclidean quadrilaterals. Using a comparative geometric analysis of quadrilateral congruence criteria in Euclidean and Hyperbolic geometry we described all possible cases and made a methodological approach to the problem. The obtained results can influence the approaches to the study of these contents with students in the hyperbolic geometry teaching.*

Key words: *congruence of convex quadrilaterals, Euclidean geometry, Hyperbolic geometry, hyperbolic quadrilaterals, methodological approach*

1. INTRODUCTION

The use of technology tools creates new situations and new dynamics in geometry's teaching in the classroom, enhancing the ways of its understanding. Moreover, our research revealed considerable evidence that techniques from hyperbolic geometry motivated students and offered them fuller participation in the teaching process, especially to visualize the Poincaré's disk and through it understand key elements of hyperbolic geometry. Models help students with their visualization while they are learning new mathematical concepts.

Absolute geometry is a geometry based on an axiom system for Euclidean geometry without the parallel postulate or any of its alternatives. Hyperbolic geometry is built from absolute geometry, and hyperbolic postulate.

Parallel Postulate: *A line and a point not on it fully define the point through that point.*

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Hyperbolic Postulate: *Through a point not on a line, at least two lines can be drawn that do not intersect the given line.*

The following theorem and its corollary are a direct consequence of the hyperbolic postulate:

Theorem 1.1 *The sum of the measures of the angles of any hyperbolic triangle is less than a straight angle, or two right angles.*

Corollary 1.2 *The sum of the measures of the angles of any convex hyperbolic quadrilateral is less than two straight angles, or four right angles.*

In the following the right angles are denoted ρ and straight angles are denoted σ. Also, when stating a congruence, the order of the letters follows the order of the congruence. For instance, we write, "$\overline{JE_1H} \cong \overline{REH}$ by AAS," implies $\angle J \cong \angle R$ and $\angle E_1 \cong \angle E$ and $\overline{E_1H} \cong \overline{EH}$.

In the Euclidean plane, there is one and only one regular n-gon with all right angles; namely, the square. In hyperbolic geometry, there is no regular n-gon like this.

How much less the sum of the measures of the angles of a triangle is than the sum of two right angles, σ, is called the triangle's defect. A hyperbolic triangle (h-triangle) has a positive defect, while a Euclidean triangle has a defect of zero.

Definition 1.3 *For a triangle $\overline{EFG}$, the following function is the defect of the triangle:*

$$defect\left(\overline{EFG}\right) = \sigma - (\angle E + \angle F + \angle G) \tag{1.1}$$

Theorem 1.4 ***(Defect Addition Theorem)*** *If a triangle is partitioned into smaller triangles, their defects must sum to the defect of the outer triangle.*

Corollary 1.5 ***(Defect Addition Corollary)*** *If the defect of even one triangle is zero, then all triangles have zero defect. If the defect of even one triangle is positive, then all triangles have a non-zero positive defect.*

Theorem 1.6 *There exists a constant k such that area $\left(\overline{EFG}\right) = k^2 defect\ \left(\overline{EFG}\right)$ with the defect measured in radians.*
Proof is credited to Gauss and is beyond the scope of this paper.

Thus, two h-triangles with the same angle sum have the same area. This implies that the area of a triangle can be considered either as a function of the angle sum of the triangle or as a function of the defect of the triangle.

The congruence of triangles is an important and significant topic. Necessary and sufficient conditions for the congruence of triangles, widely known as congruence criteria, are used in almost all parts of geometry. Considering that analogous theorems for the congruence of quadrilaterals are rarely mentioned, and the fact that students will not have the opportunity to study them again, it is extremely important for students to understand these concepts. One way to do this is to use a comparative analysis of congruence criteria in hyperbolic plane and Euclidean geometry which is in the focus of this paper. But quadrilaterals are made of triangles so, in this introductory section, we will discuss triangles. The rest of the paper will be about quadrilaterals.

The congruence of both Euclidean and hyperbolic triangles is defined as follows:

Definition 1.7 *Triangles $\overline{EFG}$ and $\overline{E'F'G'}$ are congruent, $\overline{EFG} \cong \overline{E'F'G'}$ if and only if the following equalities hold:*

$$\overline{EF} = \overline{E'F'} \text{ and } \overline{FG} = \overline{F'G'} \text{ and } \overline{GE} = \overline{G'E'} \text{ and}$$
$$\angle E = \angle E' \text{ and } \angle F = \angle F' \text{ and } \angle G = \angle G' \quad (1.2)$$

$\angle E$ means the interior angle at vertex$E$; that is,$\angle GEF$ and analogously for the other angles.

So, two triangles are congruent if the sides and angles of one triangle are congruent to the corresponding elements of the other. Therefore, it implies the above six equalities. However, as is well known, these six equalities are not independent. Some three of them imply the remaining three, and thus the congruence of the triangles. Statements of which three are called *the congruence criteria of triangles*. Since hyperbolic geometry is more abstract than Euclidean, to students properly understand the congruence criteria for h-triangles, it is necessary to compare them with the well-known congruence criteria in Euclidean geometry, which we deal with below. There are six congruence criteria for h-triangles, which we will now list and compare to the well-known five congruence criteria for Euclidean triangles.

Theorem 1.8 *(SAS) Two triangles are congruent if two sides and the included angle of one triangle are equal to two sides and the included angle of another triangle, respectively.*

Theorem 1.9 *(SSS) Two triangles are congruent if three sides of one triangle are equal to three sides of another triangle, respectively.*

Theorem 1.10 *(ASA) Two triangles are congruent if two angles and the included side of one triangle are equal to two angles and the included side of another triangle, respectively.*

Theorem 1.11 *(AAS) Two triangles are congruent if two angles and a non-included side of one triangle are equal to two angles and a non-included side of another triangle, respectively.*

In Euclidean geometry, all triangles have the same angle sum. Thus, if two triangles have two corresponding angles equal, then their third angles must also be equal. Thus, ASA and AAS are equivalent in Euclidean geometry. But, because h-triangles differ in their defect depending on their areas, ASA and AAS are not equivalent in hyperbolic geometry. Nevertheless, both can be proven independently using only absolute geometry postulates, as they are in Aguilar (2019).

Theorem 1.12 *(SsA) Two triangles are congruent if two sides and the angle opposite one of them in one triangle are equal to two sides and the angle opposite the same side in the other triangle, and these angles are both acute, both right, or both obtuse.*

This congruence criterion is most often used in the following special form:

Theorem 1.13 *Two triangles are congruent if two sides and the angle opposite the larger of the two sides in one triangle are equal to two sides and the corresponding angle of the other triangle.*

Thus, for students of Euclidean geometry, the only new information here is that AAS is not just an easy corollary of ASA requiring only the angle sum theorem to fill in the third angle, but, in absolute geometry, they are independent theorems with their own proofs. Also, many students have only learned of HL congruence and are not aware that it is a special case of SsA congruence.

Theorem 1.14 *(AAA) Two h-triangles are congruent if three angles of one triangle are equal to three angles of another triangle.*
Proof can be found in Stanković, Zlatanović (2016).

2. CAN FOUR EQUALITIES PROVE QUADRILATERAL CONGRUENCE?

The definition of the congruence of two quadrilaterals is analogous with that for the congruence of two triangles.

Definition 2.1 *Quadrilaterals* $\overline{EFGH}$ *and* $\overline{E'F'G'H'}$ *are congruent,* $\overline{EFGH} \cong \overline{E'F'G'H'}$ *if and only if the following equalities hold:*

$$\overline{EF} = \overline{E'F'} \text{ and } \overline{FG} = \overline{F'G'} \text{ and } \overline{GH} = \overline{G'H'} \text{ and } \overline{HE} = \overline{H'E'} \text{ and}$$
$$\angle E = \angle E' \text{ and } \angle F = \angle F' \text{ and } \angle G = \angle G' \text{ and } \angle H = \angle H' \qquad (2.1)$$

These eight equalities (2.1) are not independent. Some number of them imply the remaining ones, and thus the congruence of quadrilaterals. It is not yet clear what that number is. Analogy with triangles superficially suggests that the number is four. However, this is not true if any one of the equalities is of lengths. It is also not true for AAAA in Euclidean geometry – the square and the rectangle being an obvious counterexample. Taking this into account, students can try by using the appropriate theorems from Euclidean geometry to show whether four equalities can prove the congruence of quadrilaterals, which will be discussed below.

Theorem 2.2 *No four of the eight equalities (2.1) are sufficient to prove congruence of two h-quadrilaterals* $\overline{EFGH}$ *and* $\overline{E'F'G'H'}$.

Proof It can be shown that, for any four of the eight equalities (2.1), there are two non-congruent quadrilaterals that meet these four equalities. Such quadrilaterals are counterexamples to the claim that these four equalities are sufficient to prove congruence. We will consider all possible combinations. In the following diagrams, sides labeled with English letters and angles labeled with Greek letters are the ones given to be equal.

1. ***Four sides.*** Such quadrilaterals need not be congruent. For example, a square and a rhombus with equal sides are not congruent in either Euclidean or hyperbolic geometry.

2. ***Three sides and one angle.*** There are two possible positions for the angle.

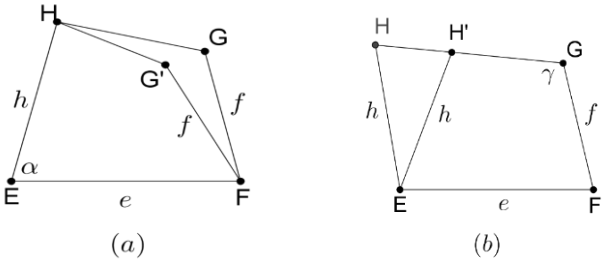

Fig. 2.1

   a. SASS. In figure 2.1(a), SASS implies $\overline{EFGH} \cong \overline{EFG'H}$, which is clearly not the case. Analogously, SSAS does not work.
   b. SSSA. In figure 2.1(b), SASS implies $\overline{EFGH} \cong \overline{EFGH'}$, which is clearly not the case. Analogously, ASSS does not work.

3. ***Two adjacent sides and two angles.*** There are three possible positions for the two angles.

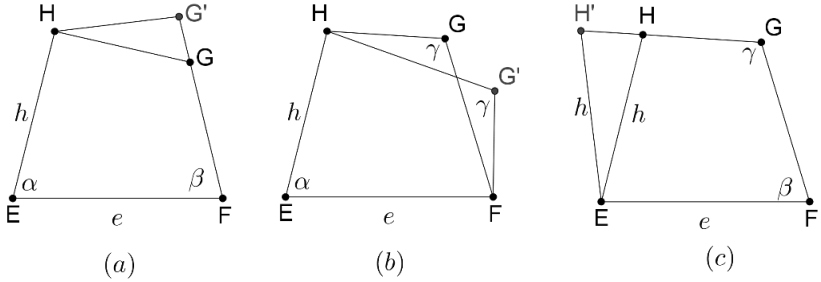

Fig. 2.2

   a. SASA. In figure 2.2(a), SASA implies $\overline{EFGH} \cong \overline{EFG'H}$, which is clearly not the case. Analogously, ASAS does not work.
   b. SAS-A. In figure 2.2(b), SAS-A implies $\overline{EFGH} \cong \overline{EFG'H}$, which is clearly not the case. Analogously, A-SAS does not work.
   c. SSAA. In figure 2.2(c), SSAA implies $\overline{EFGH} \cong \overline{EFGH'}$, which is clearly not the case. Analogously, AASS does not work.

4. ***Two non-adjacent sides and two angles.*** There are three possible positions for the two angles.

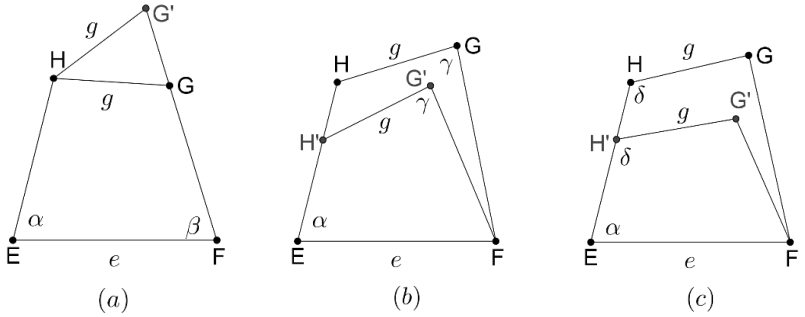

Fig. 2.3

a. S-ASA. In figure 2.3(a), S-ASA implies $\overline{EFGH} \cong \overline{EFG'H}$, which is clearly not the case. Analogously, ASA-S does not work.
b. S-AS-A. In figure 2.3(b), S-AS-A implies $\overline{EFGH} \cong \overline{EFG'H'}$, which is clearly not the case. Analogously, A-SA-S does not work.
c. SAAS. In figure 2.3(c), SAAS implies $\overline{EFGH} \cong \overline{EFG'H'}$, which is clearly not the case.

5. ***One side and three angles.*** There are two possible positions for the side.

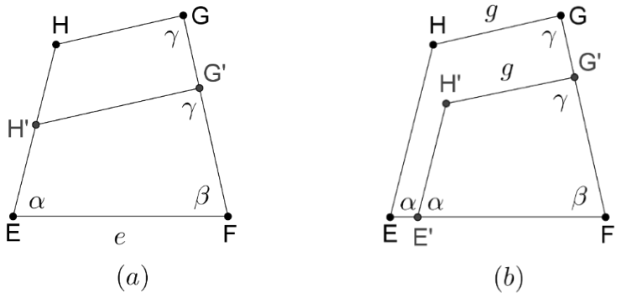

Fig. 2.4

a. ASAA. In figure 2.4(a), ASAA implies $\overline{EFGH} \cong \overline{EFG'H'}$, which is clearly not the case. Analogously, AASA does not work.
b. AAAS. In figure 2.4(b), AAAS implies $\overline{EFGH} \cong \overline{EFG'H'}$, which is clearly not the case. Analogously, SAAA does not work.

6. ***Four angles.*** There is one characteristic case and two constructible counterexamples, though not in a finite number of steps. Constructing these counterexamples will be deferred to section four. ■

3. Can Five Equalities Prove Quadrilateral Congruence?

Now, let us consider congruence of two h-quadrilaterals with five equal elements. It turns out that some five of the eight equalities (2.1) prove congruence of two h-quadrilaterals. We will systematize the cases and consider them each as we did for the previous theorem. In the following diagrams, letters with no subscripts are the ones given to be equal while subscripted letters are proven equal in intermediate steps. Students can try by using the appropriate congruence theorems in Euclidean geometry to show whether four equalities can prove the congruence of quadrilaterals.

1. ***Four sides and one angle.*** There is only one characteristic case:

Theorem 3.1 *The quadrilaterals* $\overline{EFGH}$ *and* $\overline{E'F'G'H'}$ *are congruent if*
$\overline{EF} = \overline{E'F'} = e$ *and* $\overline{FG} = \overline{F'G'} = f$ *and* $\overline{GH} = \overline{G'H'} = g$ *and*
$\overline{HE} = \overline{H'E'} = h$ *and* $\angle E = \angle E' = \alpha$ (3.1)

Proof By SAS, $\overline{HEF} \cong \overline{H'E'F'}$ (See Figure 3.1), which holds these equalities:
$\overline{FH} = \overline{F'H'}$ and $\angle EFH = \angle E'F'H' = \beta_1$ and $\angle EHF = \angle E'H'F' = \delta_1$

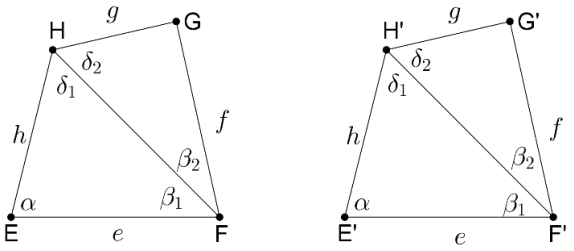

Fig. 3.1

From (3.1) and $\overline{FH} = \overline{F'H'}$, by SSS, we obtain $\overline{FGH} \cong \overline{F'G'H'}$. Thus,
$\angle HFG = \angle H'F'G' = \beta_2$ and $\angle FHG = \angle F'H'G' = \delta_2$
$\angle FGH = \angle F'G'H'$ (3.2)
Now we have,
$\angle EFG = \angle E'F'G' = \beta_1 + \beta_2$ (3.3)
$\angle EHG = \angle E'H'G' = \delta_1 + \delta_2$ (3.4)
The eight equalities (2.1) needed for congruence are satisfied with the given equalities and (3.2), (3.3) and (3.4). Thus, $\overline{EFGH} \cong \overline{E'F'G'H'}$. ■

This quadrilateral congruence criterion we will call SASSS. Students can observe that only SAS and SSS was cited, which are absolute geometry theorems, so this criterion is also Euclidean.

2. ***Three sides and two angles.*** There are three characteristic cases. Two of them guarantee a congruence of quadrangles and one not. Let us consider the first two.

Theorem 3.2 *The quadrilaterals $\overline{EFGH}$ and $\overline{E'F'G'H'}$ are congruent if $\overline{EF} = \overline{E'F'} = e$ and $\overline{FG} = \overline{F'G'} = f$ and $\overline{HE} = \overline{H'E'} = h$ and $\angle E = \angle E' = \alpha$ and $\angle F = \angle F' = \beta$*

Proof By SAS, $\overline{HEF} \cong \overline{H'E'F'}$ (See Figure 3.2), which holds these equalities: $\overline{FH} = \overline{F'H'}$ and $\angle EFH = \angle E'F'H' = \beta_1$ and $\angle EHF = \angle E'H'F' = \delta_1$

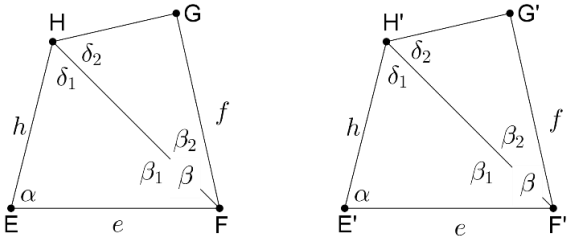

Fig. 3.2

$\angle HFG = \angle H'F'G' = \beta_2 = \beta - \beta_1$, so, by SAS, $\overline{HFG} \cong \overline{H'F'G'}$, which holds the equalities $\angle FGH = \angle F'G'H'$ and $\angle GHF = \angle G'H'F' = \delta_2$. $\angle GHE = \angle G'H'E' = \delta_1 + \delta_2$. Thus, the eight equalities (2.1) needed for congruence are satisfied and $\overline{EFGH} \cong \overline{E'F'G'H'}$. ■

This quadrilateral congruence criterion we will call SASAS. Students can observe that only SAS and SSS was cited, which are absolute geometry theorems, so this criterion is also Euclidean.

Theorem 3.3 *The quadrilaterals $\overline{EFGH}$ and $\overline{E'F'G'H'}$ are congruent if $\overline{EF} = \overline{E'F'} = e$ and $\overline{FG} = \overline{F'G'} = f$ and $\overline{HE} = \overline{H'E'} = h$ and $\angle E = \angle E' = \alpha$ and $\angle H = \angle H' = \delta$ and $\angle G$ and $\angle G'$ are both acute, both right, or both obtuse.*

Proof By *SAS*, $\overline{HEF} \cong \overline{H'E'F'}$ (See Figure 3.3), which holds these equalities: $\overline{FH} = \overline{F'H'}$ and $\angle EFH = \angle E'F'H' = \beta_1$ and $\angle EHF = \angle E'H'F' = \delta_1$

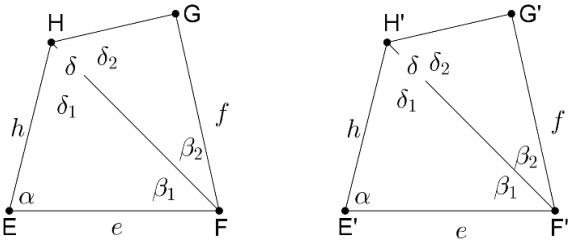

Fig. 3.3

$\angle FHG = \angle F'H'G' = \gamma_2 = \gamma - \gamma_1$. Since $\angle G$ and $\angle G'$ are both acute, both right, or both obtuse, by SsA, $\overline{GFH} \cong \overline{G'F'H'}$, which holds the equalities $\angle HGF = \angle H'G'F'$ and $\angle GFH = \angle G'F'H' = \beta_2$.
$\angle EFG = \angle E'F'G' = \beta_1 + \beta_2$. Thus, the eight equalities (2.1) needed for congruence are satisfied and $\overline{EFGH} \cong \overline{E'F'G'H'}$. ■

This quadrilateral congruence criterion we will call ASASs. Students can observe that only SAS and SsA was cited, which are absolute geometry theorems, so this criterion is also Euclidean.

Theorem 3.4 *The quadrilaterals $\overline{EFGH}$ and $\overline{E'F'G'H'}$ are not necessarily congruent if $\overline{EF} = \overline{E'F'} = e$ and $\overline{FG} = \overline{F'G'} = f$ and $\overline{HE} = \overline{H'E'} = h$ and $\angle E = \angle E' = \alpha$ and $\angle G = \angle G' = \gamma$*

Proof Quadrilaterals $\overline{EFGH}$ and $\overline{E'F'G'H'}$ (figure 3.4) are a counterexample. ■

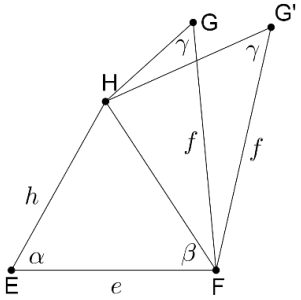

Fig. 3.4

3. ***Two sides and three angles.*** Sides can be adjacent or opposite. Let us first consider the case of adjacent sides. There are three different cases and all of them guarantee a congruence of h-quadrangles, though only the first two are absolute geometry.

Theorem 3.5 *The quadrilaterals $\overline{EFGH}$ and $\overline{E'F'G'H'}$ are congruent if $\overline{EF} = \overline{E'F'} = e$ and $\overline{HE} = \overline{H'E'} = h$ and $\angle E = \angle E' = \alpha$ and $\angle F = \angle F' = \beta$ and $\angle H = \angle H' = \delta$*

Proof By SAS, $\overline{HEF} \cong \overline{H'E'F'}$ (See Figure 3.5), which holds these equalities: $\overline{FH} = \overline{F'H'}$ and $\angle EFH = \angle E'F'H' = \beta_1$ and $\angle EHF = \angle E'H'F' = \delta_1$

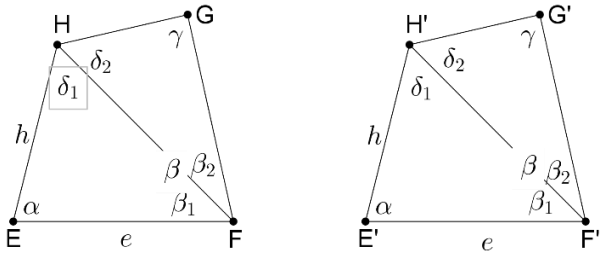

Fig. 3.5

$\angle HFG = \angle H'F'G' = \beta - \beta_1 = \beta_2$, so, by AAS, $\overline{GFH} \cong \overline{G'F'H'}$, which holds the equalities $\overline{FG} = \overline{F'G'}$, $\overline{GH} = \overline{G'H'}$ and $\angle GHF = \angle G'H'F' = \delta_2$. $\angle GHE = \angle G'H'E' = \delta_1 + \delta_2$. Thus, the eight equalities (2.1) needed for congruence are satisfied and $\overline{EFGH} \cong \overline{E'F'G'H'}$. ■

This quadrilateral congruence criterion we will call SASAA. Students can observe that only SAS and AAS was cited, which are absolute geometry theorems, so this criterion is also Euclidean.

Theorem 3.6 *The quadrilaterals $\overline{EFGH}$ and $\overline{E'F'G'H'}$ are congruent if*
$\overline{EF} = \overline{E'F'} = e$ *and* $\overline{FG} = \overline{F'G'} = f$ *and*
$\angle E = \angle E' = \alpha$ *and* $\angle F = \angle F' = \beta$ *and* $\angle H = \angle H' = \delta$

Proof By SAS, $\overline{EFG} \cong \overline{E'F'G'}$ (See Figure 3.6), which holds these equalities: $\overline{EG} = \overline{E'G'}$ and $\angle GEF = \angle G'E'F' = \alpha_1$ and $\angle FGE = \angle F'G'E' = \gamma_1$

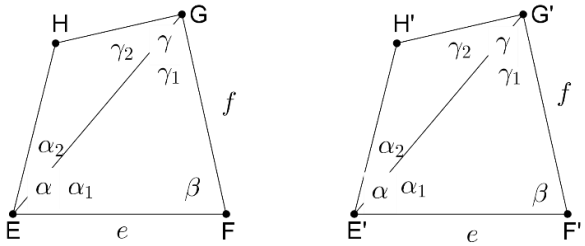

Fig. 3.6

$\angle HEG = \angle H'E'G' = \alpha - \alpha_1 = \alpha_2$ and $\angle HGE = \angle H'G'E' = \gamma - \gamma_1 = \gamma_2$ so, by ASA, $\overline{EGH} \cong \overline{E'G'H'}$, which holds the equalities $\overline{GH} = \overline{G'H'}$ and $\overline{HE} = \overline{H'E'}$ and $\angle GHE = \angle G'H'E'$.
Thus, the eight equalities (2.1) needed for congruence are satisfied and$\overline{EFGH} \cong \overline{E'F'G'H'}$. ■

This quadrilateral congruence criterion we will call ASASA. Students can observe that only SAS and ASA was cited, which are absolute geometry theorems, so this criterion is also Euclidean.

Theorem 3.7 *The h-quadrilaterals* $\overline{EFGH}$ *and* $\overline{E'F'G'H'}$ *are congruent if* $\overline{GH} = \overline{G'H'} = g$ *and* $\overline{GE} = \overline{G'E'} = h$ *and* $\angle E = \angle E' = \alpha$ *and* $\angle F = \angle F' = \beta$ *and* $\angle H = \angle H' = \delta$

Proof $\overline{FG}$ and $\overline{F'G'}$ are either equal or not equal. Suppose $\overline{FG} = \overline{F'G'} = f$, then $\overline{HGFE} \cong \overline{H'G'F'E'}$ by theorem 3.5, SASAA. See figure 3.7.

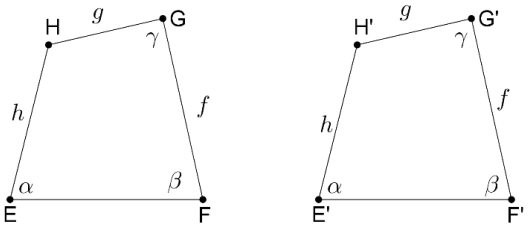

Fig. 3.7

Suppose $\overline{FG} \neq \overline{F'G'}$. $\overline{F'G'} < \overline{FG}$ or switch labels on $\overline{EFGH}$ and $\overline{E'F'G'H'}$. There exists a point F_1 between F and G such that $\overline{F_1G} = \overline{F'G'} = f_1$. Draw a ray $\overrightarrow{F_1Q}$ such that Q is on $\overline{EH}$ and $\angle GF_1Q = \beta$. See figure 3.8.

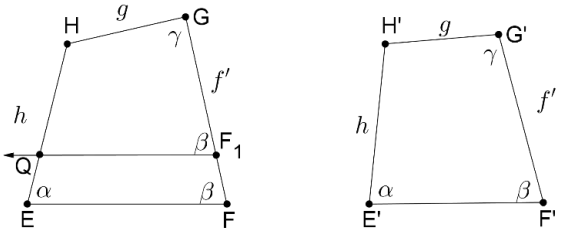

Fig. 3.8

Let the point E_1 be on ray $\overrightarrow{F_1Q}$ and such that $\overline{E_1F_1} = \overline{E'F'}$. By Theorem 3.2 (SASAS), $\overline{HGF_1E_1} \cong \overline{H'G'F'E'}$, which holds the equality $\angle HE_1F_1 = \alpha$. There are three possible positions for E_1 relative to F_1 and Q on this ray. We will label them cases (a), (b) and (c). See figure 3.9.

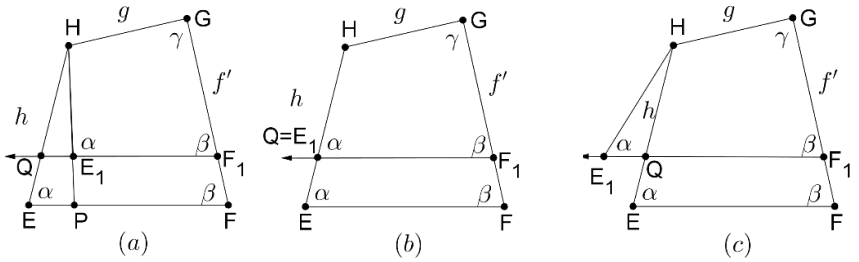

Fig. 3.9

Case (a). E_1 is between F_1 and Q. By the exterior angle inequality theorem applied to $\overline{EPH}$, $\alpha < \angle HPF$. But the interior angles of $\overline{PE_1F_1F}$ are $\angle HPF$, $\sigma - \alpha$, $\sigma - \beta$ and β. The sum of these angles is $2\sigma + \angle HPF - \alpha$. By theorem 1.1, this must be less than 2σ, which implies $\angle HPF < \alpha$. This is a contradiction, so case (a) is not true.

Case (b). E_1 coincides with Q. The sum of the interior angles of $\overline{PE_1F_1F}$ is 2σ, which contradicts theorem 1.1, so case (b) is not true.

Case (c). Q is between E_1 and F_1.

Suppose $\alpha = \rho$. $h = \overline{HE_1} < \overline{HQ} < \overline{HE} = h$, a contradiction.

Suppose $\alpha \neq \rho$. Locate J and K, the feet or perpendiculars dropped from H onto $\overline{E_1F_1}$ and $\overline{EF}$, respectively. See figure 3.10.

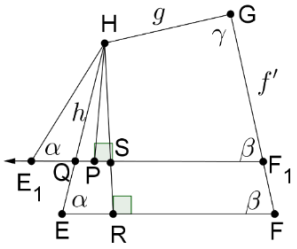

Fig. 3.10

$\overline{JE_1H} \cong \overline{KEH}$ by AAS, which holds the equality $\overline{JH} \cong \overline{KH}$. There is a point L on $\overline{KH}$ and $\overline{E_1F_1}$. Thus, $h = \overline{E_1H} < \overline{HJ} < \overline{HL} < \overline{HK} < \overline{HE} = h$. This is a contradiction, so case (c) is no more true than cases (a) and (b). $\overline{FG} \neq \overline{F'G'}$ meets only with contradiction, so $\overline{EFGH} \cong \overline{E'F'G'H'}$. ■

This quadrilateral congruence criterion we will call SSAAA. Student can observe that we cited the angle sum of triangles being less than a straight angle and the angle sum of quadrilaterals being less than two straight angles, which are hyperbolic geometry theorems, so this criterion is not true in Euclidean geometry.

Now we will consider two opposite sides and three angles. There is only one characteristic case, and it does not guarantee congruence.

Theorem 3.8 *The quadrilaterals $\overline{EFGH}$ and $\overline{E'F'G'H'}$ are not necessarily congruent if*
$\overline{EF} = \overline{E'F'} = e$ *and* $\overline{GH} = \overline{G'H'} = g$ *and*
$\angle E = \angle E' = \alpha$ *and* $\angle F = \angle F' = \beta$ *and* $\angle H = \angle H' = \delta$

Proof Quadrilaterals $\overline{\text{EFGH}}$ and $\overline{\text{E}'\text{F}'\text{G}'\text{H}'}$ (figure 3.11) are a counterexample. ■

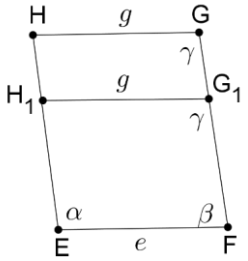

Fig. 3.11

4. ***One side and four angles.*** There is only one characteristic case.

Theorem 3.9 *The h-quadrilaterals $\overline{EFGH}$ and $\overline{E'F'G'H'}$ are congruent if*
$\overline{EF} = \overline{E'F'} = e$ *and* $\angle E = \angle E' = \alpha$ *and* $\angle F = \angle F' = \beta$
$\angle G = \angle G' = \gamma$ *and* $\angle H = \angle H' = \delta$

Proof $\overline{EH}$ and $\overline{E'H'}$ are either equal or not equal. Suppose $\overline{EH} = \overline{E'H'} = h$, then $\overline{HEFG} \cong \overline{H'E'F'G'}$ by theorem 3.5, SASAA. See figure 3.12.

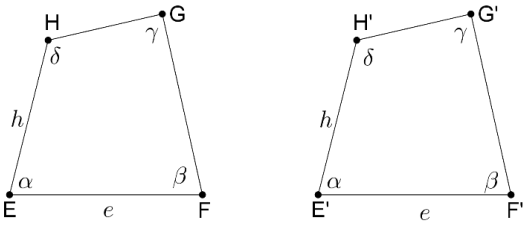

Fig. 3.12

Suppose $\overline{EH} \neq \overline{E'H'}$. $\overline{E'H'} < \overline{EH}$ or switch labels on $\overline{EFGH}$ and $\overline{E'F'G'H'}$. There exists a point H_1 between E and H such that $\overline{EH_1} = \overline{E'H'} = h_1$. Draw a ray $\overrightarrow{H_1P}$ such that P is on $\overline{FG}$ and $\angle EH_1P = \delta$. See figure 3.13.

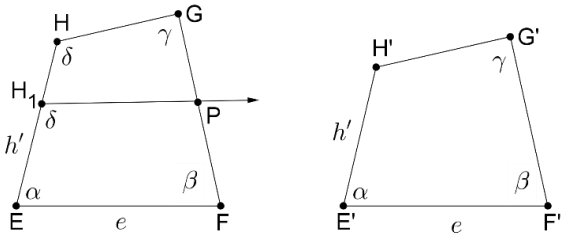

Fig. 3.13

Let the point G_1 be on ray $\overrightarrow{H_1P}$ and such that $\overline{H_1G_1} = \overline{H'G'} = h'$. By Theorem 3.2 (SASAS), $\overline{FEH_1G_1} \cong \overline{F'E'H'G'}$. There are three possible positions for G_1 relative to H_1 and P on this ray. We will label them cases (a), (b) and (c). See figure 3.14.

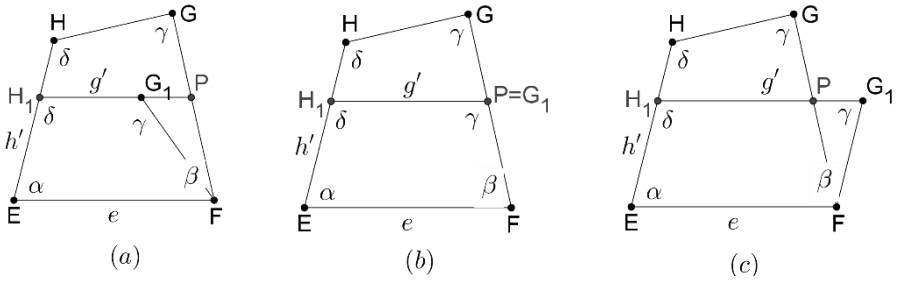

Fig. 3.14

Case (a). G_1 is between H_1 and P. $\angle EFG_1 < \angle EFP = \beta$. But $\angle EFG_1 = \beta$ because $\overline{FEH_1G_1} \cong \overline{F'E'H'G'}$. Thus, case (a) is not true.

Case (b). G_1 coincides with P. $\overline{FEH_1G_1} \cong \overline{F'E'H'G'}$, which holds the equality $\angle FG_1H_1 = \gamma$. But $\overline{EFGH}$ is larger than $\overline{EFG_1H_1}$ so it must have a greater defect, not all the same angles. Thus, case (b) is not true.

Case (c). P is between H_1 and G_1. $\angle EFG_1 > \angle EFP = \beta$. But $\angle EFG_1 = \beta$ because $\overline{FEH_1G_1} \cong \overline{F'E'H'G'}$. Thus, case (c) is not true.

Thus, $\overline{EH} \neq \overline{E'H'}$ meets only with contradiction, so $\overline{EFGH} \cong \overline{E'F'G'H'}$. ■

This quadrilateral congruence criterion we will call SAAAA. Students can observe that case (b) could be true in Euclidean geometry, where a quadrilateral can have a similar one inside it. So this criterion only works for h-quadrilaterals.

4. CONGRUENCE OF SACCHERI AND LAMBERT QUADRILATERALS

In this section we will deal with special classes of quadrilaterals in hyperbolic geometry such as Saccheri and Lambert quadrilaterals. Saccheri considered a type of quadrilateral, called a Saccheri quadrilateral, as in attempting to prove the parallel postulate. In Euclidean geometry, a Saccheri quadrilateral is a rectangle. Students should observe the common properties of the Saccheri quadrilateral and a rectangle.

Definition 4.1 *A Saccheri quadrilateral is a quadrilateral with two equal sides perpendicular to the base. The top side is the summit or upper base and the angles on the summit are the summit angles.*

For a Saccheri quadrilateral $\overline{EFGH}$, the base is $\overline{EF}$ and the summit is $\overline{GH}$. The summit angles of a Saccheri quadrilateral are equal, and they are less than a right angle. If they were right, then $\overline{EFGH}$ would be a rectangle and we would be doing Euclidean geometry.

Definition 4.2 *A Lambert quadrilateral is a quadrilateral with three right-angles.*

In Euclidean geometry, three right angles imply that the fourth is also right and it is a rectangle.

Theorem 4.3 *Two Lambert quadrilaterals $\overline{EFGH}$ and $\overline{E'F'G'H'}$, with acute angles at H and H' are congruent if and only if one of the following sets of conditions is true:*

a) $\overline{EF} = \overline{E'F'}$ *and* $\overline{FG} = \overline{F'G'}$ *b)* $\overline{EF} = \overline{E'F'}$ *and* $\overline{EH} = \overline{E'H'}$

c) $\overline{EH} = \overline{E'H'}$ *and* $\overline{GH} = \overline{G'H'}$ *d)* $\overline{EH} = \overline{E'H'}$ *and* $\angle H = \angle H'$

e) $\overline{EF} = \overline{E'F'}$ *and* $\angle H = \angle H'$ *f)* $\overline{EH} = \overline{E'H'}$ *and* $\overline{FG} = \overline{F'G'}$ (4.1)

Proof Cases (a), (b), (c), (d) and (e) follow immediately from theorems 3.6 (ASASA), 3.5 (SASAA), 3.8 (SSAAA), 3.10 (SAAAA) and 3.10, respectively.

Since every Saccheri quadrilateral can be divided into two congruent Lambert quadrilaterals, students can observe that it immediately follows that:

Corollary 4.4 *Two Saccheri quadrilaterals $\overline{EFGH}$ and $\overline{E'F'G'H'}$, with bases $\overline{EF}$ and $\overline{E'F'}$ and with summits $\overline{GH}$ and $\overline{G'H'}$, respectively, are congruent if and only if one of the following sets of conditions is true:*

a) $\overline{EF} = \overline{E'F'}$ *and* $\overline{FG} = \overline{F'G'}$ *b)* $\overline{EF} = \overline{E'F'}$ *and* $\overline{GH} = \overline{G'H'}$

c) $\overline{FG} = \overline{F'G'}$ *and* $\overline{GH} = \overline{G'H'}$ *d)* $\overline{EF} = \overline{E'F'}$ *and* $\angle G = \angle G'$

e) $\overline{FG} = \overline{F'G'}$ *and* $\angle G = \angle G'$ *f)* $\overline{GH} = \overline{G'H'}$ *and* $\angle G = \angle G'$ (4.2)

Theorem 4.5 *The quadrilaterals $\overline{EFGH}$ and $\overline{E'F'G'H'}$ are not necessarily congruent if*
$\angle E = \angle E' = \alpha$ *and* $\angle F = \angle F' = \beta$ *and*
$\angle G = \angle G' = \gamma$ *and* $\angle H = \angle H' = \delta$

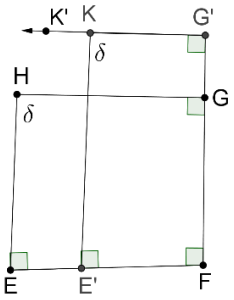

Fig. 4.1

Proof $\overline{EFGH}$ is a Lambert quadrilateral with $\angle E = \angle F = \angle G = \rho$ and $\angle H < \rho$. Find G' in $\overrightarrow{FG}$ such that $F - G - G'$ and $\angle G' = \rho$. Let E' be the foot of the perpendicular dropped onto $\overleftrightarrow{EF}$ from K. By construction, $\overline{E'FG'K}$ is a Lambert quadrilateral with $\angle K < \rho$.

If K moves infinitely from point G on $\overrightarrow{GK'}$, then $\angle K$ will be smaller and smaller and in some point $\angle K = \angle H = \delta$.

So, there exists a point K on $\overrightarrow{GK'}$ such that $\angle K = \angle H$. Thus, $\overline{EFGH}$ and $\overline{E'FGK}$ have all equal angles but they are not congruent. ■

5. CONCLUSION

This paper aims to develop some new congruence criteria of convex h-quadrilaterals and relate them to previous work on hyperbolic geometry and its applications. Accordingly, we presented the appropriate methodological approach in teaching using comparative geometric analysis of quadrilateral congruence criteria in Euclidean and hyperbolic geometry.

We start with six congruence criteria for triangles (SAS, SSS, ASA, AAS, SsA and AAA), the first five of which are absolute geometry and the last of which applies only to h-triangles. We then prove that no four equalities can prove quadrilateral convergence. We then prove that there are seven congruence criteria for convex quadrilaterals (SASSS, SASAS, ASASs, SASAA, ASASA, SSAAA, SAAAA), the first five of which are absolute geometry and the last two of which apply only to h-quadrilaterals. Finally, we list the six congruence criteria for Lambert quadrilaterals and the six congruence criteria for Saccheri quadrilaterals and prove the one that is not a direct consequence of the seven congruence criteria for general h-quadrilaterals.

As a final remark it should be stated that the results derived in this paper could probably be applied to the Einstein relativistic velocity model of hyperbolic geometry (Barbu, 2010).

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METODIČKI PRISTUP KONGRUENCIJI ČETVOROUGLOVA U HIPERBOLIČKOJ GEOMETRIJI

U ovom radu dokazaćemo nove kriterijume kongruencija konveksnih četvorouglova u hiperboličkoj geometriji i, u skladu sa tim, prikazati metodički pristup u izučavanju istog. Postoji sedam kriterijuma za kongruenciju hiperboličkih četvorouglova, dok ih je pet koji važe za četvorouglove u euklidskoj geometriji. Koristeći komparativnu geometrijsku analizu kriterijuma kongruencije koji važe u Euklidskoj i Hiperboličkoj geometriji, opisali smo sve moguće slučajeve i, u skladu sa tim, odgovarajući metodički pristup za svaki od njih. Dobijeni rezultati mogu uticati na pristupe izučavanja ovih sadržaja sa studentima u nastavi Hiperboličke geometrije.

Ključne reči: *kongruencija konveksnih četvorouglova, Euklidska geometrija, Hiperbolička geometrija, hiperbolički četvorouglovi, metodički pristup*

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Original research paper

COMPARATIVE ANALYSIS OF STUDENTS` ATTITUDES TOWARDS PHYSICAL EDUCATION AND THEIR ENGAGEMENT IN EXTRACURRICULAR PHYSICAL ACTIVITIES

UDC 379.8:373.3/.4; 371.3::796

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Abstract. *The aim of this study was to answer to the basic question: Whether and to what extent the engagement of students in extracurricular sports activities has an impact on the general attitudes towards PE? The study included male (N = 150) and female (N = 152) students. According to the self-reported frequency of physical activity during the week, outside PE, respondents were divided into three independent groups: lightly physically active (1 – 2 times per week; N = 69), moderately physically active (3 – 4 times per week; N = 153), and very physically active (more than 5 times per week; N = 80). For the purposes of this research, PEAS was used, which consists of 43 items, followed by a five-point Likert-type scale (1-strongly disagree – 5-strongly agree). The results showed that there were statistically significant differences between three groups in attitudes towards PE, Satisfaction, Comfort, Activity, and Teacher* $\chi^2(2) = 19.89, 17.10, 20.22, 23.78,$ *and 7.19, respectively. Furthermore, Cohen`s d was moderate for Attitudes towards PE, Satisfaction, Comfort, and Activity (.50, .46, .51, .56), and small for teacher (.26). The differences between lightly (1 – 2 times per week) and moderately (3 – 4 times per week), and lightly and very (more than 5 times per week) physically active groups were significant. In conclusion, we can state that the overall attitudes of the students included in this research are strongly positive. Furthermore, students who are more active in extracurricular sports activities had more positive attitudes towards physical education classes.*

Key words: *physical education, physical activity, attitudes towards PE.*

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1. INTRODUCTION

The positive impact of regular physical activity on improving the quality of life, reducing the risk of various diseases, as well as on psychological and emotional well-being is well known (Sallis & Owen, 1998). Increased physical activity of students has a positive effect on the reduction of adipose (adipose) tissue (Barbeau, Litaker, Howe, Barry, & Gutin, 2003), cardiovascular fitness (Ewart, Young, & Hagberg, 1998), muscle strength and endurance (Faigenbaum, Westcott, Loud, & Long, 1999), bone density (Duncan et al., 2002), reduction of anxiety and depression (Jewett et al., 2014), self-confidence (Strong et al., 2005), academic achievement (Sibley & Etnier, 2003).

The school as an educational institution is the most important environment for the promotion of physical activity of students. Physical education and extracurricular sport activities, primarily enable increased physical activity of students during physical education and extracurricular sports activities (Bailey, 2006; Sallis et al., 1997). There is evidence that those who developed a strong foundation in basic sports skills were probably physically active during childhood and adolescence, and thus acquired positive habits of physical activity throughout life (Okely, Booth, & Patterson, 2001). In contrast, students who have not been able to gain adequate base motoric competences are likely not to be actively involved in organized sports activities due to a lack of basic motor skills and abilities (Ignico, 1990).

The contents of physical education (PE) programs and extracurricular sports activities can significantly contribute to the overall volume of physical activity, as well as that most students have positive attitudes towards them (Savić, Stojanović, Mitić, & Ranđelović, 2018; Savić, Stojanović, Ranđelović, & Stojiljković, 2015; Trudeau & Shephard, 2005). It is assumed that students, who are satisfied with PE, are significantly more physically active outside of school (Vilhjalmsson & Thorlindsson, 1998). The strength and direction of motivation for PE varies greatly, for some students' physical education is the most favorite part of the school day, and for others it is the main cause of stress and reason for students to miss school (Hagger, Chatzisarantis, & Biddle, 2002; Wang & Biddle, 2001). The reason for the reduced interest may be the exclusion of a larger number of students from school sports competitions, where the privilege is mostly athletes (Shephard, Lavalle, & Larivire, 1978), as well as students' fear of participating in sports competitions (Thompson, Humbert, & Mirwald, 2003). Students who are actively involved in PE and extracurricular sports activities have more positive attitudes compared to less physically inactive students (Koca & Demirhan, 2004). The quality of PE and extracurricular sport activities can significantly contribute to the overall engagement towards physical activity, which can influence the creation of positive attitudes towards PE (Trudeau & Shephard, 2005). During the period of puberty, physical activity is an extremely important factor because in this sensitive phase it could enable the fulfillment of full biological potential (Cvejić, Pejović, & Ostojić, 2013).

The aim of this study was to provide an answer to the basic question: Whether and to what extent the engagement of students in extracurricular sports activities has an impact on the general attitudes towards PE.

2. METHODS

2.1. Participants

The sample included the 7th and 8th grade students from "Kralj Petar II Karađorđević" primary school in Belgrade. The study included male (N = 150) and female (N = 152)

students. According to the self-reported frequency of physical activity during the week, outside PE, respondents were divided into three independent groups: lightly physically active (1 – 2 times per week; N = 69), moderately physically active (3 – 4 times per week; N = 153), and very physically active (more than 5 times per week; N = 80).

2.2. Instrument

For the purposes of this research, the online questionnaire Physical Education Attitude Scale – PEAS (Orlić et al., 2017) was used, which consists of 43 items, followed by a five-point Likert-type scale (1-strongly disagree – 5-strongly agree). The questionnaire is divided into the following subscales: Satisfaction (12 items, e.g., "I do my best in PE classes"), which refers to emotions during a PE, Comfort (12 items, e.g., "I've learned a lot in PE classes"), which refers to comfortable feelings towards PE, Activity (11 items, e.g., "I can't wait to have a PE class"), which refers to active participation and motivational processes during PE, and Teacher (8 items, e.g., "I am active in PE classes"), which refer to the relationship with the physical education teacher. Questions related to gender, age, grade, as well as, whether, and to what extent students are involved in extracurricular sports activities are added to this questionnaire.

2.3. Data collection

The questionnaire is designed to include all the necessary statements that should provide an answer to the problem posed by this research. It is important to note that the statements in the above questionnaire are not ambiguous, and do not interfere with intimacy of the respondents. The online examination of students was performed during the second semester of the 2020/2021 school year. The research was approved by the school principal, physical education teacher, and parents. It was important to acquaint physical education teachers with the construct of the questionnaire and possibly clarify any doubts. Due to the epidemiological situation and the possible risk of transmitting COVID 19, the questionnaire was made in electronic form (Google forms). Completion of the questionnaire was not limited by time. To ensure complete honesty and reliability of the answers, respondents were informed that their answers would remain anonymous, and that the results would be published only for research purposes. Incompletely administrated or responses with ambiguous outcome were not included in the further analysis. Of the 306 completed responses, 302 met the necessary criteria for further statistical analysis. The procedures in this study were conducted according to the Declaration as a statement ethical principle for the research involving human subjects.

2.4. Statistical procedures

Raw data from Google form was exported excel and checked for errors, such as incomplete personal data, data on physical activity outside PE, straightforward answers, missing values. After initial management, the data were exported to a statistical program to conduct a reliability analysis (Cronbach's alpha) and to obtain basic descriptive parameters (min, max, mean, SD, and Kolmogorov-Smirnov test). After determining that the variables were not normally distributed, we had to apply nonparametric statistical procedures.

To examine differences in attitudes toward PE between groups, we conducted the Kruskal-Wallis ANOVA. After identifying significant differences at the multivariate level, we applied the Mann-Whitney U test for pairwise comparisons. The level of significance was set

at $p < .05$ in this study, and all statistics were performed using SPSS 20 (SPSS Inc., Chicago, IL, USA).

3. RESULTS

In order to calculate the psychometric abilities of the scale, it should be emphasized that items with negative scores are inverted, so that higher scores show positive attitudes. The overall scale (Attitude towards PE) and its subscales (Satisfaction, Comfort, Activity, and Teacher) have a satisfactory reliability, which can be concluded based on the Cronbach α values of .93, .83, .80, .77, and .70, as well as satisfactory average inter-item intercorrelations of .28, .33, .26, .26, .26, respectively. Mean values of 4.34, 4.51, 4.38, 4.13, and 4.34, indicate strongly positive attitudes towards physical education classes. The examined parameters are shown in table 1 did not meet the normal distribution criteria, which is the basic assumption for the parametric statistical methods. Therefore, the comparison of significant differences amongst groups were examined using the nonparametric Kruskal Wallis H test.

Table 1 Descriptive statistics and reliability of PEAS scale

Scale	Min	Max	M	SD	KS	α	r
Attitude towards PE	2.09	5.00	4.34	.52	.132*	.93	.28
Satisfaction	2.25	5.00	4.51	.51	.177*	.83	.33
Comfort	1.92	5.00	4.38	.56	.151*	.80	.26
Activity	1.73	5.00	4.13	.62	.127*	.77	.26
Teacher	2.25	5.00	4.34	.58	.127*	.70	.26

Legend. Min – minimum, Max – maximum, M – mean, SD – standard deviation, KS – Kolmogorov-Smirnov test, α – Cronbach's α reliability measure, r – average item intercorrelation.
* Indicates significant Kolmogorov-Smirnov test.

The results in table 2 showed that there were statistically significant differences between three groups in attitudes towards PE, satisfaction, comfort, activity, and teacher $\chi^2(2) = 19.89$, 17.10, 20.22, 23.78, and 7.19, respectively. Furthermore, Cohen`s d (effect sizes) were moderate for Attitudes towards PE, Satisfaction, Comfort, and Activity (.50, .46, .51, .56), and small for teacher (.26) (Sawilowsky, 2009).

To evaluate differences between the three means, the statistically significant Kruskal-Wallis ANOVA was followed-up with Mann-Whitney U test for pairwise comparisons between groups. The differences between lightly (1 – 2 times per week) and moderately (3 – 4 times per week) physically active group were significant for Attitude toward PE, Satisfaction, Comfort, Activity, and Teacher U = 3505.50, z = -4, sig. (2-tailed) < .001, d = .56, U = 3704.50, z = -3.57, sig. (2-tailed) < .001, d = .49, U = 3518.50, z = -3.98, sig. (2-tailed) < .001, d = .55, U = 3307.50, z = -4.46, sig. (2-tailed) < .001, d = .63, U = 4184.50, z = -2.48, sig. (2-tailed) < .014, d = .34, respectively. The differences between lightly (1 – 2 times per week) and very (more than 5 times per week) physically active group were significant for Attitude toward PE, Satisfaction, Comfort, Activity, and Teacher U = 1719, z = -3.96, sig. (2-tailed) < .001, d = .69, U = 1767, z = -3.80, sig. (2-tailed) < .001, d = .65, U = 1698, z = -4.05, sig. (2-tailed) < .001, d = .70, U = 1650.50, z = -4.229, sig. (2-tailed) < .001, d = .74, U = 2158.50, z = -2.30, sig. (2-tailed) < .022, d = .38, respectively. Finally, the differences between moderately and very physically active group were not significant for Attitude toward PE, Satisfaction, Comfort, Activity, and Teacher U = 5806, z = -.64, sig. (2-tailed) < .521, d = .08

U = 5710.50, z = -.854, sig. (2-tailed) < .398, d = .11, U = 5759.50, z = -.740, sig. (2-tailed) < .460, d = .098, U = 5807, z = -.642, sig. (2-tailed) < .522, d = .08, U = 6013.50, z = -.219, sig. (2-tailed) < .827, d = .03, respectively. Effect sizes and p values are presented in fig. 1.

Table 2 Kruskal Wallis test results according to weekly physical activity frequency of students

Scale	PA	N	M Rank	df	χ^2	Cohen`s d	P Value
Attitude towards PE	1	69	110.71	2	19.89	.50	.000
	2	153	161.03				
	3	80	168.44				
Satisfaction	1	69	114.30	2	17.10	.46	.000
	2	153	159.11				
	3	80	169.03				
Comfort	1	69	110.60	2	20.22	.51	.000
	2	153	160.65				
	3	80	169.28				
Activity	1	69	106.86	2	23.78	.56	.000
	2	153	162.34				
	3	80	169.28				
Teacher	1	69	126.92	2	7.19	.27	.027
	2	153	157.96				
	3	80	160.35				

Legend. PA – physical activity groups, 1 = 2 – 3 times per week, 2 = 3 – 4 times per week, 3 = more than 5 times per week, N – number of participants per group, M Rank – Mean of ranks, df – Degrees of freedom, χ^2 – Chi-square, Cohen`s d – Effect size, P value – statistically significant difference.

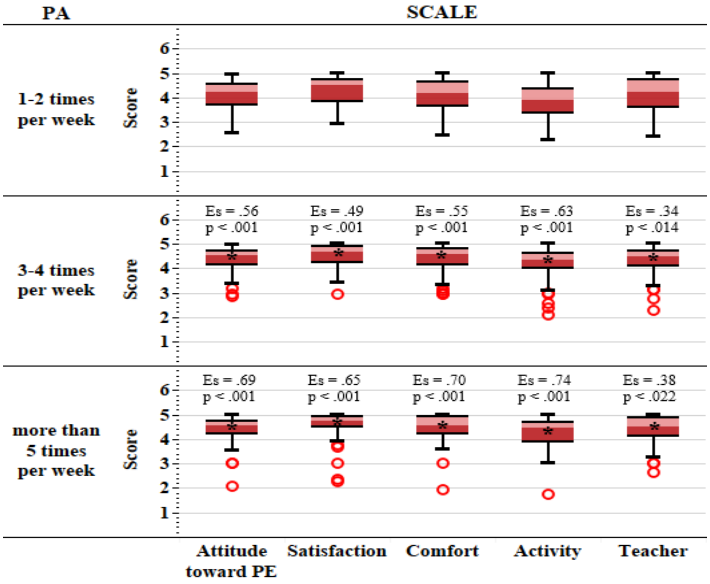

Fig. 1 Attitude toward PE scale and its subscales, differences in weekly physical activity frequency

Legend. PA – physical activity. * Indicates significant difference (Mann-Whitney) in comparison with the lightly physically active group (1 – 2 times per week). Values are expressed as median. Red circles represent outliers. Es – Indicates effect size for significantly different scale responses.

4. DISCUSSION

The aim of this study was to point out the importance of frequent physical activity in creating positive attitudes towards PE. The results of our study indicate that students who are more physically active in extracurricular sports activities have more positive attitudes toward PE. The best indicator of this claim are the results shown in fig. 1. The magnitude of the effects is moderate in moderately (3 - 4 times per week) and highly (more than 5 times per week) physically active groups in comparison with to the lightly physically active group, except in the Teacher subscale, where the values of the effects are low.

Mean values from 4.13 to 4.51 obtained in our study are strongly positive and somewhat higher than results in previous studies (Cruz, Kim, & Kim, 2021; Orlić et al., 2017; Orlić, Mijatović, & Lazarević, 2018). Possible explanation could be that high school students are less involved in PE, than their primary school counterparts. Older students face increased stress, which is caused by biological changes in puberty (Prusak, Treasure, Darst, & Pangrazi, 2004; Sibley & Etnier, 2003). During this period, their school tasks are higher, which may explain decreased engagement in physical activity and overall positive attitudes towards PE for some students (Protić & Prahović, 2007). Furthermore, a possible explanation for these results can be found in the fact that higher participation in extracurricular sports activities can provide students with the opportunity to connect with their peers and their school (Brettschneider, 2001; McBride et al., 1995), which could positively influence generating positive attitudes towards PE in general (Jewett et al., 2014; McBride et al., 1995). According to (Boone & Leadbeater, 2006), the benefits of extracurricural sports activities can mostly be described as positive experiences, which could increase social acceptance and reduce dissatisfaction with own body. Moreover, mastery, self-esteem, emotional well-being, self-concept and quality of life, can be improved and potentially associated with better mental health (Brettschneider, 2001; Erkut & Tracy, 2002; Ferron, Narring, Cauderay, & Michaud, 1999; Pyle, Mc Quivey, Brassington, & Steiner, 2003; Snyder et al., 2010). Based on the results of the mentioned research, students should be encouraged to get involved in extracurricular sports activities, in order to create positive attitudes towards PE, which can also affect the quality of certain psychological indicators of mental health.

It should be noted, quality of developed motor skills at a younger age can also predict the level of physical activity outside school. Adolescents with better motor skills will find it easier to engage in physical activity, compared to peers with lower abilities and motor skills (Wrotniak, Epstein, Dorn, Jones, & Kondilis, 2006). Adolescents with poorer motor abilities can potentially develop sedentary lifestyle, in order to avoid difficulties in performing movements (Petrolini, Iughetti, & Bernasconi, 1995). Therefore, feeling comfortable during physical activity is esential for developing positive attitudest towards PE, so we can assume that students who are more frequently engaged in extracurricual sports activities are more positive oriented towards PE.

Moreover, research by Valois, Umstattd, Zullig, and Paxton (2008) examined the relationship between different forms of behavior during physical activity, determined by intensity ranging from moderate to intense, and found that the recommended level of physical activity and participation in sports school teams significantly associated with better emotional self-efficacy. Another study investigated the frequency of extracurricular sports activities and perceived health, attitudes about health, and behaviors (Michaud, Jeannin, & Suris, 2006). Students with a higher participation rate (at least twice a week) have a more pronounced sense of well-being compared to those who participated less than once a week

(Michaud et al., 2006). Furthermore, one more study looked at the number of sports, the type of sport, and the years spent in sports, and found that participation in sports was positively associated with self-assessment of physical appearance and physical competence, physical self-esteem, and general self-confidence (Bowker, 2006). Based on the results of these studies, we can conclude that students who are more frequently engaged in extracurricular sports activities experiance pleasant emotions, which could emphasize their positive attitudes towards PE. However, it is important to point out that it is not enough to just learn certain skills, but it is necessary to apply them in the context of other areas that are not necessarily related to sports. Skills can be mastered through formal instruction or can be learned through repetition and mistakes. It is important that students in physical activity recognize why they want to learn a skill and whether they have tried to apply the acquired skills in different contexts, or at least determine what prevents them from doing so. One of the basic problems that arises when learning new skills and applying them in different circumstances is the fear of failure or "not looking bad" in the eyes of their peers (Danish & Nellen, 1997). Previous statement could be a possible explanation that the less physically competent students could associate unpleasant feelings with PE.

Considering the fact, that there are different theoretical approaches in sociology that indicate that physical and other forms of social activities, which begin at an early age, are likely to continue as long as there is adequate reward, opportunities for voluntary participation and certain competitive activities (Curtis, McTeer, & White, 1999). The explanation for this statement could be related to the fact that students who participate in sports activities have a higher level of motor abilities and skills, and therefore a greater interest in sports, better knowledge of sports and more time dedicated to sports. One or more of these factors and their impact on continued participation in sports may have a stronger impact on the effect of sports and physical activity in the future (Curtis et al., 1999; Howell & McKenzie, 1987). It is also probable that those who are involved in competitive school sports are more committed to competitive activities outside of school. Therefore, it seems that the effects of more frequent participation in extracurricular sports activities are related to more positive attitudes towards PE in general.

Few studies have investigated the impact of sport as a form of extracurricular activities on positive youth development (Eime, Young, Harvey, Charity, & Payne, 2013; Holt, Kingsley, Tink, & Scherer, 2011; Linver, Roth, & Brooks-Gunn, 2009; Zarrett et al., 2009), personal development (Hansen, Larson, & Dworkin, 2003), and general behavior (Howie, Lukacs, Pastor, Reuben, & Mendola, 2010). Howie et al. (2010) confirmed in their research that students participating in extracurricular sports activities and school sports sections showed better results in social skills, compared to children who were not involved in any kind of extracurricular activities. The participation of students in extracurricular sports activities, in relation to students who did not attend any extracurricular activities, as well as those who were engaged in other extracurricular activities not related to sports and physical activity, contributed to their better development. However, it is important to mention that students who are involved in extracurricular sports activities and other extracurricular activities have the greatest benefits (Howie et al., 2010; Linver et al., 2009).

5. CONCLUSION

In the conclusion of this study, we can state that the overall attitudes of the students included in this research are strongly positive. Furthermore, students who are more active in extracurricular sports activities had more positive attitudes towards physical education classes, which we can relate to the development of students in many domains: physical, life, affective, social and cognitive. Participation in school sports and physical education classes protects against poor mental health, improves physical health, as well as psychological and social status. Our recommendations are that the purpose of the constructed PE curricula is to promote life and sports skills of adolescents, especially those who are insufficiently trained, as well as their orientation towards extracurricular sports activities, in order to develop positive attitudes towards PE and physical activity in general.

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KOMPARATIVNA ANALIZA STAVOVA UČENIKA PREMA FIZIČKOM VASPITANJU I NJIHOVOG ANGAŽOVANJA U VANNASTAVNIM FIZIČKIM AKTIVNOSTIMA

Cilj ove studije bio je da pruži odgovor na osnovno pitanje: Da li i u kojoj meri angažovanje učenika u vannastavnim sportskim aktivnostima utiče na opšte stavove prema fizičkom vaspitanju? Studija je obuhvatila ispitanike muškog (N = 150) i ženskog (N = 152) pola. Prema učestalosti samoprijavljene fizičke aktivnosti, van nastave fizičkog vaspitanja, ispitanici su podeljeni u tri nezavisne grupe: slabo fizički aktivni (1 – 2 puta nedeljno; N = 69), umereno fizički aktivni (3 – 4 puta nedeljno; N = 153), i vrlo fizički aktivni (više od 5 puta nedeljno; N = 80). Za potrebe ovog istraživanja korišćen je upitnik "Skala odnosa prema fizičkom vaspitanju – PEAS", koji se sastoji od 43 ajtema Likertovog tipa (1 - u potpunosti se ne slažem – 5 - u potpunosti se slažem). Rezultati su pokazali da postoje statistički značajne razlike između tri grupe u stavovima prema fizičkom vaspitanju, zadovoljstvu, udobnosti, aktivnosti i nastavniku fizičkog vaspitanja $\chi^2(2)$ = 19.89, 17.10, 20.22, 23.78 i 7.19. Vrednosti Cohen`s d (effect size) bio je umeren kod skale odnosa prema fizičkom vaspitanju, kao i subskalama zadovoljstva, udobnosti i aktivnosti (.50, .46, .51, .56), i mali kod subskale koja se odnosi na nastavnike fizičkog vaspitanja (.26). Razlike između slabo (1 – 2 puta nedeljno) i umereno (3 – 4 puta nedeljno) fizičke aktivne grupe su bile značajne kod skale odnosa prema fizičkom vaspitanju i kod subskala koje se odnose na zadovoljstvo, udobnost,

aktivnost i nastavnike fizičkog vaspitanja U = 3505.50, z = -4, sig. (2-tailed) < .001, d = .56, U = 3704.50, z = -3.57, sig. (2-tailed) < .001, d = .49, U = 3518.50, z = -3.98, sig. (2-tailed) < .001, d = .55, U = 3307.50, z = -4.46, sig. (2-tailed) < .001, d = .63, U = 4184.50, z = -2.48, sig. (2-tailed) < .014, d =. Razlike između slabo (1 – 2 puta nedeljno) i veoma (više od 5 puta nedeljno) fizički aktivne grupe su bile značajne kod skale odnosa prema fizičkom vaspitanju i kod subskala koje se odnose na zadovoljstvo, udobnost, aktivnost i nastavnike fizičkog vaspitanja U = 1719, z = -3.96, sig. (2-tailed) < .001, d = .69, U = 1767, z = -3.80, sig. (2-tailed) < .001, d = .65, U = 1698, z = -4.05, sig. (2-tailed) < .001, d = .70, U = 1650.50, z = -4.229, sig. (2-tailed) < .001, d = .74, U = 2158.50, z = -2.30, sig. (2-tailed) < .022, d = .38. U zaključku, možemo konstatovati da su stavovi studenata u ovom istraživanju veoma pozitivni. Štaviše, učenici koji su više fizički aktivni u vannastavnim sportskim aktivnostima su imali pozitivnije stavove prema nastavi fizičkog vaspitanja.

Ključne reči: *fizičko vaspitanje, fizička aktivnost, stavovi prema fizičkom vaspitanju.*

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Review article

THE ARTS EDUCATION SYSTEM IN BULGARIA

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Abstract. *The development of art education in Bulgaria is determined by factors like historical circumstances, industrial development, professional experience and competence. They all decide the methods and approaches in art pedagogical practice, influenced to a great extend by the science approaches in England, Russia and America. In the past there was lack of traditions in the field of art pedagogy, so the teachers in art used the foreign experience. The subject "arts" appears in the Bulgarian schools at the end of XIX century, the first program in arts - in 1885. Many art programs have been created since then and their content has been improved up to nowadays. The paper gives a brief overview of the art education system in Bulgaria development from its beginnings in 1396 to the present day.*

Key words: *history of art education, art teaching methods*

1. INTRODUCTION

The roots of the artistic traditions of Bulgarian art take us back to medieval times when their specific features originated. After the establishment of the Bulgarian state in the year 681 and the spread of Glagolitic alphabet the artistic activity was concentrated in monasteries, where liturgical books were transcribed. That's how the traditions in artistic activity during the first Bulgarian kingdom were created.

2. THE ARTISTIC EDUCATION DURING THE I AND II BULGARIAN KINGDOM

In the early Glagolitic manuscripts ornamentation is much more richly developed than in the miniature itself. This tendency was influenced by the traditions in stone sculpture, metal working, pottery, traces of which we find in the art the old Bulgarian capitals – Pliska and

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Preslav. The Gospel Codex is in the Vatican. It is named after its inventor Joseph Simon Asemani (1687 – 1768). The form of the initial letters in the Gospel Codex stands closer to architecture. The decoration is determined by the geometric style of Glagolitic letters.

The Tarnovo Artistic School emerged during the Second Bulgarian Kingdom. It developed on the concept, themes and images of Christian art, but it had its own typical features. They are reflected in the realism of the depiction – the poses, gestures and ethnography. The frescoes of the Boyana Church come round to the opinion that the achievements of the Tarnovo Artistic School can be compared with the artistic achievements of that time in Western Europe.

During the time of the Second Bulgarian Kingdom the pattern of the manuscripts changed. Bulgarian miniature flourished. The Tomich Psalter is one of the best examples of illustrated and ornamented manuscript. It presents the trends in the development of the manuscripts. The scenes are painted by skillful master. They have sophisticated iconography and style, free, expressive drawing and intense colors.

3. The Artistic Education during the Period 1396 – 1878

During the Ottoman period (1396 – 1878) the Bulgarian monasteries became literary centers, treasuring the medieval traditions, the Bulgarian language and consciousness. In those years students were trained mainly in church schools or private houses. Until the 30 years of the XIX century many church schools were established in the country. They dominated in the Bulgarian education system. The pupils were trained by priests, and rarely by teachers. Bulgarian school Schoolboys and schoolgirls were trained altogether. Passing to a higher grade was achieved by moving students to another desk.

Fig. 1 Church school

In 1753 Bulgaria had only one school in the town of Plovdiv. Until the Liberation war in 1878 Bulgaria had 1500 primary schools, 50 schools for boys and 20 schools for girls, 3 high schools and 4 professional schools. The historical and social conditions in the country hindered the development of education and creativity. While during the XVI century art and culture flourish in the European countries, the efforts of Bulgarian educators focus on basic literacy. Students drew in the classes of writing, but the drawing doesn't exist as independent discipline. The "fun" of drawing was punished severely by the local teachers in some schools.

Special attention was paid to the ornamentation of the initial letters in some schools. The students used plant and teratological motifs painted with colored inks, bought from the monks in the local monasteries.

The national artistic schools developed during the Renaissance as a result of social and economic factors. Schools expanded from small group of artists or small group of students headed by their master. Due to the high demand of artists, the groups grew rapidly into art schools. They were concentrated in towns with well developed crafts. The towns were well-known centers of Bulgarian education and culture with Bulgarian population, usually located close to important trade routes in the foothills or among the mountain ranges. In the XVIII century artists travelled often to Mount Athos to obtain their "holy" patterns. Many religious buildings were built and they needed to be decorated and painted. Art schools were in great demands for their work. The cultural exchange for art developed with the neighboring countries. The copy sheets brought from the old Zograph monastery embodied new emotions. Beautiful, smiling faces appeared in the icons and frescoes. Some local artists got their education in foreign schools and academies (Moscow, Petersburg, Vienna, Munich). Their creative results match with the progressive demands of many European painters from this period.

The Tryavna artistic school was the oldest. Its artists participated in the painting of many churches. The iconographers revived the old models, but enriched them with new feelings. As a result, the icon was exempted from the mystique and got nearer to secular art (Божков, 1982, p. 74).

In the XVIII century appeared the Erminia of Dionysius from Furna. It gave precise instructions to the artist for the composition scheme and the way to prepare the paints. But the Erminia gave the artist freedom in the treatment of details. Some women also became icon painters decades before the opening of the State Drawing School and before the opening of Esther Slepyan private school for art education of boys and girls.

In 1836 a school was built in Tryavna with a capacity of 200 pupils. The students had different obligations – to show, to supervise and to allow pupils to leave the classroom. The first desk was for the youngest children, who were taught to write with their fingers on sand. The older pupils sat behind them and wrote on a table fixed on the desk. Behind them sat the pupils who wrote on paper. There were iron semicircles bolted to the wall for those who showed tables and texts with wooden stick. There were penalties for the pupils who didn't keep discipline. Different signs hang on the neck of the pupils with the words: lazy, thief, disobedient, wise, diligen etc. In Tryavna the subject of drawing was introduced in 1856 and the physical punishment was eliminated.

Fig. 2 Classroom in the Tryavna school

Another school appeared in Samokov. Its representative Zahariy Zograf continued the old Byzantine tradition but he revived and individualized the images.

The intellectual and cultural needs in the country grew as a result of the development of new forms of production. Some artists opened private art schools and trained the future icon-painters. Others returned after their studies abroad and tried to establish art schools. But their dreams remained unrealized. The idea for the introduction of drawing in the Bulgarian schools was supported by many educators. One of them, Neophyte Rilski gave the students as models, (because of the lack of other drawings) pillars, doors, windows, etc. These drawings are still kept in the monasteries.

For the first time as an independent subject the drawing was introduced in 1832 in the Danubian town of Svishtov – at that time developed crafts and trade center. The first art teacher in Bulgaria with higher education was the Czech Mayzner Joseph, who graduated from the Art Academy in Vienna (Здравков, 1998, p. 213). Besides the first Bulgarian teachers There were many foreigners. Among them was the Hungarian immigrant Kalman Roger and the Czech George Proshek. In 1873 the Bulgarian teacher Dimitar Shishmanov graduated in Vienna and opened in Svishtov the first Commercial school. He considered that the future traders should appraise the product and its aesthetic qualities – shape, color, packaging. Therefore, he introduced the subject of drawing in the curriculum of the high school.

The teacher councils in 1873 and in 1874 accepted a decision to introduce the subject of drawing in primary school, but the council did not point out the program and methods of teaching (Папазов, 1936, p. 21). The drawing subject was gradually included in the programs of a dozen schools, but the teachers used mainly the "linear" method.

After 1878 the art education took another direction – to the geometric-copying system. It relied on several main methods: copying from patterns, linear painting (reproduction of variety of lines and geometric shapes), copying, drawing by networks, stigmografic, dictate and bar drawing.

4. The Artistic Education during the Period 1878 – 2015

The first programs were based on the Swiss, French, Belgian, Czech and Croatian programs. The first Bulgarian program was established in 1885 and had geometric character. It copied the French program and put accent on the depiction of geometric shapes, different kinds of lines and simple objects. The students drew, or it would be better to say “traced” the image on printed patterns or dots. The subject of drawing existed in the school programs at a frequency of two lessons a week. Teachers of drawing were mainly foreigners who stayed in the country for certain period of time. From 195 schools and high schools in Bulgaria nine tenths of teachers were not professionals.

The State Drawing School opened in 1896 with a class of 48 students. Many foreigners were invited to be teachers in it: Ivan Mrkvicka, Boris Schatz, Jaroslav Veshin, Raymond Ulrich, Jan Travnitski, Joseph Silaba, Peter Joseph and Theresa Holekova. The first Bulgarian teachers graduated from European Academies of art. The programs they introduced were similar to the programs of the academies they had studied.

Fig. 3 State drawing school

The States Art School achieved world-wide recognition at many international exhibitions – the gold medal from the Universal Exhibition in Paris in 1900, gold medal from the Universal Exhibition in St. Louis in 1904, participation in the International Congress of painting in 1900 in Paris and in 1904 in Berne. The school was also awarded "Grand Prix" at the International Exhibition in Liege in 1905, the Balkan exhibition in London in 1907, the International Exhibition in Venice in 1910 and Munich.

The subjects of drawing increased until 1902 but the geometric character remained. The students transferred the drawing from the blackboard, or drew from models and patterns. According to statistics the number of drawing specialists was already 30. They were working in the bigger towns. Many teachers arrived in the country from abroad - from Italy, France, Austria, Russia, Bessarabia, Croatia. Among the first teachers were the Czechs Otto Horeishi, who stayed in the country all his life and Ivan Mrkvicka, who was engaged in pedagogic activities for 40 years and stood at the head of the newly created State Art School (Здравков, 1998, p. 252). The first graduates of the European Art Academies started to come back and trained the students with new methods.

The geometric copying system was replaced by nature drawing in the primary schools in 1907 and in high schools – in 1910. But our understanding of the essence of "nature drawing" doesn't coincide with the interpretation of the term at that time. The teachers understood the "nature drawing" as drawing objects from the reality. For that purpose they used different methods of work – from patterns, drawing from the board, copying and so on.

From here onwards the development of drawing can be organized as follows:

1. Domination of nature drawing – 1910 – 1970.
   - 1910 – 1922 – predominantly usage of geometric models and analytical methods of nature drawing;
   - 1922 – 1935 – drawing objects from reality; extension of extracurricular education; increase of the interest of students' aesthetic feelings;
   - 1935 – 1945 – interest to the decorative and applied character of the training; educational tasks; strengthening the monitoring of the training; reducing the drawing lessons;
   - 1045 – 1970 – removal of the drawing as a subject in the high school and reduction of the lessons in the primary school. New educational tasks.
2. Reorganization of the education in drawing – 1970 – 1993.
   - 1967 – 1970 – creating projects for new programs of drawing and their experimentation;
   - 1970 – 1974 – 1984 – 1993 – 2001 – 2005 – 2015 creating and development of experimental programs.

The curriculum from 2001 covers the primary and secondary classes. Now the secondary education continues after 7th grade. The structure in the primary school is as follows:

- Pre-school education – 6/7 years;
- Elementary School – 1, 2, 3, 4. grade – from 7/8 to 10/11 years;
- Secondary School – 5, 6, 7. grade – from 11/12 to 13/14 years;
- High School – 8, 9, 10, 11, 12. grade – from 14/15 to 18/19 years.

In the textbooks the teams take into consideration the syllabus, based on state educational requirements. The program outlines the taught content, standards, expected results, key concepts and knowledge, activities and possible links with other educational subjects. The training kit also includes a teacher's guide and electronic books with resources for each lesson.

We believe that the ability to make and create textbooks, enriched and based on the new scientific knowledge will give us a great chance to assist students' development.

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SISTEM UMETNIČKOG OBRAZOVANJA U BUGARSKOJ

Razvoj umetničkog obrazovanja u Bugarskoj određivan je faktorima kao što su: istorijske okolnosti, industrijski razvoj, profesionalno iskustvo i kompetencije nastavnika. Osim toga, veliki uticaj na izbor metoda i pristupa umetničkoj pedagoškoj praksi imali su naučni pristupi koji su primenjivani u Engleskoj, Rusiji i Americi jer su nastavnici umetnosti, s obzirom na nedostatak tradicije u polju umetničke pedagogije, koristili iskustva iz inostranstva. Predmet „umetnost" prvi put se javlja u bugarskim školama krajem XIX veka, a prvi nastavni program u umetnosti – 1885 godine. Od tada su stvoreni mnogi umetnički programi, a njihov sadržaj je unapređen do danas. U radu je dat sažeti prikaz razvoja sistema umetničkog obrazovanja u Bugarskoj od njenih začetaka 1396. godine do danas.

Ključne reči: *istorija umetničkog obrazovanja, nastavne metode u umetnosti*

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Review article

SPECIAL EDUCATION PRACTICES FOR CHILDREN WITH AUTISM SPECTRUM DISORDERS IN EGYPT AND ENGLAND: A COMPARATIVE STUDY

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Abstract. *This study aims to compare the development of special education practices for children with autism spectrum disorders (ASD) in Egypt and England and gain an understanding of those factors that enhance or hinder special education in both countries. The study applies a comparative framework method. The findings provide a better understanding of special education practices and factors that enhanced or hindered the special education for ASD across the two countries. The findings reveal that special education practice in Egypt was hindered by low economic status, scarcity of cultural awareness, inadequate financial support, absence of education policy for ASD, and political orientation towards centralization. While, in England education policy, cultural awareness, economy, and scientific technology have been identified as important enhancing factors for special education. The study suggests some recommendations for developing special education for ASD in Egypt.*

Key words: *Autism spectrum disorders, mothers, Special Education, Egypt, England*

1. INTRODUCTION

Special education (SE) for children with disabilities is grounded in the United Nations (UN) convention on the right of the child and the Salamanca framework for special education needs (SEN). Convention Article 26 of the UN has emphasized that children with disabilities are entitled to their basic human rights and have equal opportunity to be educated and live like other children (UNICEF, 2014; UNICEF, 1989). The Salamanca

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has affirmed the UN declaration that everyone has the right to education (UNESCO, 1994).

Increasing the prevalence of children with autism spectrum disorders (ASD) is of interest to professionals of SE all over the world. Recent estimates of the prevalence of ASD indicated that one in 58 children is affected (CDC, 2020). The prevalence of ASD in Europe has increased rapidly, due to an increased awareness of autism and hence an increased like-lihood of the condition being diagnosed (Chiarotti and Venerosi, 2020). Data suggest that around 700,000 individuals have ASD in the UK, including one in 100 children with an ASD diagnosis (BMA, 2020). There are no accurate epidemiological data for ASD in Egypt (Taha & Hussein, 2014). However, available data indicate that about one in every 160 children has ASD in Egypt, according to the Social Solidarity Ministry (Al-Youm, 2017).

This data suggest increasing rates of children with ASD in every society. Hence, increasing demand for the educational system and how to best provide education for those children. There is an urgent need for a comprehensive educational practice to support children with ASD and support teachers with best practices based on resources and information (National Education Association, 2003). Receiving the right education that meets the special needs of exceptional individuals makes tangible improvements in the lives of those individuals and their families. And yet, children with ASD in Egypt as one of the low and middle income countries (LMICs) experience poor education and encounter major barriers in accessing education. The majority of children with ASD remain at home uneducated (Gobrial, 2018; Omar et al., 2017; Costandi, 2011). Special schools for ASD are absent in Egypt. They are often excluded from regular school due to the inability of the education system to meet their complex needs. As a result, this contributes to the unmet needs of pupils with ASD in Egypt, which could have a dramatic impact on the child and family's well-being (Gobrial, 2018; Taha & Hussein, 2014). Further challenges include scarce knowledge of ASD, scarcity of professionals, barriers to diagnosis and treatment, limited resources for ASD and lack access to intervention services (Ibrahim et al., 2020; Gobrial et al., 2019; Ghoneim, 2014; Gobrial, 2012; Jenkins et al., 2010). The current situation in Egypt identifies a gap and reflects the need for SE practice for children with ASD. Given that children with ASD find it particularly challenging to enroll in the education system in Egypt, developing a quality education is vital for these children.

Consistent with the development and global interest in the field of SE, it has become imperative to pay attention to SE for children with ASD. Identification of experiences, models and practices in developed countries is important as it contributes to awareness and recognition of how other models can enrich local practices and policies (Courtenay, 2018). Hence, it is necessary to get acquainted with successful international experiences and try to formulate a proposed scenario for implementation in Egypt.

There has been scant research into the SE practices for ASD in Egypt. Analysis and understanding of the specifics of education of any country is almost impossible without comparison (Jovanović & Ćirić, 2017). Hence, it is crucial to investigate how developed countries have successfully developed and established education for ASD. In this context, this study aims to compare the development of special education practices for ASD in Egypt and England, in order to reveal the factors that enhance or hinder the SE practices in both countries.

1.1. Educational practice for ASD in Egypt

The education system in Egypt runs by the government. It is free and compulsory for nine academic years for all children aged between 5 and 14. Although significant progress has been made to improve the education system, the quality of educational experiences remains low and unequally distributed (World Bank, 2007).

There are three obstacles that hinder SE for children with ASD in Egypt. First, a special school for children with ASD is non-existent. There are a few private schools and private daycare centres which are available only in Cairo and major cities. Moreover, a private school that admits children with ASD is very costly and parents invariably find it difficult to sustain and accept mild cases only (Meguid, 2014). Second, children who can make it into private school need to be accompanied by a teaching assistant. Parents are obligated to find a teaching assistant and pay the fees in addition to the school admission fees (with a minimum 1000 L.E. per month, which consists of 50-60% of household income as average wage is 2600 L.E.) (Fathie, 2016). Third, the inclusion classroom for children with disabilities are restricted for pupils with ASD.

Inclusion education (IE) refers to the integration of children with SEN with their peers in a classroom or a provision in mainstream school (Maciver et al., 2018; Department of Education [DoE], 2001). In the context of IE, children with disabilities are seen as paramount and enrolment of pupils with ASD remains limited. IE in a regular school in Egypt is subject to some criteria including children with mild disability (IQ between 65 and 84); excludes children with multiple disabilities; restricting the admission of children with disabilities to 10% of the total number of children in the classroom, and to a maximum of four children with disabilities in a classroom, according to Ministerial decision No.42 for 2015 (Ahramelyoum, 2017; Al-Youm, 2017). Furthermore, teachers have not received adequate training to deal with the special needs of children with ASD and lack the enthusiasm required for inclusion in regular classes (Ghoneim, 2014). This highlights the need to develop SE practice for children with ASD in Egypt.

Although Egypt has positive innovations in establishing SE for major types of disabilities, schools for pupils with ASD are scarce. There is no special education policy that is focused on pupils with ASD. There is still an urgent need to advance the field of SE for children with disabilities in general and ASD specifically. Egypt still has a long way to go in developing effective and affordable education for ASD. Education is vital to develop their skills, abilities and quality of life, not only academically, but also a comprehensive development of various aspects in life. Hence, education policy in Egypt is urgently needed to be drafted to better support students with ASD.

1.2. Educational practice for ASD in England

The education system in England is compulsory and free for all children aged between five and 16 (Schools and Education, Gov.uk. https: //www.gov.uk/types-of-school. accessed 14 Mar. 2021).

The Warnock Report was a landmark in the development of policy on SE in England (Warnock, 1978). The IE has promoted an increasing number of students with SEN. This includes a provision for children with ASD in a mainstream school (DoE, 2001). The inclusion development program is part of the Government's strategy for children with SEN, which aims to help teachers and practitioners to enhance the skills needed for the early identification and support of children with high incidence needs (DoE, 2009).

The educational practice for ASD in England is an adaptation of several approaches (e.g., computer-assisted learning, Hanen program, Lovaas programs, Waldon approach, Makaton signing and symbols message, music therapy, Sherborne movement and speech and language therapy). Meanwhile, all schools follow the national curriculum (Jordan et al., 1998). Furthermore, schools are working together to participate in ASD expertise through working with mainstream, satellite schools and classrooms, where special schools share their experiences in the external community (NAS, 2020).

The National Autistic Society (NAS) has been providing specialist autism education in the UK since 1962. They support children and young people in their specialist autism eight schools, ages four to 21 years (As of February 27th, 2020, NAS listed on its website https://www.autism.org.uk/services/nas-schools.aspx).

The present study aims to learn from England as a successful model. England has paid great interest to SE practices for children with ASD. That represented in expanding educational opportunities to include inclusion education, developing curricula, supporting health and guidance aspects, launching the comprehensive Education Health Care (EHC) plan, involving parents and sustaining professional development support for SE leaders by laying the foundations of administrative decentralization (Long et al., 2019; DoE, 2019; Parkin, 2016). The SE practice and EHC plan for children with disabilities in England are based on the right policies (Ramsay et al., 2018). Furthermore, England has superior practice guidelines for children with ASD based on the National Institute for Health and Care Excellence (NICE), Department for Education and Skills and Department of Health UK (Parkin, 2016; NICE, 2014). Thus, England can be an example for SE practices for ASD profiles. Considering a comparison to a well-developed education practice is crucial to support the development and delivery of better care for children with ASD in Egypt.

In this context, the purpose of this study is to compare the special education practices for children with ASD in Egypt and England. The focus is on determining the factors that enhance or hinder meeting the educational needs of children with ASD in light of the comparative country (England). The aim of this is not to make judgments but to examine best practices in SE for ASD that will enhance educational practices in Egypt and evaluate any claim of success.

2. METHODS

A comparative analysis is illustrated in this study. Throughout the paper, we describe and compare SE for ASD in Egypt and England in the 21st century (2000 – 2020). As a comparative examination of SE across two countries, national and international journals, published government reports, and official documents were reviewed in both countries. Databases including ERIC, MEDLINE, Cinhal and PsycINFO (2000 – 2020) were searched for articles describing special education with the term ‘autism’ or ‘autism spectrum disorders’ and were combined with the term ‘Egypt’ or ‘England’. All identified relevant reports were searched for additional references.

A comparison analysis was applied. In this, Esser & Hanitzsch (2012) outline four steps of comparison, these are:

1. Describe the historical development of ASD education in both countries,
2. Explore factors that may be important to explain the similarities and differences,
3. Identify the similarities and differences in the two countries,
4. Explanation and reaching a proposal through which the education for ASD in Egypt could be developed in light of England’s experiences.

3. RESULTS

This study addressed a comparison of special education practices for children with ASD in two contrasting countries, Egypt and England. The overall goal was to identify factors that are considered effective for successful educational practices for children with ASD in England and are commensurate with the possibilities and conditions of Egyptian society. The results suggested some factors which influenced the development of SE practices for children with ASD in Egypt and England. England presented a great example of better practice for SE for ASD from which to learn. We present most important developments in SE in Egypt and England as follows.

3.1. Historical Milestones of SE in the 21st Century in Egypt

Egypt's education system is considered the largest in the Middle East and North Africa region. Egypt is the first Arb country that has shown great interest in SE for blind and deaf pupils (El-Ghunaimi, 2002). Major developments in SE in Egypt are briefly presented as follows:

- In 2002, the Egyptian Minister of Education (MoE) announced the 'ministerial inclusion declaration 2002' declared taking the lead to implement inclusive systems in more than 270 schools across Egypt (Ghoneim, 2014).
- In 2007, Egypt has contributed to international efforts that culminated in the issuance of the International Convention for the Protection of Persons with Disabilities (Presidential Decree 400).
- In 2009, the MOE further endorsed the move towards inclusion by announcing the right for pupils with mild disabilities to enroll in public and private schools (MoE, 2013).
- In 2015, Ministerial decision (No.42) was revealed the integration of children with moderate disabilities in mainstream schools to achieve the inclusive principle in education (MOE, 2016).
- In 2018, the Education Ministry sought to integrate students with disabilities and SEN into mainstream schools through Promulgating the Law on the Rights of Persons with Disabilities (No.10). The law mandating that individual with SEN comprises 5% of the positions at schools and universities.
- The Egyptian vision 2014 – 2030 has a new strategic plan for pre-university education in Egypt, including SE. This has a strategic goal to provide pupils with disabilities with high-quality educational opportunities and includes pupils with mild disabilities in all pre-university schools (OECD, 2015).

3.2. Milestones of Special Education in the 21st Century in England

The most important developments in SE in England are:

- In 2001, the SEN Code of Practice was introduced for children with SEN to maximize their learning.
- In 2003, Every Child Matters legislation aimed to make every child, enjoy his physical and mental health, contribute to society positively and economically (DfES, 2003).
- In 2004, the individuals with disabilities education Act was introduced the individualized education plan and all related issues as an example of free and appropriate public education (legislative.gov.uk, 2004).

- In 2010, the first autism strategy for people with ASD in England was published 'Fulfilling and rewarding lives'. The strategy's implementation was included identification, diagnosis of ASD, training of staff and local service provision.
- 2014, Think Autism strategy was published, which was built on the 2010 strategy and set a renewed focus on three key areas: autism aware communities, promoting autism innovation fund in service provision and providing integrated care (Parkin, 2016).
- Later in 2014, Education Health Care Plan (EHC) was launched in England, which aims to provide more substantial help for children and young people through a unified approach that reaches across education, health care and social care needs (Long et al., 2019).

Comparison of historical developments milestones of SE in the 21st Century in Egypt and England is presented in table 1.

Table 1 Historical Milestones of special education in the 21st Century in Egypt and England

Year	Egypt	Year	England
2002	The ministerial inclusion declaration.	2001	Special Educational Needs and Disability Act (2001) and Special Educational Needs Code of Practice
2007	International Convention for the Protection of Persons with Disabilities	2003	Every Child Matters legislation, 2003.
2009	A Ministerial Act "right for students with mild disabilities to enroll in public and private schools"	2004	- Individuals with disabilities education Act. - Individuals with Disabilities Education improvement Act (IDEIA)
2015	Ministerial decision (No.42) 'acceptance of children with moderate disabilities in mainstream public schools'	2010	Fulfilling and rewarding lives
2017	Inclusion Education for mild disabilities	2014	- Education, Health and Care plan - Think Autism
2014 – 2030	Incheon declaration 2030	--	--
2018	Law No. 10- Promulgating the Law on the Rights of Persons with Disabilities	--	--

3.3. Factors influence developments and innovations in ASD special education in Egypt and England

There are interrelationships between social, cultural, economic status and politics involved in developing SE for children with ASD. These factors can illustrate as follows:

3.3.1. Culture/social factor

A cultural belief and stigma associated with ASD may differ in a country with limited resources, Egypt, and a country with substantial ASD resources, England. Cultural differences in Egypt due to rural/urban and social class dimensions can influence the overall quality of education in general (Megahed et al., 2012). Culture can influence the fundamental aspects of education, the likelihood that individuals seek help, how they

have been treated and the ability to participate in society. The autism strategy introduced in 2010 had a positive impact on social acceptance and accessible societies for individuals with ASD (Department of Health, 2014).

Attitudes toward disability may also influence the way people think and act toward disabilities. Egyptian mothers are suffering social stigma and feel sham towards their child with ASD (Gobrial, 2018). Moreover, teacher's attitudes can influence the enrolment and participation of children with SEN (Ismail, 2018; Gobrial, 2015). Developing positive attitudes to-ward ASD will enhance the integration of children with ASD into society and education.

3.3.2. Economic factor

The economic factor plays a crucial role in shaping SE in a way that countries priorities their services for children with SEN (Preece & Jordan, 2010). Egyptian families are either from lower or higher socio-economic spheres. Poverty rates are 27.8%, with multidimensional poverty among children, 10M people in Egypt live in conditions with multiple deprivations and privations related to lack of access to services and support (UNICEF, 2017). The finance of ASD's in Egypt is scarce and under-funded. It differs significantly from high-income countries as the care and support for people with ASD rely on a household-provider model (Mendoza, 2010).

Conversely, Britain is ranked the fifth-largest economy in the world (World Economic Outlook Database, 2020). The British economics has a significant impact on the education sector. England has taken decisive measures to address SE. The Autism Education Trust has developed a set of school's autism standards with funding (£4.5M) from the Department of Education to describe key common factors for good practice for pupils with ASD (DoE, 2016). The Government launched an autism innovation fund to develop creative and cost-effective solutions to create new models of good practice (Parkin, 2016).

3.3.3. Political factor

The Egyptian political system is a republican system of government and the president is the head of state and the executive authority. The president appears to take care of the people's interests and preserves the state and the territorial integrity of the country. Hence, the structure of a legislative, executive, and administrative system of education monitors the principle of centralization and decentralization but still, most of this regard is highly centralized (Malgorzata and El-Deabes, 2012), and this has increased the negative impact on the interest of SE and ASD schools.

The UK government invigorates the democracy, with people taking bride in participating in decision-making at all levels, clarifying the role of central and local government, and rebalancing parliament power and government. Parliament has more capability to hold the government to account and works with the British people to achieve a stronger sense of what it means to be British (The Secretary of State for Justice, 2007).

Thus, the political factor was reflected in the educational policy in the field of education by providing an appropriate educational opportunity for every student in an open society and a different perception of the learner about achieving, enhancing himself and meeting his different needs for all categories, especially among children with ASD.

3.3.4. Education policy

Although the Egyptian government places high priority on disability, with governmental and non-governmental organizations working together to address disability issues, the quality of education experience remains low and unequally distributed. Moreover, the new policy pro-vision of community care is limited and only available in major cities (Meguid, 2014). There were several ministerial decisions, such as ministerial decision No.42, in 2015, which concerned the acceptance of children with minor disabilities into general education to achieve an inclusive principle in education.

The Egyptian education vision 2030 'Incheon declaration 2014 – 2030' involves improving the learning experiences and outcomes of special schools and ensuring quality of life for children with disabilities (Bohl et al., 2018). Despite that, SE practices for ASD are not yet a priority in Egypt. There is no single legislation or regulatory policy present in Egypt that directly pertains to ASD. Therefore, children with ASD in Egypt suffer from the scarcity of autism specialised government schools and the high cost of education and intervention in the private sector. It is a common practice for children with ASD in Egypt to be excluded from enrolment in public schools as well as intellectual disabilities schools, or for those who managed to enroll in school, many of them ended up dropping out and uneducated at home (Gabriel, 2018; Costanzia, 2011).

On the contrary, England has better practice guidelines for SE for children with ASD. The education code of practice promoted consistency of approach to meet children's SEN and places the rights of those children with SEN at the heart of the process. The new Act for children and families (2014) provided a significant reform of the system for identifying children and young people in England with SEN, assessing their needs, and making provision for them (Long et al., 2019). Child with ASD in England can attend a school with typically developing children, either in the same classroom, attend a special-education classroom or attend an ASD school. Furthermore, children with ASD are eligible for a free EHC plan and school meals. ASD is considered the most prevalent primary type of need (33% boys and 18% girls) with an EHC plan in England (DoE, 2019).

3.3.5. Technological factor

Technology and digital learning devices introduce a crucial role in SE for pupils with disabilities. Implementing technology in education can improve skills development, enhances motivation to learn and improves the attention of children with ASD (Mosad, 2019). Furthermore, it can help children with ASD manage anxiety or relax while enhancing their abilities to communicate and develop their social skills (Viljoen & Aranda, 2019).

In England, digital tools are designed to support the learning process of children with ASD. Existing solutions range from enabling more effective communication of information between educators and students with ASD, providing robot companions to help them feel more comfortable in classroom settings along with facilitating assistive learning with augmented reality (Viljoen & Aranda, 2019).

In Egypt, the outlook for technology use and impact on teaching and learning is the least favourable for various reasons. This includes lack of financial resources and insufficient technical support to maintain ICT tools on an ongoing basis, lack of adequate training in ICT use, the greater overthrow of untrained teachers and the urgent need for pedagogical capacity of the teacher educators (OECD, 2015).

3.4. The comparative analysis of special education practices for ASD in Egypt and England

The comparative analysis of special education practices for ASD in Egypt and England illustrated some similarities and differences as follows:

3.4.1 Similarities

This article has identified that both countries prioritized improving SE practices for children with SEN. However, England has specific policies for ASD which is absent in Egypt. The evidence has shown in their interest in legislating strategies and projects which have focused on this aspect. Both Egypt and England offer free education for children with SEN.

3.4.2. Differences

This review revealed that each country has its unique educational system that has shaped the nature of SE practice. Although Egypt and England agreed on some basics, there are still many differences between both counties. First, the education system, England's system codifies 12 years, while the Egyptian system codifies only nine years of compulsory education. The concern is not only the number of years but also the law enforcement itself. Egyptian children with ASD are excluded or out of school. There is no concern or punishment if these children drop out of school or are not enrolled due to disabilities. On the contrary, England provides special school for children with ASD and a comprehensive EHC plan. There are no special schools for pupils with ASD available in Egypt. Moreover, every pupil with SEN is provided with a teaching assistant and paid by the local authority in England, while in Egypt, parents must pay a teaching assistant fee in order for their child to be admitted to school. Additionally, parental involvement in education is considered good in England, while this is absent in Egypt (NAS, 2017; Aidarous, 2016).

Social and cultural awareness of the necessity to focus on school practices for children with ASD enhanced more in England than it is in Egypt. This could be due to social growth and prosperity in England. On the contrary, Egyptian society is busy solving more crucial issues related to poverty, diseases and unemployment.

Regarding the financial of SE practices for ASD, this study revealed that England over-took Egypt in providing funding for ASD. Evidence shows England's interest in establishing schools for ASD at all stages. In Egypt, the presence of some centres that concerned with ASD children is limited. These could be due to the different economic situations of these countries.

In terms of political awareness of ASD practices, it is observed that the interest of the English government in providing political support, opportunity and freedom to various state agencies and civil society institutions has a crucial influence in achieving the goals of SE practices. This is because of the democratic style prevailing in England. As for Egypt, it is noted that the central government is likely to make decisions, which negatively affected the interest in ASD special education practices.

4. DISCUSSION

This study provided useful insights into the relative factors that influenced the developments and innovations of the SE practices in Egypt and England. It is critical to

emphasize the strong relationship between culture, social deprivation, economics, politics, and SEN that deserves careful consideration by the Government in both countries (Parliament UK, 2006).

The non-existent education practice for children with ASD in Egypt can have significant consequences for their wellbeing in both the immediate and long-term alongside family wellbeing. Early intervention and education are vital for those children (Koegel et al., 2014). Investing in early intervention for children with ASD can lead to the most critical influences on children's lives, who later can live independently and support themselves and their families. Thus, there is a tremendous need to develop policy strategies to support SE for children with ASD in Egypt and particularly the needs for early intervention. Furthermore, this will increase integration into society for both children and families.

4.1. Factors enhanced or hindered meeting the educational needs of children with ASD

Given the contextual conditions in each country, Egypt and England each has their unique history of SE, which led to different practices for ASD. Many factors could enhance or hinder the development of SE practices for any country. Our review revealed several factors that influenced the SE practices for children with ASD in both countries. Economic and social factors had a significant impact on SE in England. The legislation and education policies are among the most important factors considered to be a mandatory factor that guided the development of SE in England (DoE, 2019; 2015). However, policies and laws supporting SE practices for ASD were absent in Egypt. Eleweke and Rodda (2002) reported the importance of these policies, which requires:

1. Protective safeguards which guarantee the rights of the beneficiary to receive specific services,
2. Timed onset and phase plans,
3. Consequential effect for non-compliance,
4. Room for litigation,
5. Accountability, evaluation and monitoring procedures and
6. Financial backing and structure.

Furthermore, education policy should be supported by complementary legislation within the field of health, social welfare as currently applied EHC plan in England (DoE, 2019).

On the contrary, Egypt, lacking the policy framework for children with ASD. The required professional training and skills to implement SE for ASD are undervalued. Therefore, SE practice for ASD is absent, alongside Egypt's low resources and funding for children with ASD, with a shortage of professionals, well-trained teachers, and equipped schools. Evidence comes from policy and practice, where regulation is limited. SE practices for children with ASD in Egypt are missing and hindered by policy and poor vision.

The identified factors are consistent with other studies from developing countries and the Middle East (Brown, 2005; Gaad, 2004; Eleweke and Rodda, 2002). Finally, evaluating the English and Egyptian contexts enabled us to understand the gaps and challenges in Egyptian policy. The originality of the study is that this is the only study that compared and reviewed SE practices for ASD in Egypt and England. Previous comparison studies for SE in both countries have reported only SE in general and focused on intellectual disabilities. However, no studies have looked at SE practices for children with ASD. There are good SE practices for children with ASD, as set in England, based on the

current review, which can set an ex-ample for education practices for ASD. Such education practices could inform further development of ASD education in Egypt.

4.2. Proposal for developing special education practice for ASD in Egypt

This study can be beneficial to the development of special education practices in Egypt. With regard the current demand for SE for children with ASD in Egypt, it is crucial that the Egyptian Government, the Ministry of Education, and policymakers recognize the scale of the issue and develop a more in-depth understanding of SE that is urgently needed for children with ASD. Given England's experience, specific actions required include:

1. Adequate long-term funding should be provided to establish special schools to meet the growing demand to support children with ASD,
2. Ministry of Education should establish SE for pupils with ASD in all governorates that enhance the children's development and meet their needs,
3. Developing comprehensive education practices and curricula that support health and guidance aspects for ASD that are similar to EHCP in England,
4. Raise the profile of the profession, provide teachers with the necessary training needed to quality equitable education and promote lifelong learning opportunities for children with ASD by 2030 (Sustainable Development Goal),
5. Raising ASD awareness through holding public conferences, seminars, workshops and lectures.

5. Limitation and Implication

Lack of previous research studies on SE for ASD practice in Egypt has limited published information available. Future projects could pursue qualitative research to identify the reality of SE practices through an interview or focus group discussions with teachers and parents. Future research in other aspects will provide a complete explanation of how the two countries have developed SE for ASD compared with one another. For example, it is necessary to address the question of why certain popular disabilities like ASD in the UK have not been much addressed in Egypt and what is the implication of the lack of identification. Furthermore, this study has implications for policy and education campaigns. This study clarifies the barriers to SE for ASD in Egypt. Thus, there is an urgent need to advocate for a broader global understanding of the needs of children with ASD and help establish and support educational and rehabilitative practices in underserved developing countries. The main implication of this study is that once hindered factors are identified, holistic frameworks that could successfully implement the adoption of good educational practices for ASD in Egypt. This could serve as a guide for improving SE for other developing countries in the Middle East.

6. Conclusions

This study reviewed special education practices for children with ASD and determined some factors that enhanced and hindered the development of SE in Egypt and England. The results indicated that socio-economic, educational policy, resources, awareness, professional

development activities and teacher training had the potential to enhance SE practices for children with ASD. SE in England has been enhanced through factors such as economy, politics and technological development. Increased interest in SE in England is due to economic recovery, cultural awareness and decentralization in the field of education. This study suggests that socio-economic factors had a critical influence on the development of SE for ASD.

Conversely, SE practice in Egypt was hindered by the low economic status, scarcity of cultural awareness, insufficient financial support, absence of education policy for ASD, and political orientation towards centralization. It is a necessity to provide the adequate financial support that is required for developing special schools for ASD in Egypt. Children with ASD who advocate for appropriate services and education can enjoy a better quality of life. SE for those unique children must be met through an adequate SE practice.

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SPECIJALNO OBRAZOVANJE DECE SA AUTISTIČNIM SPEKTROM POREMEĆAJA U EGIPTU I ENGLESKOJ: KOMPARATIVNA STUDIJA

Cilj studije je da se, kroz poređenje razvoja specijalnog obrazovanja dece sa autističnim spektrom poremećaja (ASD) u Egiptu i Engleskoj, otkriju i razumeju faktori koji ometaju ili doprinose unapređenju razvoja specijalnog obrazovanja u obe zemlje. U okviru studije primenjena je metoda komparativne analize, a rezultati dobijeni uporednim razvojem specijalnog obrazovanja dece sa ovim poremećajima u ove dve zemlje omogućiće bolje razumevanje prakse specijalnog obrazovanja kao i

faktora koji utiču na unapređenje ili ometanje razvoja istih. Na osnovu dobijenih rezultata zaključeno je da je unapređenje razvoja specijalnog obrazovanja u Egiptu onemogućeno niskim ekonomskim statusom, nedostatkom kulturne svesti, neadekvatnom finansijskom podrškom, odsustvom obrazovne politike za ASD i političkom orijentacijom koja počiva na principima centralizacije. Nasuprot Egiptu, u Engleskoj su obrazovna politika, kulturna svest, ekonomija i naučna tehnologija identifikovani kao važni faktori koji utiču na unapređenje specijalnog obrazovanja. S obzirom na dobijene rezultate, u radu su dati predlozi i preporuke za razvoj specijalnog obrazovanja dece sa autističnim spektrom poremećaja u Egiptu.

Ključne reči: *Autistični spektar poremećaja (ASD), majke, Specijalno obrazovanje, Egipat, Engleska*

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Review article

ROLES OF FOREIGN LANGUAGE LEARNERS AND TEACHERS IN CONTEXT OF DIGITALIZATION AND ONLINE INTERCULTURAL EXCHANGE

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Abstract. *Even though there have been discrepancies when it comes to the importance of intercultural competence development in foreign language learning, with the emergence of new generations of young technocrats growing up in the world of rapid globalization, it is becoming clear that intercultural awareness in this process cannot be disregarded, and the language itself out of its context cannot be fully comprehended. The aim of this piece of writing is to point to the fact that digital technologies in language classroom are therefore of paramount importance, since they enable us to overcome physical distances among cultures and stimulate the development of skills needed for every global citizen. The intention goes beyond this in a way that it shows how the enabled online intercultural communication affects the roles of language learners and teachers and move students to central position in foreign language learning. Furthermore, it underlines the need for teacher support in the development of all the necessary competences which would finally lead to promoting and fostering learner autonomy. It also observes that Online Intercultural Exchange cannot alone promote language and skill competence development, and calls for blended approach which comprises both online and offline sessions that allow for reflection crucial for foreign language acquisition..*

Key words: *foreign language teaching, language learning, education, online intercultural exchange, student and teacher roles*

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1. Importance of Intercultural Communication in Globalized Context and its Incorporation in Education

Over the last decade or two, the world we live in has been undergoing a major increase in exposure to digital technologies which have connected remote cultures and enabled intercultural communication on a daily basis. The context we have been placed into has only emphasized the need to educate 'global citizens', and set a priority on preparing students to interact and communicate with people from across the globe. Dooly (2016) mentions that UNESCO established the notion of a global citizen in 2014, and many people regard it as a means of interconnecting and internationalization, be it on individual, regional or national level, and multicultural-awareness raising (p. 192). Therefore, an emphasis has been added to political, economic and humanistic aspects in foreign language learning. We are witnesses that substantial efforts are being made in order to internationalize the curriculum and the content of English language course books. Whether to teach culture when teaching a foreign language is no longer subject to a debate, and even the Modern Language Association brought about a report accentuating the need to foster students' 'trans lingual and transcultural competence', and stated that 'it is one of five imperative needs to which higher education must respond in the next ten years if it is to remain relevant' (MLA, 2007).

It is paramount that a foreign language course dwells on the needs of a society going through a constant change. Nowadays, it is crucial that you are competent in at least one foreign language, and digital skills and their development have never been this relevant. Therefore, learning has become a lifelong journey. In light of this, a curriculum should be directed to building knowledge which would equip us with a deep understanding of cultural and communicative dimension that we experience every day through interaction with members of other communities via the Internet, collaborating in foreign languages, mostly English. What certainly made way to this goal is the advent of online communication tools; and the synergy between intercultural communication and the Internet allows our students to connect directly with their peers living in a culture of their target language, thus being given the opportunity to explore that foreign culture. Hence the desire to make understanding of a foreign culture the focal point of language classes on all levels. It seems no longer satisfactory to offer students authentic materials provided in their course books, no matter how innovative and competent they were. It is the involvement in first-hand contact with that other culture that can be incorporated into a traditional classroom where educators are allowed to engage their learners in interaction with the natives in distant locations, and also support that communication by giving the students the opportunity to learn from the outcomes; and all that within the sheltered environment that is their classroom, under the guidance of their facilitator or teacher – which Lewis and O'Dowd (2016) also call 'an informed linguacultural expert' (p. 5).

Online Intercultural exchange (OIE) is a term denoting 'the engagement of groups of students in online intercultural interaction and collaboration with partner classes from other cultural contexts or geographical locations under the guidance of educators and or expert facilitators' (Lewis and O'Dowd, 2016, p. 3). It is also referred to as tele collaboration or virtual exchange, and these nomenclatures will be used further in this piece of writing.

In the special edition of Language Learning & Technology (2003) in which Belz defined tele collaboration and identified the main characteristics of foreign language tele collaboration to be 'institutionalized, electronically mediated intercultural communication

under the guidance of a linguacultural expert (i.e. teacher) for the purposes of foreign language learning and the development of intercultural competence' (Belz, 2003, p. 2).

There is a need to underline that the rapid expansion of communication channels via electronic devices and the Internet as Dolly (2016) says 'may render "traditional" categorizations of culture less salient to participants when engaged in "emergent" cultures such as virtual communities' (p. 194). Also, since 'hypermobility leads to unprecedented encounters between people from different countries, whereas on the other, forms of rejection of and attacks on the "Other" increase on a daily basis' (Dervin & Liddlecoat, 2013, p. 1), instead of allowing students to fall back on assumptions that everyone is deep down the same and that everyone communicates online in the same way, tele collaborative practitioners have to push their students to 'imagine another person as different from oneself, to recognize the other in his or her historicity and subjectivity, to see ourselves through the eyes of others' (Ware & Kramsch, 2005, p. 202).

In the west, the use of Computer-Mediated Communication (CMC) in promotion of foreign language learning is being accepted in linguistic circles as well as the general public, and tele collaboration being included in The Chronicle of Higher Education as an emerging practice according to Dooly (2016) serves as a proof for this (p. 192). This can be helpful in terms of meaningful language use and creating challenging and motivating activities for the learners, but is also crucial in acquiring skills needed for the future. Perhaps no one can turn their eyes to the fact that there is a widespread need to develop abilities for coping with the challenges set up through the context of constant communication and 'living' with others online, so all those enrolled in either primary or secondary schools are likely to demonstrate these abilities on both personal and professional levels.

There is a notion that 21st-century communities will 'hinge on collaborative relationships and social networking', and a successful workforce will have individuals who can 'offer cross-border perspectives and solutions' and 'apply tangible skills such as language proficiency' including 'greater sensitivity to cultural differences, openness to new and different ideas, and the ability to adapt to change' (Partnership for 21st Century Skills, 2008, p. 7). Therefore in terms of this Dooly relies on Pellegrino and Hilton when stating that 'Future skills can be divided into three principle domains: cognitive, intrapersonal and interpersonal; the latter include two clusters of competences – teamwork and collaboration and leadership – which are then subcategorized to include competences such as communication, collaboration, responsibility and conflict resolution (Pellegrino & Hilton, 2013; Dooly, 2016, p. 193).

2. Role of OIE in Learner Autonomy Formation

Active participation of digital natives on the Internet that is being transferred into language classroom calls for a new form of pedagogy, where foreign language learners are put at center stage, where they are the ones who grasp and figure things out, pose questions and find solutions. They are put into position where they constantly collaborate and inquire into things anew, with the aid and support of their teachers, classmates and peers that live abroad. Constant exposure to new materials teaches them to regard nothing as definite but prone to change and reconsideration in the light of that inflow of new information.

Kaur, Singh and Amin Embi have no doubts about information technology literacy being the integral element of online learner autonomy and argue that:

'Learning how to learn means to build up learners' capabilities to learn independently (e.g. creative and critical thinking, mastering of Information Technology, Communication), to become self-reflective on how to learn and to be able to use different ways of learning…' (Curriculum Development Council, 2000, p. 3). All these skills have been identified as components of autonomy. One tool that has been closely linked with aiding the development of learner autonomy is CMC' (Kaur, Singh, and Amin Embi, 2007, p. 101).

A question that springs to mind here is whether participation in online exchange can actually trigger the development of learner autonomy. The literature offers some evidence that collaborating in online environments can help learners to become more autonomous .On the other hand, definitions of learner autonomy remain highly variable and to some extent problematical in articles seeking to relate autonomy to OIE: Kessler and Bikowski (2010) define learner autonomy as 'whatever an autonomous person thinks it is' (p. 42), whereas Fuchs, Hauck, and Muller-Hartmann (2012) seek to characterize it as 'the informed use of a range of interacting resources in context' (p. 82), which would regard learner autonomy the same as digital literacy, not something that can be applied to a wider scope of activity.

Now that online learning has been integrated into education, we cannot see students as unconnected individuals whose sole concern is to 'take charge of one's own learning' (Holec, 1981, p. 3). More recently, Toyoda (2001), talking about the social dimension of such autonomy regards the role of digital technologies in shaping it as 'an ability and a willingness to learn both independently and in cooperation with others as a responsible learner' (p. 2). She reckons that information technology literacy actually is a necessary precondition for learner autonomy, as there is a correlation between information technology literacy levels and favourable perceptions of technology and development as an autonomous online learner. Basing her view on extensive student interviews, she comes to a conclusion that successful autonomous learning calls for three prerequisites: accessible and reliable technology, sufficient computer literacy in students, and good communication with and support from peers (Toyoda, 2002, p. 1).

Furthermore, Schweinhorst sees collaborative social interaction as one of the main factors in development of learner autonomy, in regard of online environments, stating the following:

'Learners need to become communicators and collaborators with other learners, teachers and native speakers when they are learning a second language. They need to understand that actively seeking opportunities for collaboration and interaction will not only help them as language users, but also as language learners who progress through meaningful contact with more knowledgeable learning partners. This capacity and goal can thus be summarized as interaction' (Schweinhorst, 2008, p. 9).

Schweinhorst pinpoints the importance of online exchange in this aspect, and contends that such immersive environments are fertile ground for the development of learner autonomy, not seeing digital literacy as an aspect of it. There is a mention of eight conditions for this, and he notes that virtual environments:

Provide space for increased self-awareness and propel language learners to engage in experiments by assuming different roles through virtual representations, which actually reduces the affective filter. Then, it may overcome face-to-face communication when it comes to raising linguistic and cognitive awareness of the language learning process. They also assist

interaction in a way that they enable a common linguistic reference pint by setting up a shared environment. Furthermore, Schweinhorst (2008) underlines that they allows for enhanced conversation management and team work, as well as that the spatial metaphors they are based on contribute to a more natural way of organizing information resources. He states that they enable language learners to collaborate on resources in real time contexts, encourage learners to take over an active role in the design and organization of the learning environment. The last but not the least, according to Schweinhorst, virtual environments are a perfect support for any teacher assuming the role of a facilitator, counselor, and resource, adding that they also offer teachers ample research tools (p. 59).

There are four behaviours that are manifestations of online learner autonomy in MOO context according to Schweinhorst (2008), and the emphasis is put on preparedness to throw oneself into experiments. It is revealed through creating objects, manipulating online and offline identities, using indexical language and expressing a sense of being in control, for which he offers transcript material (pp. 124-133) as a support.

It is important also to mention Eneau and Develotte who stress 'the importance of the role that peers play… in the construction of… autonomy' (2012, p. 2) and claim that 'in online distance learning, individual and group autonomy develop together' (2012, p. 14), as peer corrective feedback plays a crucial role in virtual exchange sessions. Overall, 'the ability to take charge of one's own learning' (Holec, 1981, p. 3) cannot be separated from a capacity for social and cognitive interaction.

3. Central Role of Peer Feedback

Numerous researchers have delved into question of appropriateness of OIE as a learning activity which would make a substantial impact on linguistic development of language learners. Trying to provide a fitting answer, many of them have pointed out to the fact that when feedback is received from peers and not from teachers, students show greater progress in competences such as linguistic form, accuracy and appropriateness. For instance, this is supported by Ware and O'Dowd (2008) who noticed in their project that peer correction feedback had far-reaching effects as the commentary received from American peers was regarded as more personalized and was not making their partners feel vulnerable or at risk. When it comes to help provided by the peers in OIE, Thorne (2003) touches on a certain aspect of pragmatic competence, saying that peer interaction has a crucial role in successful language acquisition 'because students are engaging in age-peer contact under less controlled conditions that would normally be the case in intra-class small group or class discussion' (p. 50). This leads us to the suggestion that OIE that is peer-based can propel advancement in certain aspects of the target language competence, difficult to reproduce in the traditional language classroom.

However, apparently, the researchers are very like-minded that corrective feedback, as well as opportunities to focus on linguistic forms and conveying the meaning will not happen naturally in OIE, and therefore certain training is necessary for the learners to work as linguistic tutors for their peer partners. Some research projects have recorded students being explicitly instructed on how to provide feedback to their partners in OIE. For instance, Vinagre and Munoz (2011) supplied their e-tandem students with 'specific guidelines with regard to error correction which included and error classification table' (p. 75). Furthermore, Ware and O'Dowd (2009) noticed in their study that language-

related episodes (LREs) in conditions where trained 'e-tutors' provided feedback was notably higher than in conditions where language students received feedback from their 'e-partners', who were untrained. Another point made was that those students had a very positive response to OIE and all the corrective feedback received, so the impact on language learning process was more valuable than that provided in a regular classroom (Ware and O'Dowd, 2016, p. 53). There is a clear suggestion that OIE participants when they work in immersive environments can be propelled to construct such identities and see themselves as teachers within a virtual community, and tend to disregard their offline sociocultural background.

In order to ensure language acquisition in this context, yet another thing should be carefully thought-out, and that is task design. In these terms, Sauro (2009) in her LRE gets her students to focus on specific forms from OIE by requiring them to incorporate lexical items such as words and phrases into their written assignments (pp. 114-115). The general trend in the literature would appear to suggest that when tasks are carefully designed to require linguistic accuracy and when students are aware of their role as language expert or tutor, then collaboration has strong potential as a tool for linguistic development.

Nonetheless, a large number of studies have pointed out to certain examples of students showing unwillingness when it comes to assuming the role of 'e-tutor'. Diez-Bedmar and Perez-Paredes (2012), declare that 'participants failed to comply with instructions' (p. 71), even when required to give relevant linguistic feedback.

The reasons for this reluctance can be seen from two perspectives proposed in the literature. The first is that there is likely to be a clash between the pedagogic aims for OIE and the way students perceive it as a communicative activity and bringing into play cross-cultural friendship making (Schweinhorst, 2000). As we talk about language acquisition, it should be clear that here pedagogical aspect aims at linguistic development through peer corrective feedback or conveying of meaning. Therefore, it can be concluded that students need to be clear about the function of OIE, and that is peer-feedback production on a regular basis. Diez-Bedmar and Perez-Parades (2012) note that in their wiki-based task, where students clearly understood that their function was to provide linguistic feedback on their international partners' drafts of tourist brochures, the amount of LREs increased significantly in comparison to other tasks which had more communicative goals.

On the other hand, Ware and O'Dowd suggest that culturally divergent perspectives of students were to blame for affecting students' attitudes in terms of either providing or receiving peer corrective feedback, as they regarded what appropriate online behavior should be like in a very different manner. In contrast to the Spanish students who have taken part in the exchange, American students felt rather uncomfortable about correcting their partners' mistakes. What the authors suggest is that American culture links online communication to 'informal spaces for sharing ideas, and most evaluative feedback remains the role of the course instructor, so the US student's concerns centered mainly on fears of transforming their online conversations into less informal sessions' (Ware and O'Dowd, 2008, p. 52).

4. Teacher Support OIE in Language Learning

As we can see, OIE should be based on certain principles, such as flexibility, reciprocity, collaboration and autonomy. Mediator teachers develop their own pedagogical strategies which can vary to a certain extent, but these principles are to guide not only language learners, but also language instructors, researchers and projects and activities in OIE. Kern, Ware, and Warschauer (2004) advocate that online intercultural collaboration provides language teachers with the opportunity to exercise innovative approaches in language learning since virtual environments enable them 'use the Internet not so much to teach the same thing in a different way, but rather to help students enter into a new realm of collaborative enquiry and construction of knowledge, viewing their expanding repertoire of identities and communication strategies as resources in the process' (p. 21).

It is clear to every foreign language teacher that language classes, even those combined with OIE, cannot be expected to cover all potential communicative environments or all the pragmatic features that and individual might need for the increasingly multilingual, multicultural Internet. Nonetheless, with the right knowledge – what one might call 'techno pedagogical' knowledge – teachers can support students' awareness of the importance of sociopragmatics in online exchanges, provide them with a basis for understanding its role in effective online communication and promote learner autonomy to continue exploring the interdependence between linguistic forms and the sociocultural context they are functioning in. Therefore, the role of a teacher, facilitator or language instruction is of utmost importance in developing these competences in students.

Liddicoat and Scarino dedicate a lot of attention to the ways how online exchange initiative can make a contribution to intercultural and language learning, and display a certain dose of skepticism in this aspect. Presumably one of the most important points they make is that one should not presuppose that online interaction automatically leads to learning by saying:

'The problem is that exposure to interaction of itself does not necessarily equate with intercultural learning… To be able to contribute to learning, the interaction must first become available in some way for students to reflect on and interpret. It is therefore necessary to consider not only what these technologies permit students to do, but also consider how their experiences may contribute to learning' (Liddicoat and Scarino, 2013, p. 117).

Intercultural learning and target language competence in OIE will not develop on their own, however, and that is where the role of the teacher is paramount in leading students through discovery, exploration and inquiry. The main role of the teacher is to scaffold the learning process through a series of tasks that will build upon each other and gradually move students to an increasingly more complex and refined understanding of the other's culture.

So one cannot help but argue that OIE should be integrated into a language classroom context, because only in such environment can language learners receive aid from a teacher in online communication with partners from abroad. For example, Chun (2015) urges that 'it is essential for teachers to help students to go beyond comprehending the surface meaning of words and sentences in order to understand what their intercultural partners are writing' (p. 13), and Muller-Hartmann (2021) argues that 'the role of the teacher is crucial in initiating, developing and monitoring tele collaborative exchanges for language learning' (p. 172).

This all actually points to the alteration in conditions for foreign language teaching, learning and changing contexts in which they are utilized. Claire Kramsch wrote about this fact in her introduction to an issue of the Modern Language Journal, where she states that these changes "call for a more reflective, interpretative, historically grounded, and politically engaged pedagogy than was called for by the communicative language teaching of the eighties' (Kramsch, 2014, p. 269). She also emphasizes that 'while it is not the role of FL teachers to impose on their students their views on events, it is their responsibility to expose them to various perspectives (even controversial ones) and to help them discuss the points of view adopted by speakers, writers, and bloggers on these events' (Kramsch, 2014, p. 307). This means that in communicative exchanges, there is a need of support provided by facilitators whose role is to guide language learners in their participation and to make sure that there are no missed opportunities in dialogue and some contribution on the students' part is made.

5. Need for Blended Approach

In the previous section is has been made clear that for the learning experience to be successful, learners have to be engaged in a communicative experience which will shine light on different linguacultural rules and assumptions that are carried by the participants involved. Numerous authors underline that this is not enough, but such learning calls for reflection and learning from students' experiences. Therefore, as it can be observed in the literature, most OIE practitioners have taken a blended approach where certain aspects and features of the interaction are discussed, analyzed and shaped with the aid of the teacher. The vast majority of researches display methodology of combining online interaction with pre- and post-exchange sessions, also called 'mediated sessions'.

In preparatory face-to-face sessions communicative approach is taken, where there is space for a student to take the central role in developing required competences. There are numerous interactive learning activities that can be included in these sessions, such as brainstorming, comparing ideas, negotiating and collaborating, and the interactivity of these face-to-face sessions can be illustrated by the following:

'In class, [students] spend most of the time negotiating what they are going to use [within their collective task]. The classroom is a highly interactive place where students, taking center stage and interacting with their classmates, develop insights and co-construct and expand their own knowledge and understanding of the subject matter' (Furstenberg & Levet, 2010, p. 333).

Mediated sessions are face-to-face modes which are in indissoluble connection with OIE. Their functions are to prepare for the central tele collaborative sessions, and to analyze the virtual collaboration. In both preparative and reflective sessions, the main aim of the course is the one to define what aspects should be covered. Those could be language skills such as inter comprehension skills and strategies, certain discourse, or vocabulary or form, etc., or perhaps intercultural awareness. As Telles (2016) in collaboration with Leone quotes herself:

'Mediation sessions are moments that follow interactions in tele tandem. During these sessions, students have the opportunity to dialogue and exchange experiences with a mediator – a teacher of foreign languages. These discussions focus on (a) aspects of language, (b) culture and (c) partner's relationship. The mediation activity aims at giving

students a teacher supported context (scaffolding) to reflect on the teaching and the learning experiencing during the tele tandem sessions' (p. 244).

Since, as it has been previously discussed, exposure of students to copious foreign language input will not inevitably lead to the language competence development, 'noticing' and more effective focus on certain linguistic aspects need to be supported by regularly downloaded and recorded online intercultural interactions, so that this data can be further exploited in the language classroom. In accordance with this, when regarding students' linguistic development, it is recommended that students' online interaction be combined with either reflective reviews of transcripts or recordings of the online interactions. Belz (2006) refers to this as 'the alternation of Internet-mediated intercultural sessions with face-to-face intracultural sessions' (p. 214). In such pedagogic interventions, teachers usually transcribed and coded relevant extracts requiring the language learners to review the given materials.

Application of other methods of trying to combine online interaction with offline focus on linguistic and intercultural aspects has been noticed. Evidence can be stored in various online repositories (e.g. cloud storage spaces such as Dropbox, YouTube, video blogs, etc.) and numerous documentation modes are available, such as blog or forum entries, screen captures, etc. Bower and Kawaguchi (2016), for instance, demanded from their Australian and Japanese students to language corrective feedback to their partners using email that they had previously derived from the transcripts of their synchronous online interactions (p. 123). There are certain records where instructors noted by Lewis and O'Dowd who suggest an example of Vinagre and Munoz (2011) who wanted language learners to keep a diary in which they could keep notes on new vocabulary items they had encountered and also to carry out error recycling exercises. It could be argued here that the very method of propelling students to notice chief linguistic features and errors is not as important as the processes that are triggered by it, one of them being active reflection, which inevitably leads to foreign language development (Lewis and O'Dowd, 2016, p. 53).

These samples from OIE are desirably coupled with students' personal collection of learning evidence, as they ought to be encouraged to record their thoughts and impressions so they could return to the events when required. This compendium is a display of the learning process and it serves as a mechanism demonstrating that the students are capable of making lings between theory and practice, or in other words, competences and the online exchange, and can then reflect on their own progress.

6. Conclusion

This, of course, is not the first time that someone has conducted an inquiry into comprehensive impact of OIE to foreign language education. Thorne (2003), for instance, examined the presence of language development when it comes to both linguistic and pragmatic performance (p. 39), while Schweinhorst (2008) actually claimed that OIE fostered learner autonomy development under the framework of fitting pedagogy (pp. 166-168). Later, there emerged a proposition that autonomy in OIE has close links to e-literacy acquisition (Fuchs, Hauck, & Muller-Hartmann, 2012, p. 95). However, there is obvious lack of initiative in language educators to incorporate OIE into curriculum on national level.

I would dare say that the COVID-19 breakout has brought OIE closer to smaller and underdeveloped communities across the world, and be that only a hypothesis or not, constant involvement of citizens of the global village have appointed to the need for more profound cross-cultural understanding that can be brought closer via telecollaborative communication practices. Whereas individual foreign language learners are still rooted in their local and national cultures, 'today's constant global and transnational cultural flows… have meant that language learners have become sophisticated "cultural mediators" '(Ros i Sole, 2013, p. 327). Byram (1997) established a notion of 'intercultural speaker' (pp. 32-33), but Ros and Sole (2013) names such a speaker a 'cosmopolitan speaker… who is defined by their multiple cultural alliances' (p. 327).

Needless to say, interaction is a complex social and psychological activity; computer-mediated interaction should not be seen as different in this aspect, not even when all the possible barriers to access are reduced to a minimum. Participants themselves bring their own characteristics into OIE and find their own ways of managing their online presence, so there are fluctuations in individual impact is such virtual exchanges. An individual can be anxious about how others might feel or react when they contribute to the dialog or a collaborative task, some other could find themselves discouraged by absence of immediate response. On the other hand, many of such individuals are actually ready to overcome those feelings and find original methods for interaction navigation. Therefore, there is a feeling of urgent need for intercultural communication competence development in foreign language learning.

OIE makes language learners question and change perspectives of both their own and other cultural contexts, and such a process includes not only affective and cognitive changes, but also require 'understanding the very historical and social conditions that make this savoir possible for some and not for others, and other saviors impossible' (Kramsch, 2009, pp. 117-118). Therefore, one needs to consider many aspects and pose numerous questions such as: 'Who is speaking, for whose benefit, within which frame, on which timescale, to achieve what effect? What are the ideological value and the historical density of words? (Kramsch, 2009, pp. 117-118). In this increasingly interconnected world, learners have to be able to guess and gamble a bit, to show willingness to try out hunches about the language and take the risk of not being right. Such risk-taking and discovery-learning procedures are necessary in order to develop independence, autonomy, and responsibility – some of the crucial skills of the 21st century, and the aim of foreign language educators should undoubtedly be raising academic citizens capable of coping with all the cross-communicative obstacles and challenges they may encounter.

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ULOGE UČENIKA I NASTAVNIKA STRANOG JEZIKA U KONTEKSTU DIGITALIZACIJE I ONLAJN INTERKULTURALNE RAZMENE

Premda postoje razmimoilaženja kada govorimo o značaju razvoja interkulturalnih kompetenci kod učenja stranog jezika, sa dolaskom novih generacija mladih tehnokrata koji odrastaju u svetu rapidne globaalizacije, postaje jasno da interkulturalna svest u ovom procesu ne može da se zanemari, i da jezik sam po sebi izvađen iz konteksta ne može u potpunosti da se shvati. Cilj ovog rada je da ukaže na činjenicu da digitalne tehnologije u jezičkoj učionici stoga imaju ključni značaj, s obzirom na to da nam omogućavaju da prevaziđemo fizičke distance među kulturama i stimulišemo razvoj veština neophodnih za svakog „globalnog" građanina. Povrh toga, zamisao je da se prikaže kako omogućavanje onlajn interkulturalne komunikacije utiče na uloge učenika i nastavnika jezika i stavlja učenika u cetralnu poziciju učenja stranog jezika. Dalje, ističe potrebu potpore nastavnika u razvoju svih neophodnih kompetenci koje na kraju vode do podsticanja i negovanja autonomije učenja. Takođe zapaža da onlajn interkulturalna komunikacija ne može sama po sebi podstaći razvoj jezičkih kompetenci i veština, te se poziva na mešani pristup koji sadrži kako sesije na mreži tako i van nje, što daje prostora za refleksiju kricijalnu za usvajanje stranog jezika.

Ključne reči: *nastava stranog jezika, učenje jezika, obrazovanje, onlajn interkulturalna razmena, uloga učenika i nastavnika*

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Professional article

APPLYING BLENDED LEARNING COURSES FOR EDUCATION IN THE CONTEMPORARY UNIVERSITY. INFORMATION SYSTEM 'E-UNIVERSITY' OF THE UNIVERSITY OF VELIKO TARNOVO, BULGARIA

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Abstract. *In the past few years, blended learning has become more and more rapidly spread in the field of education worldwide. The idea of blended learning seems attractive because it allows for the preservation of the traditional forms of education resulting from accumulated pedagogical experience for centuries and we could altogether use the various educational functions of new technologies. The methodology developed by the author introduces a key subsystem from the integrated management information system of Veliko Tarnovo University, namely the 'E-University' subsystem. On the base of own experience and the analyzed research, there is an opportunity to use different media, individualize the learning process, opportunity to use different styles of learning, organizing joint learning activities. The successful application of this approach together with the organization of education and the quality of the virtual environment require the presence of the human factor which is able to combine different types of learning environments in order to provoke students to perform various types of activities and develop their potential abilities and talents in the future.*

Key words: *blended learning; E-University, organization of education, university information system*

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1. INTRODUCTION

Computers and the Internet are part of the environment in which young people learn and live. Undoubtedly, the development of technologies brought to changes upon the traditional learning environment. In the past few years, governments have been seriously investing in information and communication technologies (ICT) at universities. The quality of educational resources has been significantly increased. However, international studies[1] establish that digital technologies are not yet completely integrated in the teaching and learning process. A part of the explanation for this limited success is that schools and educational systems are still not ready to realize the potential of technologies. The insufficient pedagogical training on how to use technologies during the teaching process, the gaps in lecturers and students' digital knowledge, the difficulties in the need to find high quality digital learning resources and software, the lack of clarity in relation to educational goals all lead to a disparity between expectations and reality. Universities shall respond to these challenges, otherwise technologies may cause more harm than benefits. Despite not being able to transform education by themselves, digital technologies have a great potential to change teaching practices and open new horizons. The challenge of achieving this transformation is rather oriented towards **searching for ways to improve teaching and training skills in universities with the help of technologies**. Blended learning is a possible solution. In the past few years, blended learning has been more and more spread in the field of education worldwide. The idea seems attractive because it helps for the preservation of the traditional forms of education resulting from accumulated pedagogical experience for centuries and we could altogether use the various educational functions of new technologies.

2. DEFINITION AND FUNDAMENTAL CHARACTERISTICS OF BLENDED LEARNING

The spread of Internet has increased the popularity of distance learning.

2.1. Learning environments

There are actually three main types of learning environments described in modern Pedagogical literature (Prohorets and Plekhanova, 2015):

- Traditional learning environment means that students and lecturers (instructors) are both in the same place and in the same time.
- Asynchronous environment provides education regardless from the place and time;
- Synchronous learning environment creates a sense of virtual community. This means that each participant should be in front of his/her computer at the present moment. Students and lecturers are both required to plan a schedule which shall be available to everybody.

[1]Innovating Education and Educating for Innovation: The power of digital technologies and skills © OECD 2016 http://www.oecd.org/edu/ceri/GEIS2016-Background-document.pdf (p.9).

2.2. Brief comparative analysis of traditional and electronic education

Advantages of *traditional classrooms* (Yalçınkaya, 2015):

- good social contact between students and lecturers;
- possible immediate reactions depending on specific situations and the necessity of supporting students;
- adult students prefer old methods and feel more comfortable with traditional forms of education.

Disadvantages – classroom education can be expensive if students have to travel to the place where the classroom is situated. If the training is based on lectures, discussions and interactions are reduced. Classrooms can put students into a passive role and their attention could be lost.

Electronic asynchronous training – *Advantages* (Yalçınkaya, 2015):

- both students and lecturers take part in the training process regardless of time and place;
- using media instrument increases motivation;
- training courses are ceaselessly updated;
- access to a large amount of information;
- all elements and participants in the training (trained students, teachers, tutors, resources, tests) are in contact between each other;
- an international interaction is also possible.

On the other hand, electronic education is suitable for all trained students as it focuses on equal treatment and includes facilitation of the access for **disadvantaged trained students**. These people are in a more unfavourable situation due to personal hardships or impediments which restrict or prevent them from taking part in traditional classes.

Disadvantages – electronic training also has its weak aspects, for example (Yalçınkaya, 2015):

- the creation of an Internet platform requires a budget
- the preparation of training courses and electronic instruments requires experienced experts in the specified field and this is usually more expensive than expected;
- staying in front of the monitor for a long time causes some health issues as well as eye fatigue;
- the self-motivation of trained students is obligatory so some profiles of students are not appropriate for this type of training;
- some of the lecturers/tutors lack the necessary competence in relation to working with electronic tools like lecturer's tools for example;
- the social component which is defined as an interaction between a lecturer and a student is important but it is **missing** in the asynchronous training realized through Internet. Self-discipline of trained students is really significant about electronic training but unfortunately when the computer is not able to respond to student's questions, the concentration is lost.

Electronic synchronous training – Virtual classrooms let lecturers and trained students be at different places in the same time and they also let the lecturer keep the lecture for watching later on. The topics could be similar to those taught at traditional classrooms unless they are too complicated (Kaur, 2013, p. 613).

Advantages: students and lecturers are not supposed to be physically present in the classroom. Students can 'raise their hands' by pushing a button. Information is presented through applications for desktop computers or through sharing in Internet.

Disadvantages: each participant should be online at the same time. In most cases, trained students need modern computers that possess the necessary quality parameters and are connected to a high-speed Internet. Just like it is at the traditional classroom, information sessions could put the trained student in a passive role and thus his/her attention could be lost.

As a result from the debate on which environment allows students learn more efficiently – the electronic or the traditional learning environment, **a new approach called blended learning** arises. This idea seems attractive because it allows for the preservation of the traditional forms of education resulting from accumulated pedagogical experience for centuries and we could altogether use the various educational functions of new technologies.

As a new model for organization of the education process, blended learning has attracted the attention of many researchers and lecturers worldwide and it gets more and more rapidly spread in the field of education worldwide.

2.3. Defining blended learning

There are different interpretations of blended learning but all come down to the understanding that blended learning or what is also called hybrid learning is a combination of learning environments.

According to some scientists, when the environment is not only synchronous or asynchronous, we could say that it is a blended learning environment (Prohorets and Plekhanova, 2015). Other scientists define blended synchronous learning as studying and teaching processes in which trained students take part in lectures that require face-to-face contact and in lectures realized through multimedia synchronous technologies like video-conference calls, web conference calls or virtual world (Bower et al., 2015, p. 1).

The most popular definition of **blended learning** (BL) or hybrid learning is: **a method of learning which combines traditional face-to-face methods in the classroom with computer assisted activities (electronic learning)**. The training is already introduced in a new form: as a combination of traditional face-to-face lectures in the classroom and distance electronic learning, more particularly: in a blended regime (Güzer and Caner, 2014, pp. 4596-4597; Wicks et al., 2015, p.54; Köse, 2010).

Blended learning is only effective when:

- the components are well-balanced and the educational goals are methodically and adequately programmed;
- the blending of the face-to-face learning environment and the online learning environment is precisely planned so that there are more benefits from this approach (Krasnova, 2015, p. 401).

2.4. Blended learning characteristics

Blended learning combines traditional educational practices with modern technology-based approaches. This educational approach is of great importance nowadays because it has undoubted **advantages** compared to the traditional classroom or online distance learning in their pure form, for example:

- guarantees **independence** on time and place (Yalçınkaya, 2015; Ruokonen and Ruismäki, 2016);
- provides **more than one media** for use. The simple fact that there are two or more different ways for preparation (reading a book, acquiring a skills through practice, listening to an audio lecture, interaction with the web-based course) has a significant impact over the mastery of knowledge (Krasnova, 2015);
- maintaining **different styles of learning** (Prohorets and Plekhanova, 2015). Regardless of the style of learning, individuals shall find something which is convenient for them from the diversity of modern tools for teaching and studying (Benson and Kolsaker, 2015, p. 324);
- developing social competence – increasing the **interaction** between student-teacher, student-student, student-content, student – non-formal external resources (Ruokonen and Ruismäki, 2016, p. 110);
- **Own speed of studying** – students can observe their own speed of studying without depending on other trained students (Yalçınkaya, 2015)
- **Individualization of the educational process** – the different levels of students' knowledge could be balanced individually at the beginning of the course without obstructing other participants in the training process (Yalçınkaya, 2015). There is a great variety of tasks in the online component of the blended course which contributes both for elimination of knowledge gaps and for more profound learning.
- Gradual **change of learning** – from learning the focus of which is content towards learning in which trained students become active (Ruokonen and Ruismäki, 2016, p. 110);
- The lecturer performs a few **interrelated roles** and one of the main roles is that of tutor who supports students in their choice of an individual course of training, as well as a study content consultant. Lecturers remain key figures in educational process but they also perform various activities from teaching knowledge to organizing the educational process (Krasnova and Demeshko, 2015, p. 405-406).
- **Purposeful, intensive and controlled self-educating work**. Blended learning stimulates the development of skills for individual learning and for searching information which contributes for the development of responsible attitude towards learning, motivation and time management (Krasnova and Demeshko, 2015, p. 405-406).
- Organizing **joint learning activities** (collaboration), including group project work, carrying out discussions and seminars organized as forums and video conferences (Krasnova and Demeshko, 2015, p. 405-406).
- **Flexible learning approach**. Blended learning suggests flexible curriculum which gives opportunity to choose modules, speed and time for studying (Krasnova and Demeshko, 2015, p. 405-406).

The analysis of advantages and restrictions of learning environments leads us to the conclusion that blended learning causes **change in learning strategy**.

3. Factors for Successful Application of Blended Learning Courses

Despite the blended learning method is relatively new as mentioned above, the interest towards it is increased because this method combines traditional and innovative practices.

In our opinion, the success of blended learning depends on: the organization of learning, quality of the virtual environment and the degree of students' and lecturers' preparation in a virtual environment.

3.1. First: organization of education

The organization of education includes a variety of used methods and means, structure and content of the study course, new ways of teaching, time allocation of study activities, teaching and studying styles, etc.

New ways of teaching

A new promising approach which is a form of blended learning is the so called Inverted classroom model in which the time for transfer of knowledge and the time for exercises are inverted.

In principal, the idea is the following: what is usually done in class shall be done at home and what is usually done as homework should be done in class (Steele, 2013, p. 2; Kharbach, 2012; Bergmann and Sams, 2012, p. 13; Caligaris et al., 2016, p. 838).

Types of flipped classrooms (Steele, 2013)

Traditional Flipped classroom – the model with which most lecturers start when they have never 'flipped' their classroom.

Mastery classroom – this is usually an evolved version of the traditional flipped classroom in which all students work individually with their own speed of learning.

Peer Instruction Flipped Classroom

Students study the basic material outside the classroom by using video lessons. While being in class, they individually answer some key conceptual questions. The lecturer collects their answers and groups them in pairs in terms of correct or false answers. In most case, the student that gave a correct answer manages to convince his/her peer in the truthfulness of his/her answer. It is unlikely for a student who gave a wrong answer to convince a colleague who has answered correctly.

Problem-based Learning Flipped Classroom

In this model, students make a research on a certain matter and learn during the research process. During the research process, students watch related video lessons which would help them solve occurring tasks.

The flipped classroom is a promising technology which should not be underestimated because it has a great pedagogical potential both for lecturers and students which is contained in the following aspects:

- The integration of the flipped classroom in the study process leads to increased motivation and interest of students for learning.
- Besides, the method has a positive impact upon students' self-discipline and self-control which is due to the fact that students assume responsibility for their own learning. Regardless of the fact that the number of face-to-face activities is reduced, the quality of the learning process is not affected.
- Besides, the results from cited research show that there is an improvement of students' academic achievements.

The virtual classroom is another new method of teaching based on technologies

The virtual classroom is an online learning environment which imposed an approach which is focused on the student. Just like it is in the real classroom, in the virtual classroom

the student takes part in a synchronous communication which means that the lecturer and students have entered in the virtual classroom at the same time.

Examples of using social media as a virtual classroom:

First example

The increased influence of social media (like Facebook, Twitter, MySpace, LinkedIn) leads to:

- significant changes in the distribution of information;
- new ways for teaching students in academic institutions (Milošević et al., 2015; Chawinga, 2017, p. 5).

Regardless of the fact that many authors admit the educational potential of Facebook, they still do not consider it an official means of educations but only as a means for non-formal help in education through mutual communication and interaction between students (Milošević et al., 2015).

Second example of the virtual classroom application in a university environment

During the academic year 2016/2017, I applied the blended learning method to all students I teach regardless of their form of education at the University of Veliko Tarnovo.

First type of blended learning – here we blend the traditional learning environment (for students from Bachelor programmes, full-time education and extramural studies, that study the subject 'Audio-visual and information technologies in the field of education) and an asynchronous learning environment (by using the options of the 'E-student' information system)

The study course and individual work tasks are published in the 'E-teacher' information system so that students can use whenever and wherever it is convenient for them. While in lectures we discuss, present projects as digital lessons on an interactive white board, audio and video didactic means which are elaborated by students as individual tasks or in groups with or without the help of a lecturer. The motivation of students is increased because each of them is able to present himself/herself, manifest his/her creativity, compare himself/herself with colleagues from the group in order to share his/her experience, get an evaluation and recommendation by colleagues, etc.

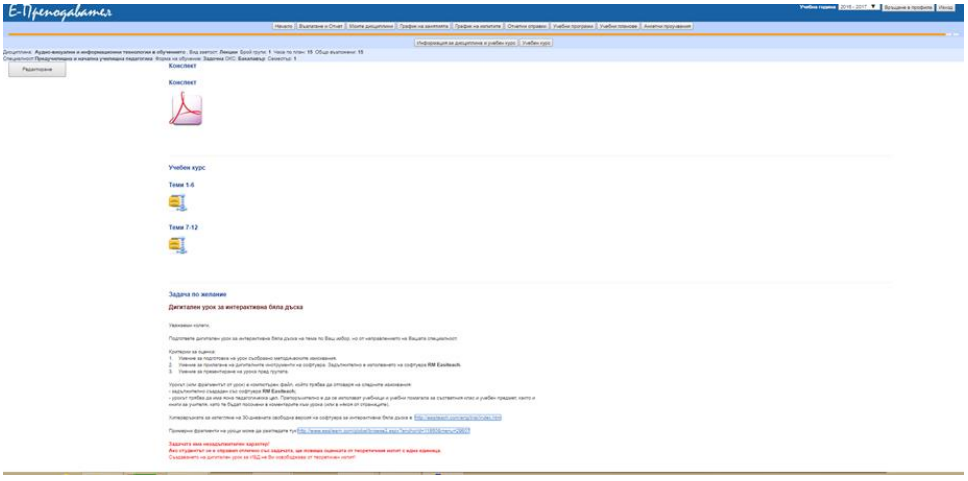

Fig. 1 The study course and individual work tasks are published in the 'E-teacher'

The *second type* – here we blend synchronous and asynchronous electronic learning environment (for students from the Master's programme of the Faculty of Pedagogy: Information and communication technologies in the distance learning form of education). The subject is called 'Pedagogy of 21st century'. The realization of an asynchronous learning environment requires the use of the internet-based distance learning platform which was specially created for the needs of Veliko Tarnovo University. Study resources are published in this system – synopsis, topics and individual work tasks. Students are able to work with this environment in a convenient time and place for them. The options of Microsoft Office 356 are used for the realization of a synchronous learning environment.

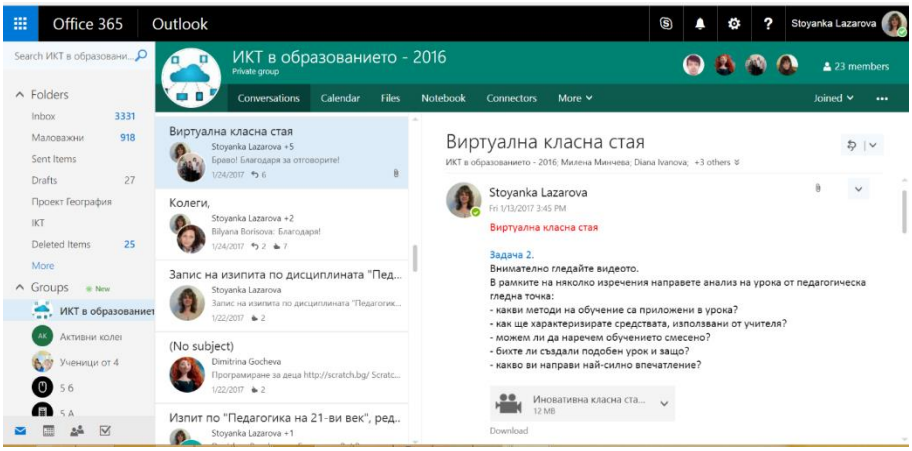

Fig. 2 Invitation for a virtual classroom

With the help of Skype for business purposes we managed to organize a virtual classroom in which we managed to realize an online communication in real time. Students presented projects created by themselves, they discussed and assessed themselves and other; they asked questions and searched for answers, etc. All of them were online at an exact hour and we were able to see and hear each other regardless of the distance between us. Students were particularly interested in this form of communication and said that it is completely satisfactory for working people like themselves.

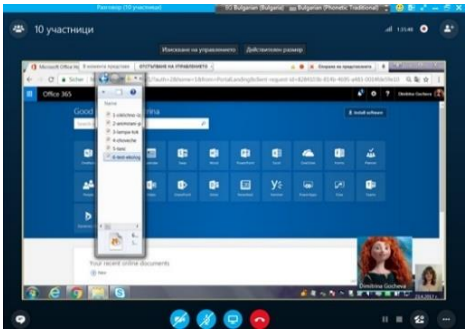

Fig. 3 Virtual environment

3.2. Second: virtual environment quality

In the past few years, the statement that technology could be a catalyst for better or harder studying rather than a cause for it has been imposed.

Numerous examples can be given to support this statement.

According to a group of Australian scientists, in the next few years multimedia technologies for collaboration will become so invisible that students and lecturers that interact between each other from different geographic areas will start feeling like they are in one and the same room (Bower et al., 2015).

3.3. Third: the degree of willingness of students and lecturers in the virtual environment

The success of blended learning not only depends on the quality of education and the virtual environment, it also depends on the degree of lecturers' and students' willingness to work in a virtual learning environment.

That is why there is a great amount of research in this field, the results from which show that lecturers choose teaching methods and means spontaneously (Benson and Kolsaker, 2015, p. 324).

Here at the University of Veliko Tarnovo we make annual research about students' opinion of their education. At the end of the winter semester of the current academic year, 99 students with distance form of education from 5 faculties were inquired. The blended course is based on attendance and non-attendance periods; attendance periods are realized within the traditional learning environment while non-attendance periods are in an asynchronous learning environment.

A large amount of inquired students (93%) have a positive attitude towards the blended course (a combination of traditional face-to-face lectures and electronic asynchronous learning in a virtual environment). In open questions, distance learning students shared that they prefer distance communication (synchronous and asynchronous) due to their impossibility to travel and attend lectures and that they are completely satisfied with the opportunity to work jointly in an online community.

An inquiry research of full-time and extramural form of education students showed their desire and willingness to get the study content in the form of electronic resources; while attendance lectures should not be presented as traditional lectures where the student is the passive recipient of knowledge and is occupied with taking notes, but rather lectures should be filled with learning activities in which theoretic knowledge is put into practice.

4. Information System 'e-university'

The rapid integration of information systems and technologies in each field of human activity characterizes contemporary society and determines its appearance. The main task of today's university is to carry out an education process and to apply the results from research activity. The contemporary university environment is characterized by intertwined complex relations between different groups of people – students, lecturers, research workers, academic board, employees, employers, and business.

Computers and information systems are rapidly integrating in each sphere of life. Information systems are exactly what the survival of companies in today's globalized world

depends on. In a sense, education has reached a new stage of development in line with information systems which are now being more and more productive, efficient, optimal and successful. Practical experience shows that despite all existing qualitative theoretical research and works as well as the widespread application of management information system patterns at the non-production field, introducing them in education (in particular – university environment) requires special attention and sets additional requirements (Selçuk Köylüoğlu et al., 2015).

4.1. Basic concepts

As the name implies, the integrated information system aims at giving an opportunity to different administrative units to share data and to communicate more effectively with one another. Simultaneously, the educational information ecosystem represents evolutionary stage of 'informatization' and 'ecologicalization' at the educational system or an 'ecological' stage of the educational information system. The educational information ecosystem is self-organized and adjusting system in which information, people and the educational information environment interact with each other and adjust themselves individually among a certain information space (Zhu et al., 2012). In our opinion, an integrated information system in the context of university environment represents a computer integrated, multidimensional and multifunctional system which provides complete coherence of formalized and operative processes, procedures and cooperation agreements in all spheres of activity in university environment so that data and information about the university such as lecturers, students, teaching activities and assessment results are shared, integrated, analyzed and distributed on regular basis for use at each level of educational hierarchy.

The success of the educational integrated information system depends on three factors:

- Timely and reliable production of data and information
- Integrating data and exchange of data between the units;
- Effective use of data and information for decision making in the field of educational policy.

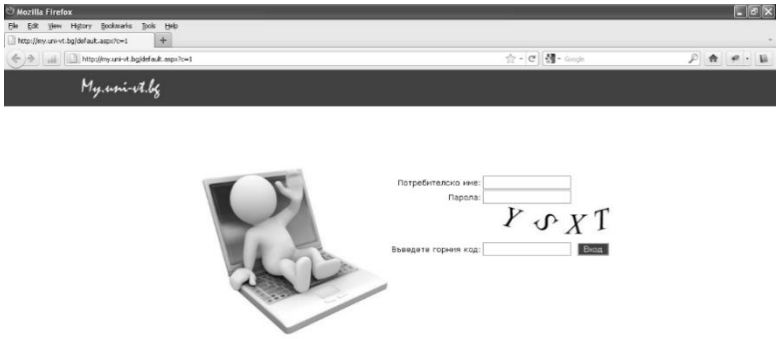

Fig. 4 The personal accounts system

4.2. 'E-University'[2] Subsystem

The access to this system is provided through the personal accounts system which can be reached at http://my.uni-vt.bg.

The access requires entering username, password and the symbols from the protection code. The 'E-University' system can only be used through its defined rights. After acknowledging the rights, the home page of the system looks like this:

Fig. 5 The 'E-University' system

The command buttons are situated at the upper end of the screen. These buttons are used for selecting the desired action.

- The 'Home' button provides access to the home page;
- The 'Selecting units' button provides access to the page for selecting units from the university structure;
- The 'References' button provides access to the reference system;
- The 'Search' button provides access to the page for global search at the university staff, students and Ph.D. students;
- The 'Help' button provides access to supporting information about the system;
- The 'Back to your account' button provides access to your personal account;
- The 'Exit' button takes you out of the system and transfers you to the public page.

Once again you will have to go through the certification process after this action is completed.

Some activities in this system are oriented to a specific unit. The unit selection is realized through the 'Unit selection' button.

[2] The information system (IS) 'E-University' is developed under project BG051PO001-3.1.08-0042 'Elaboration of management systems at St. Cyril and St. Methodius University of Veliko Tarnovo' and aims at supporting management activity.

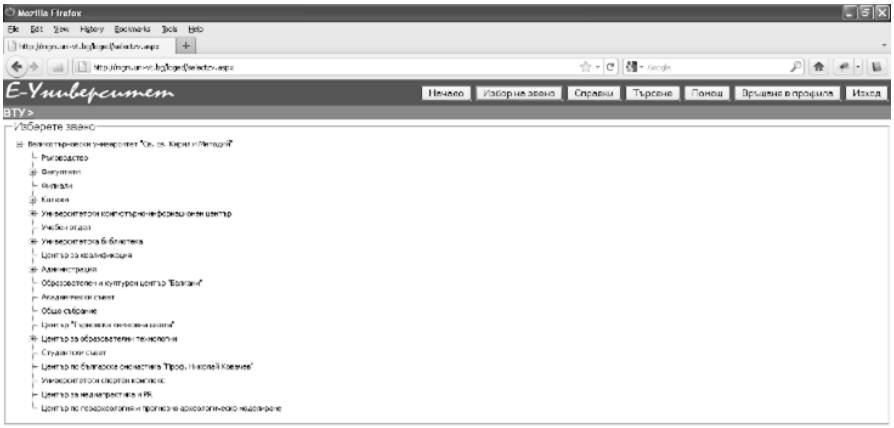

Fig. 6 The selection is realized through clicking on the name of the desired unit

The selection is realized through clicking on the name of the desired unit. Upon this, the user is redirected to a page providing information about the unit. The name of the selected unit is written at the upper end of the screen, under the logo of the 'E-University' system. Depending on the selected unit, one may access data of the unit staff or if this is a faculty, college or branch, one may access the curriculums, the students and the PhD students.

The access to all university units is restricted. This is due to the fact that the system is oriented to different levels of access. For example, the following users: Rector, Deputy Rector, Head of Student Affairs Office can select each unit while the users: Dean and Deputy Dean can only select the subunits of the Faculty they manage. When the St. Cyril and St. Methodius University of Veliko Tarnovo unit is selected from the unit list, all specialties, students, PhD students and university staff are shown. The screen photo shows this page of the Faculty of Pedagogy.

Three new buttons are displayed at the upper part of this page:

- Unit information – provides access to the page;
- Unit structure – Provides access to the page containing the unit structure;
- Students and PhD students specialties – provides access to the page containing information about specialties, curriculums, students and PhD students.

The 'Unit structure' page contains a list of the staff working at the selected unit and its subunits. The information available in this list consists of title, degree, name, father's name, surname, e-mail, unit and position. The list can be sorted by columns through clicking on the title of the column. Additional information about a specific staff member can be obtained by clicking the 'Open' button situated at the left part of the list under each staff member.

'Specialties, students and PhD students' page

A navigation bar is situated at the upper end of this page which contains boxes for selecting specialty type, form of education, specialty and year. The command buttons 'Curriculum', 'Students' and 'PhD students' are also available. It is necessary to select specialty type, form of education, specialty and year and use the 'Curriculum', 'Students' and 'PhD students' buttons afterwards.

We will examine the action of these three buttons.

'Curriculum' button – provides access to the 'Curriculum' page. The 'Curriculum' page is divided into four sections: Home page, Qualification description, Blocks and subjects, Notes. The access to these sections is realized through the respective buttons situated at the upper end.

'Students' button – provides access to the page containing a list of the students from the selected specialty and year.

Buttons for searching under faculty number or name are available at the upper end of this page. If a student who corresponds to this information is found, the line on which his name is situated is marked in a darker colour.

The list can be sorted by columns through clicking on the title of the column. The 'Open' button, situated at the beginning of each line from the list, shall be used so that all detailed information about the student is visible. When this button is used, the page containing detailed information about the student will be opened. The upper part of the page shows information about the current status of the student. The main part of the page is divided into two parts – left and right. The navigation bar is situated at the left part and it provides the following options:

- **'Specialties and students' button** – getting back to the list of students from the specialty
- **'Personal information' button** – access to the personal information page. This page is opened by default when using the 'Open' button from the list of students.
- **'Semestral examinations' button** – access to the page with subjects studied
- **'Orders' button** – access to the page containing information about orders
- **'Certified semesters' button** – access to the page containing information about certified semesters
- **'Paid fees' button** – access to the page containing information about paid fees
- **'State examinations' button** – access to the page containing information about state examinations
- **'Issued documents' button** – access to the page containing information about issued documents.

The page containing information about issued documents displays a list of documents issued to a specific student. There is an 'Open' button at the beginning of each line which gives access to detailed information about the issued document.

The staff and PhD students' information is organized in a similar way.

Now we shall get back to discussing the buttons at the upper part of the screen. The **'References'** button provides access to the reference system which contains various references for a selected unit.

The 'Search' button provides an option for global search among unit structure, students and PhD students. The screen photo shows a result from a search by the surname 'Andreev'.

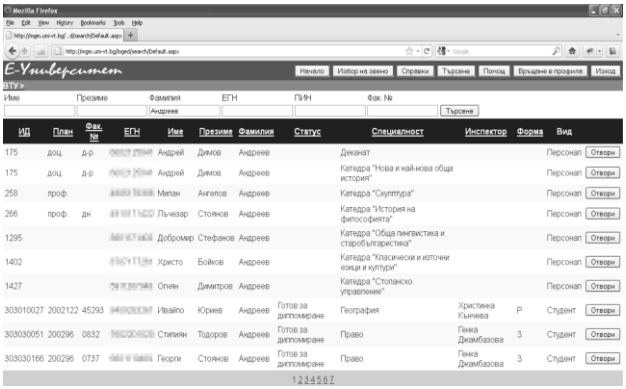

Fig. 7 The screen photo shows a result from a search by the surname ‘Andreev’

If a coincidence upon the set search criteria is found in the list, all people corresponding to the set criteria will be displayed.

Detailed information about everyone included in the list can be examined. It is necessary to use the ‘Open’ button situated at the right end of the table against each name. Depending on the category to which the specific person belongs, a redirection to information about staff, a student or a PhD student shall be made. It is possible that the user may not be entitled to examine detailed information in accordance with the set levels of access.

5. CONCLUSION

The suggested integrated management information system is an attempt for comprehensive solution to specific issues of the contemporary university environment related to intertwine complex relations between different groups of people – students, lecturers, research workers, academic board, employees, employers, and business. The carried out research has a certain contribution to the theory and practice of Pedagogy in the field of information systems for education management.

The methodology developed by the author complies with the contemporary trends in the field of information systems in modern education. The developed model may be put into practice at the management of various activities at St. Cyril and St. Methodius University of Veliko Tarnovo.

On the base of own experience and the research that we analyzed, we could say that the application of blended forms of learning is an innovative teaching and training approach which guarantees independence on time and place; there is an opportunity to use different media, individualize the learning process, opportunity to use different styles of learning, organizing joint learning activities.

The successful application of this approach together with the organization of education and the quality of the virtual environment require the presence of the human factor which is really significant here – namely the presence of a lecturer who is able to combine different types of learning environments in order to provoke his/her students to perform various types of activities and develop their potential abilities and talents in the future.

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PRIMENA KURSEVA MEŠOVITOG UČENJA ZA OBRAZOVANJE NA SAVREMENOM UNIVERZITETU. INFORMACIONI SISTEM ‘E-UNIVERZITET’ NA UNIVERZITETU U VELIKOM TRNOVU, BUGARSKA

U poslednjih nekoliko godina, mešovito učenje se sve brže širi na polju obrazovanja širom sveta. Ideja kombinovanog učenja deluje privlačno jer omogućava očuvanje tradicionalnih oblika obrazovanja koji proističu iz vekovima akumuliranog pedagoškog iskustva kroz korišćenje različitih obrazovnih funkcija novih tehnologija. U radu je predstavljena metodologija razvijena od strane autora koja predstavlja ključni podsistem integrisanog informacionog sistema upravljanja Univerziteta u Velikom Trnovu, pod nazivom “E – Univerzitet” podsistem. Na osnovu analize dosadašnjih istraživanja i sopstvenog iskustva, predstavljene su mogućnosti korišćenja različitih medija u cilju individualizacije procesa učenja, korišćenja različitih stilova učenja, organizovanja aktivnosti grupnog učenja. Uspešna primena ovog pristupa, zajedno sa organizacijom obrazovanja i kvalitetnim virtuelnim okruženjem zahteva prisustvo ljudskog faktora koji je sposoban da kombinuje različite tipove okruženja za učenje kako bi provocirao studente da obavljaju različite tipove aktivnosti i razvijaju potencijalne sposobnosti i talente u budućnosti.

Ključne reči: *mešovito učenje, E-Univerzitet, organizacija obrazovanja, univerzitetski informacioni sistem*

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