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Message from the Editor

I am very pleased to publish first issue in 2021. As an editor of Turkish International Journal of Special Education and Guidance & Counselling (TIJSEG) this issue is the success of the reviewers, editorial board and the researchers. In this respect, I would like to thank to all reviewers, researchers and the editorial board. The articles should be original, unpublished, and not in consideration for publication elsewhere at the time of submission to Turkish International Journal of Special Education and Guidance & Counselling (TIJSEG), For any suggestions and comments on TIJSEG, please do not hesitate to send mail. The countries of the authors contributed to this issue (in alphabetical order): Brazil, Gambia, Nigeria, North Cyprus, and Turkey.

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Editor in Chief

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Research Articles

PATTERNS OF GRAFFITI BEHAVIOUR AMONG IN-SCHOOL ADOLESCENTS IN ILORIN METROPOLIS, KWARA STATE

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Abstract

Graffiti is one of the salient and less recognized deviant behavours in schools and among the research scholars, particularly in Nigeria. In view of this, this study investigated the patterns of graffiti behaviour among in-school adolescents in Ilorin metropolis, Kwara State. The study followed the descriptive survey design; using a proportionate sampling technique to select 390 respondents. The instrument used was a self-designed "Patterns of Graffiti Behaviour Questionnaire" with Cronbach reliability coefficient of .81. About 74 copies of the questionnaire were not returned; while 126 copies were wrongly filled; hence, 200 copies of the questionnaire were included in data analysis. Percentage, t-test and Analysis of Variance (ANOVA) statistics were the data analyses tools employed in this study. The results showed that inscription on the school toilet walls, drawing sex organ on toilet walls and drawing of a female's breast on school wall to communicate sexual harassment are the topmost patterns of graffiti behaviour among in-school adolescents in Ilorin metropolis. The hypotheses tested indicated that (gender, age and family; p=.10; .08 and .16>.05) have no significant influence on the patterns of graffiti behaviour among the respondents. Sequel to the outcome of this research, relevant recommendations were provided.

Keywords: Patterns of graffiti behaviour, in-school adolescents, Ilorin metropolis.

INTRODUCTION

The term "graffiti" originated from the Italian word "graffito" which simply means "any form of disgusting writing, inscriptions, sketches on a specific platform, doors or surface of private or public places, toilets, parks, vehicles or commuters, usually bearing some sexual, gangs' slogan or political stuff, proposition, a lover's vow or irritating words" (Chiluwa, 2008; Olofin, 2013). It is an "informal or illegal symbols, carvings, scratching, paintings or drawings deliberately done by an individual on any physical space" (Environmental Campaigns Limited, 2008). Graffiti is the act of drawing on people's properties or public spaces without the consent of the owners. In this regard, graffiti is an antisocial behaviour in which its prevalence varies from society to society but attracts some penalties across social strata (White, 2001). This is because it is considered as defacement and vandalism behaviour punishable by the law.

Graffiti is an act or behaviour commonly found among the youth and many secondary school adolescents do perpetrate the act. Graffiti, in a general context, does not portray deviancy or

delinquency in entirety; it has been acknowledged as a creative art for its certain form of "uniqueness in terms of visual and language manifestation with a holistic and special aesthetics" (Kan, 2001). However, graffiti might become destructive or anti-social when it is being used to cause conflict among individuals, to deface beautiful spaces, when it used for political aggrandizement, to publicise gangsters' motives/activities or to unreasonably challenge the school authority on a specific decision. That is, any form of graffiti working against the achievement of the primary goals and objectives of the educational system could be referred to as anti-social behaviour. This is why Kan (2001) described graffiti in high schools as an unnecessary and indirect disruption of the overall educational system that distracts students from vigorous pursuant of their primary academic goals.

Students often create graffiti with different tools such as marker, paint, pens, pencils, chalk, charcoal, knives and other sharp objects. It is thus a design of human and a type of communication that can be inferred from, examined and understood by the target audience. Graffiti has been viewed as an unwelcome resentment or a sign of revolt against the constituted authorities and a complete sign of destructive behaviour that must be checkmated (Nwoye, 2003). It is regarded as an alternative form of personal and interpersonal communication that is free of ordinary social limitations that prevent people from voicing out their thoughts and a source of information about significant social issues and problems (Abel & Buckley, 2000; Yieke, 2003).

Idowu, Esere and Ajiboye (2017) observed that graffiti is an anti-social behaviour among youngsters that has received less recognition in the research parlance, particularly in Nigeria. Graffiti is a behavioural attempt to create recognition in the society. In Nigeria, graffiti exists in artistic form among students, but mostly with the use of chalks and charcoal, as a substitute for the spray paints (Achi, 2010). In this new age, despite the advent of modern vehicles or other transportation means, computers and more, wall surfaces and doors are still being used by the students to produce graffiti. Drax (2002) stated that students majorly draw graffiti on toilet, bathroom and classroom walls, as channels to repress and communicate their feelings, views and belief meant to inform the readers, persuading them towards a particular point of view, influence them towards more positive goals, warn about impending danger and integrate all concerned for collective involvement in developmental effort.

According to Morva (2016), graffiti may take different patterns; it may take the form of written language whose authorship usually remains anonymous. The bahaviour might be characterised by aggression towards people and animals, fire setting and theft. Secondary school students use it as a communication channel when they feel that other means to express themselves have been blocked by the authority in charge. Graffiti also manifests through the hip-hop music or 'b-boying'; gang uses graffiti to demarcate territory as an indicator of gang-related activities (Mwangi, Gathumbi, & Adelheid, 2015).

Graffiti include symbols drawn or written on public spaces (walls or doors of buildings, classroom desk and chair, trains, or buses). It may also come in forms of tag, which contains a highly stylish typography or numbers and words that are typically illegible by non-members of the group. Public graffiti (written or inscribing on toilet walls, doors or open space) is the most visible and prolific form of graffiti among youngsters, which may express some basic social, occultic or political messages Gomez, 2003). Different patterns of graffiti exist in Nigeria but, they are mostly practiced by adolescents in secondary schools.

Graffiti in secondary schools could help to explain some behaviour manifested by the students as they try to express their needs, wishes and grievances, and such impact on their learning. Graffiti written by students in classrooms that depicts violence and use vulgar language could give a negative impression to the teachers about that particular class. This could mar teaching and learning process as the teacher would not feel safe and would have no confidence in the class (Phillips & Wallbangin, 2004). Students opposing the school directives may find it difficult to express their mind openly but convey their grievances through graffiti for fear of negative result from confronting the authorities. In making

graffiti, students may use codes that are exclusively understood by the writer and the target audience. From a survey finding, Teeyan and Dryburgh (2000) discovered that the main reasons for graffiti behaviour among adolescents were peer influence, self-gratification and practical uses.

Graffiti undermined the safety of people because of the impression that spaces and properties are not respected and adequately cared for; so it can lead to fear and anxiety in the society (Sutton, Cherney, & White, 2008). Perceptions of graffiti as vandalism and its impact on feelings of safety are based on its association with more severe types of offending. According to Bandaranaike (2001), anxiety about crime being out of control has been attributed to the existence of graffiti in the society and its presence to be an indication of a general decline in the quality of public space which may result in more serious crimes.

Traditionally, it is assumed that graffiti makers come from socially disadvantaged background. However, research evidence might not be in support of this. The London Assembly Graffiti Investigative Committee (2001) found that the socioeconomic background of an individual is largely irrelevant in determining whether a person becomes a graffiti maker or not. Age on the other hand, was revealed in the finding as a key variable in tagging; mainly perpetrated by young males between the age of 11 and 16 years; while the more advanced pieces were produced by older individuals. This above discourse prompts the researcher to examine the patterns of graffiti behaviour among in-school adolescents in Ilorin metropolis, Kwara State.

Statement of the Problem

Graffiti has been viewed as a significant aged-long cultural phenomenon. Despite their significance, they are also repulsive; being perceived as a mere illegal act of destruction and misbehaviour that heightened the general fear of crime and results in damage to public or private properties (DeNotto, 2014; El-Nashar & Nayef, 2016). However, students still produce graffiti on walls or doors despite the several networks that the digital world offers them to express their opinions freely (Matthews, Speers, & Ball, 2012). This phenomenon is visible on almost every feasible surface in secondary schools' parks, chalk board, doors and restrooms.

Graffiti value is a complex social issue that has propelled different and conflicting perspectives between sections of the society. In many secondary schools, students are usually found of producing graffiti that are visible on almost every conceivable surface, like corridors of offices and buildings, bathroom and toilet walls, in/on vehicles and other properties. It is not uncommon to find graffiti nuisance on the classrooms' chalkboard, teachers' furniture, students' desks and chairs, dormitories and dining halls in the school environment. According to Crystal (2007), one of the negative effects of graffiti is that it can make an environment become nuisance. It is often stressed that its presence contributes to a general sense of immorality and intense fear of crime.

Previous studies on patterns of graffiti are scarce, particularly, in Nigeria. For instance, Achi (2010) study focused on pragma-semiotic analysis of graffiti of Kaduna Polytechnic students. Plenty and Sundell (2015) examined graffiti as an antecedent to future behaviour during adolescence. Sampling teachers' opinion, Idowu, Esere and Ajiboye's (2017) study was also on social media as well as graffiti on behaviour of secondary school students in Osun State. Many of the previous studies were silent on the patterns or forms of graffiti behaviour among secondary school students and none of the studies was carried out in Ilorin metropolis. This indicates that, perhaps, few studies exist on graffiti behaviour among in-school adolescents. The researchers thus deem it essential to fill the research gap uncovered by prior researchers by determining the patterns of graffiti behaviour among in-school adolescents in Ilorin metropolis, Kwara State. Therefore, relevant research question that focused on the main objective of this study is:

- What are the patterns of graffiti behaviour among in-school adolescents in Ilorin metropolis, Kwara State?

The following hypotheses support the main research question of the study:

- There is no significant difference in the patterns of graffiti behaviour among in-school adolescents in Ilorin metropolis based on gender.

- There is no significant difference in the patterns of graffiti behaviour among in-school adolescents in Ilorin metropolis based on age.

- There is no significant difference in the patterns of graffiti behaviour among in-school adolescents in Ilorin metropolis based on family type.

METHOD

Research Model

Using a quantitative research approach, this study determined the patterns of graffiti behaviour among the target respondents. Therefore, the choice of descriptive research design of the survey type made it possible for the researcher to elicit required information, through the use of questionnaire, from the sampled respondents on the patterns of graffiti behaviour among in-school adolescents in Ilorin metropolis, Kwara State.

Study Population and Sample

The population for this study comprises all secondary school students in Ilorin metropolis, Kwara State which was 195.717 students (Kwara State Ministry of Education, 2019). Based on the population size, a sample of 384 (Research Advisor, 2006) was selected using proportionate sampling technique. Proportional sampling technique was used to select schools in Ilorin South, Ilorin West and Ilorin East in ratio 3:4:3 based on the number of schools in each Local Government Area. However, for even distribution across the selected schools, the researcher increased the sample size to 390; thus, random sampling was used to select 39 respondents from the 10 selected secondary schools in Ilorin metropolis.

Data Collection Tool

The main instrument used for this study was tagged "Patterns of Graffiti Behaviour Questionnaire" (PGBQ). It is a self-designed questionnaire, which consists of sections A and B. Section A focused on the demographic data of the respondents; while section B contained twenty (20) items on patterns of graffiti behaviour. Participants responded to the items using the four point Likert-type rating scales format of: Strongly Agree; Agree; Disagree and Strongly Disagree. The instrument has a Cronbach reliability coefficient .81 and this adjudged it reliable for the study.

Based on the scoring pattern of the questionnaire, the average mean score is 2.50 (4+3+2+1/4), which was considered as the benchmark for determining the patterns of graffiti behaviour among in-school adolescents. An average mean score of 2.50 and above was rated as the topmost patterns of graffiti behaviour; while an average mean score less than 2.50 was rated undermost patterns of graffiti behaviour among in-school adolescents in Ilorin metropolis, Kwara State.

Analysis of Data

The data obtained was analysed using frequency and percentage for the demographic data section. T-test and Analysis of Variance (ANOVA) statistics were used to compare the mean of different groups as stipulated in the hypotheses. The t-test statistics was used to compare the means of two groups; while Analysis of Variance (ANOVA) was used to compare mean scores of three or more groups. All hypotheses were tested at .05 level of significance.

RESULTS

Originally, 390 copies of questionnaire were administered to the respondents, but due to an unforeseen circumstance about 74 copies were not returned and 126 copies of the questionnaire were invalid for data analysis because they were wrongly filled by the respondents. Hence, the results of this study were processed on the remaining 200 valid copies of the questionnaire. Therefore, out of the 200 recognised participants, 70 (35.0%) were males; while 130 (65.0%) were females. This shows that the majority of respondents were females. Based on respondents' age, 62 (31.0%) were between 10-14 years, 100 (50.0%) were between 15-19 years; while 38 (19.0%) were between 20 years and above. This shows that the majority of respondents were between in their mid-adolescents. With respect to family type, 126 (63.0%) of the respondents were from monogamous family; while 74 (37.0%) were from polygamous family. This shows that the more of the respondents were from monogamous family.

Research Questions: What are the patterns of graffiti behaviour among in-school adolescents in Ilorin metropolis?

Table 1. Mean and rank order on the patterns of graffiti behaviour among in-school adolescents.

N	To the best of my knowledge, graffiti behaviour occur among secondary students in form of:	Mean	Rank
16	inscription on the school toilet walls	3.42	1st
12	drawing sex organ on toilet walls	3.21	2nd
20	drawing of a lady's breast on school wall to communicate sexual harassment	3.13	3rd
8	making symbols and drawings on public spaces so as to spread messages to a larger audience	3.12	4th
5	decorating the street with posters that express students' grievances	3.10	5th
10	etching of names into desks	3.05	6th
1	writing of a schematic signature on a wall	2.93	7th
17	writing on placards to engage in a struggle for a better social order	2.88	8th
16	writing teachers' character on the classroom's chalk board	2.77	9th
7	repetition of nicknames or words of rebellion on public walls	2.77	9th
3	telling a tale or stating a question on a wall	2.77	9th
4	presenting a political ideology through placard	2.75	12th
13	inscription of horrific drawing (such as human skull) to symbolise gang activities	2.71	13th
9	inscription of horrific drawing (such as human skull) to symbolise gang activities	2.70	14th
18	writing of poetry on dull public spaces	2.68	15th
11	posting of one's picture on school walls to receive admiration from other students	2.68	15th
19	writing of insulting words on class doors	2.68	15th
2	drawing symbols on walls as a way to display power over rival gangs	2.67	18th
15	drawing of artificial symbol on a government properties to express their wishes	2.65	19th
14	painting of colour that symbolises the gang in which the students belong	2.56	20th

The Table 1 shows that all the 20 items have mean scores that are above the average mean value of 2.50. This implies that all items on patterns of graffiti behaviour among in-school adolescents were all agreed upon by the respondents. However, items 6 with a mean score of 3.42, 12 with a mean score of 3.21 and 20 with a mean score of 3.12 were ranked as the top three, that is, 1st, 2nd and 3rd respectively. The items confirmed "inscription on the school toilet walls", "drawing sex organ on toilet walls" and "drawing a lady's breast on school wall to communicate sexual harassment". Based on the topmost identified items and the fact that all the items have above 2.50 mean values, it is inferred that there are numerous patterns of graffiti behaviour engaged in by in-school adolescents but the most common are inscription on the school toilet walls, drawing sex organ on toilet walls and drawing a lady's breast on school wall to communicate sexual harassment.

Hypothesis One: There is no significant difference in the patterns of graffiti behaviour among in-school adolescents in Ilorin metropolis based on gender.

Table 2 presents the calculated t-value of .06 with a corresponding p-value of .10 which is greater at .05 alpha level. This indicates that there is no significant difference in the patterns of graffiti behaviour among in-school adolescents based on gender; hence, the hypothesis was retained. Therefore, male and female in-school adolescents are similar in their patterns of graffiti behaviour in Ilorin metropolis.

Table 2. Mean, standard deviation, and t-test comparing patterns of graffiti behaviour among in-school adolescents in Ilorin metropolis based on gender.

Gender	n	Mean	Std.Dev.	df	Cal. t	p-value
Male	70	57.20	9.765	198	.06	.10
Female	130	57.12	8.970			

Hypothesis Two: There is no significant difference in the patterns of graffiti behaviour among in-school adolescents in Ilorin metropolis based on age.

Table 3. ANOVA comparing patterns of graffiti behaviour among in-school adolescents in Ilorin metropolis based on age

Sources	Sum of Square	df	Mean Square	Cal. F	p-value
Between Group	427.440	2	213.720	2.55	.08
Within Group	16532.693	197	83.919		
Total	16959.500	199			

Table 3 presents the calculated F-ratio of 2.55 with a corresponding p-value of .08, which is lesser at .05 alpha level. This implies that there is no significant difference in the patterns of graffiti behaviour among in-school adolescents based on age; hence, the hypothesis is retained. Therefore, age has no influence in the patterns of graffiti behaviour exhibit by in-school adolescents in Ilorin metropolis.

Hypothesis Three: There is no significant difference in the patterns of graffiti behaviour among in-school adolescents in Ilorin metropolis based on family type.

Table 4. Mean, standard deviation, and t-test comparing patterns of graffiti behaviour among in-school adolescents in Ilorin metropolis based on family type

Family type	n	Mean	Std.Dev.	df	Cal. t	p-value
Monogamous	126	56.45	9.427	198	1.40	.16
Polygamous	74	5834	8.824			

Table 4 presents the calculated t-value of 1.40 with a corresponding p-value of .16 which is greater at .05 alpha level. This indicates that there is no significant difference in the patterns of graffiti behaviour among in-school adolescents based on family type; hence, the hypothesis was retained. Therefore, family background is not a determinant of students' involvement in various forms of graffiti behaviour.

DISCUSSION and CONCLUSION

The findings of the study revealed that inscription on the school toilet walls, drawing sex organ on toilet walls and drawing of a lady's breast on school wall to communicate sexual harassment as the patterns of graffiti behaviour among in-school adolescents in Ilorin metropolis, Kwara State. This implies that graffiti acts are more rampant among in-school adolescents in different secondary school in Ilorin metropolis, Kwara State and it boils down to risky sexual behaviour. Inscription (writing of anything) on the school toilet walls, classroom board or store doors is one of the ways in-school adolescent express graffiti behaviour in the school environment. This can be easily seen or observed when one gets to the toilet; classroom or stores of different schools. However, many teachers or other school staff hardly pays attention to this behaviour exhibited by students. Sometimes, the student could have rub-off whatever signs or symbol placed on the classroom chalkboard before the teacher's arrival or removes it from where it can be easily sighted by those in authority. The findings was in line with study of Mwangi (2012) who reported that, in most secondary schools, there had been persistent writing of graffiti on the walls of classrooms, toilets, libraries, dormitories and laboratories. Students sometimes used various codes and complex graffiti to communicate among themselves and

understanding these codes could help to understand what transpires amongst them and their behavioural intents.

It was also discovered that drawing sexual organ on toilet walls is another patterns of graffiti behaviour among in-school adolescents in Ilorin metropolis, Kwara State. This, perhaps, is one of the ways by which in-school adolescents expressed their sexual feeling about the opposite sex or to oppress, intimidate or mock a colleague that had offended them or failed to conform to their idiosyncrasies. Such oppressive or intimidating behaviour could lead to conflict, emotional torture and hatred among the students. In turn, this may affect their overall educational achievement. The findings concurs with the study of Bruner and Kelso (2000) who found that male restrooms are full of different image of private parts and vulgar words on sex while female graffiti was less sexually open but more relationship oriented.

Furthermore, the outcome of the study indicated the drawing of a lady's breast on school wall to communicate sexual harassment as another pattern of graffiti behaviour among in-school adolescents in Ilorin metropolis, Kwara State. This implies that graffiti behaviour in schools may also be an evidence of sexual harassment by young people generating a permissive culture, in which case such acts are rarely viewed as misconducts to warrant punishment. Also, when such image is drawn and students are making references or raising different comments on it in the classrooms, it may affect (psychologically and behaviourally) students who potential victims of such harassment. The findings is in tandem with the research by Idowu, Esere and Ajiboye (2017) which revealed that students' graffiti behaviour influenced them negatively because it is used to harass their colleagues, to deface private and public properties, and it aids their involvement bad gangs.

Hypothesis one revealed that male and female in-school adolescents are similar in their patterns of graffiti behaviour in Ilorin metropolis. This finding disagrees with the study of Halsey and Young (2002) which indicated a significant difference between male and female graffiti patterns of behaviour. The difference in the findings of the study might be that the respondents who participate in the study of Halsey and Young (2002) are tertiary institution students.

Hypothesis two revealed that no significant difference exists among in-school adolescents of different age group on the patterns of graffiti behaviour in Ilorin metropolis. The implication of this finding is that both young and old in-school adolescents are similar in their expression of patterns of graffiti behaviour they engaged in. This finding disagrees with the study of Smart (2004) who found that students within the age range 13 and 16 years engaged in graffiti significantly more often than other students between the age range of 20 years and above. The difference in the findings of the study might be that the respondents who participated in the study of Smart (2004) are foreign students.

Hypothesis three revealed that there was no significant difference in the patterns of graffiti behaviour among in-school adolescents in Ilorin metropolis based on family type. This means that respondents from different family background are similar in their expression of patterns of graffiti they involved in. This finding disagrees with the study of Price and Kunz (2003) which indicated that children from divorced homes have higher rates of graffiti behaviour compared to children from intact homes. The different in the findings of the study might be that the respondents who participated in the study of Price and Kunz (2003) are foreign students.

Recommendations

The following recommendations emerged from the findings of the study:

1. The school authority should make rules and regulations to control students' inscription of images or symbols on the wall, in order to minimize students' graffiti behaviour in the school environment.

2. School counsellors, with the help of other school staff, should help the students in using graffiti patterns for positive creativity in order to harness their innate potentials for academic success rather than for destructive behaviours.

3. School counsellors should help the students through individual or group counselling, using cognitive restructuring counselling techniques to change the negative perception of students in the use of graffiti. Thereby, helping the students to be creative rather than being destructive to the school environment.

4. Parents should orientate their children on positive exhibition of their sexual behaviour and monitor their children activity in order to control drawing of sexual organ on the school toilet walls.

5. The teachers should guide students observed with graffiti behaviour on how they could make use of it positively rather than using it to cause nuisance in the school environment. This in future will help students with artistic potentials to become proficient in such profession.

6. The school environmental staff in charge of sanitation should always do regular checking and report any forms of inscription on the toilet wall to the school authority in order to reduce negative patterns of graffiti behaviour among students.

Limitation of the Study

The findings of the study are limited to the adolescents in Nigeria because graffiti behaviours practices are cultural bound and vary from country to country. For instance, large inscription on motor vehicle and political graffiti type are common among the American youth compared to youth in the Africa. The study is limited to the context of deviant behaviours among youngsters and does not portray graffiti in the literature and artistic contexts. The outcomes of this study is also limited to the adolescents in secondary schools as graffiti behaviours among students of higher institutions of learning might be different from how teenagers would display theirs.

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PERCIEVED INFLUENCE OF FACE-TO-FACE AND REMOTE INSTRUCTION ON LEARNING IN GAMBIAN UNIVERSITIES

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Abstract

In compliance with laid down safety guidelines to contain the massive spread of COVID-19 in the Gambia, teaching and learning activities through the traditional face-to-face instructional mode in Gambian Universities have been disrupted. Subsequently, ICT-driven remote instruction was adopted by most tertiary institutions. Despite this intervention, technical and internet-related problems have largely hampered the smooth delivery of lectures through the face-to-screen channel. This has dire implications for students' interest and attitude to learning. Therefore, this study examined face-to-face and face-to-screen modes of instruction as predictors of students' interest and attitude toward learning in Gambian Universities. Three research questions were raised and data were collected with ICT using online survey comprising 115 participants. The results showed that face-to-face instruction contributed more to students' interest and attitude toward learning than the face-to-screen mode. The study also found that students prefer the remote channel of instruction to the conventional face-to-face mode. Also, Gambian undergraduates perceived the influence of both face-to-face and face-to-screen instruction on their interest and attitude toward learning as positive. Therefore, it was recommended that the face-to-screen mode of instruction should be retained and progressively used alongside face-to-face instruction in conventional universities in post-COVID 19 Gambia.

Keywords: Face-to-face, remote instruction, interest, attitude, Gambian Universities.

INTRODUCTION

The Gambia is the smallest and perhaps one of the poorest countries in the West African sub-region. As a developing country with low economic and technological development, the need for human capital development in the Gambia through access to quality university education cannot be overemphasized. Until 1999, The Gambia did not have any university, although post-secondary institutions existed that provided, inter alia, training of teachers, agricultural agents, and medical personnel (Gambia College); technical education (GTTI), and management training (Management Development Institute). As a result, all Gambian students seeking university education were obliged to leave the country, with few of them returning.

Efforts to increase access to university education, build home-grown technocrats and produce high-level manpower in the country made the Gambian government establish the University of The Gambia (UTG) in 1999. The country also established the Ministry of Higher Education, Research, Science and Technology (MoHERST) and the National Accreditation and Quality Assurance Authority (NAQAA) to

safeguard quality control and assurance in university and higher education in The Gambia. Besides, the Gambian government upgraded some of the existing post-secondary institutions of learning and issued operational licenses to investors that wish to have been given establish private universities in the country. The implication of this is that the country currently has more than five conventional and two open universities.

To make university education available to the citizens, the Gambian government spends huge sums of money to provide bonds, grants, and sponsorship for indigent students with the aspiration to attain university education. Due to the high level of poverty in the country, many parents are unable to sponsor their children to university education with an estimated 70% of undergraduates in Gambian universities under one form of sponsorship program or the other. Students not sponsored by their parents, the government or any of the charitable organizations are mostly self-sponsored and had to combine education with employment. Therefore, to ensure face-to-face instruction for all students, irrespective of their employment status, the nation's conventional universities offer weekend and evening classes in their academic programs. The face-to-face classroom interaction has been the only mode of instruction in all the conventional universities since the inception of university education in The Gambia.

However, the outbreak of the COVID-19 pandemic and efforts to contain its spread in the Gambia has had serious implications for different aspects of the social life of the citizens. In education, the total shutdown of schools and the declaration of lockdown measures by the president on March 17th, 2020 meant that the process of learning in all the schools in the country was brought to a halt. However, all the Universities in the country have leveraged on Information and Communication Technology (ICT) to ensure that their students receive lectures and continue learning through face-to-screen instruction by using applications such as Zoom, Imo, Google classroom, Google meet and so on despite the ban on convergence in a conventional classroom to receive face-to-face instruction.

Irrespective of the means of instructional delivery, learning remains the primary goal of any teaching activity. Hence, learning cannot occur in a vacuum because there can be no learning without some form of teaching, either through face-to-face or face-to-screen channels. Learning involves the processes that enhance students' thinking, problem-solving skills and improve performance. Efforts to improve students' learning experiences have largely focused on creating a conducive learning environment and improving the quality of instruction (Olagbaju & Popoola, 2020). According to Brown and Dryden (2004), humans are naturally inclined to learn because of the inherent curiosity to enquire and learn about the world around them. Similarly, all humans cancan learn if the learning material is interesting or presented in interesting ways (DeCarvalho, 1991).

For effective learning to take place, both the materials and procedure must be made to appeal to learners so they become engaged in the process of learning till they develop an interest and positive attitude to learning. However, there are lots of factors that hinder quality instructional procedure and some of these are access to technology, teachers' qualification and experience, societal indifference, lack of funds, and misplaced priority on educational policy, to mention a few. Like in most countries, the COVID-19 pandemic lockdown has redefined the mode of instruction in Gambian Universities. However, the adoption of ICT-driven face-to-screen instruction for university undergraduates across the Gambia could influence students' interest and attitude to learning because of several factors that exist among undergraduates within the country. Some of these factors include poor knowledge and skills of ICT, lack of ICT-friendly smartphones, laptops, and other devices that can be used for the newly introduced mode of instruction among others.

Since adopting the wholesale use of technology in university education in the Gambia as fallout of the COVID-19 pandemic, the concerns of most of the stakeholders have been to ensure that student's interest

and attitude to learning are kept at optimum level (Ghazi-Saidi, Criffield, Kracl, Mckevley, Obasi, & Vu, 2020). Karl, Shahnaz, Erol, Masao, and Tabrizi (2008) argue that face-to-screen mode of instruction offers flexibility and convenience in instructional delivery but requires technical skills and knowledge; therefore, both the instructors and students must be adaptable, knowledgeable, and ICT complaint. University education is capable of fostering national and human capital development in any nation. Therefore, be it face-to-face or face-to-screen instruction, it is important to ensure that the students are well motivated and their interest and attitude to learning remain high.

Interest and attitude play significant roles in the way learners accept and process information during the process of instructional delivery. Interest is capable of fueling learners' curiosity and desire to inquire and learn more about the topic. Interest also helps the learners to stay focused all through the process of instruction be it through the conventional face-to-face or the ICT-supported face-to-screen mode. Without interest, it will be very difficult to stay focused and learn. However, attitude is feeling of like or dislike towards a thing, process, or person. Positive attitudes are capable of reinforcing learning while a negative attitude impedes students' learning outcomes. Researches in education have shown that attitude formed over some time can change in the face of new realities or experiences.

Several studies have been conducted to investigate the effectiveness of technologies on instructional procedures and learning outcomes such as students' achievements, attitude, satisfaction, interest, motivation, and so on. For example, Wisan, Nazma, and Pscherer (2001) and Mpungose (2020) found that students are much more satisfied with and preferred face-to-face mode of instruction to the face-to-screen and online mode. However, the result of the study further showed that students who had had at least four sessions of face-to-screen instruction indicated higher levels of satisfaction. To White (1999), there was no significant difference in the performance for students exposed to face-to-screen instruction and those who received face-to-face instruction. Also, Karl, et al (2008) and Ghazi-Saidi, et al (2020) found face-to-screen, online learning, or other eLearning channels to be preferred above the conventional face-to-face instruction by most students. Thus, research findings on the relationship between face-to-face and face-to-screen models of instruction and students' learning outcomes are largely inconclusive.

Available literatures on the influence of face-to-face and face-to-screen instruction on students' learning outcomes in different subject areas have largely focused on variables such as satisfaction, achievement, and motivation. Most of the existing studies were not conducted on university undergraduates in the Gambia or the two variables of interest in this study which are students' interest and attitude to learning. Hence, this study examines face-to-face and face-to-screen modes of instruction as predictors of students' interest and attitude to learning in the Gambian Universities.

Statement of the Problem

Learners' attitudes and interests are important classroom variables that can determine achievement as a process of instruction. Interest instills the curiosity to inquire in learners, sustains their attention, and helps them to focus on the task during the instructional procedure. The face-to-screen mode of instruction in the Gambian University system was necessitated by the government's response to the outbreak of the COVID-19 in the country. Most of the undergraduates and lecturers are new to the online or remote instructional procedure. Several studies have confirmed that the use of face-to-screen instruction and several audio-visual resources in the teaching of several school subjects contributed significantly to students' achievement, satisfaction, interest, retention, and recall. However, the findings of these studies were mostly inconclusive and conducted outside the shores of the Gambia. Therefore, this study examined face-to-face and face-to-screen modes of instruction as predictors of students' interest and attitude to learning in Gambian Universities.

Research Questions

Three research questions were raised in the study and these are:

Do undergraduates in Gambian Universities prefer face-to-face or face-to-screen mode of instruction?

What is the perceived influence of face-to-face instruction on undergraduates' interest and attitude to learning in Gambian Universities?

What is the perceived influence of face-to-screen instruction on undergraduates' interest and attitude to learning in Gambian Universities?

Vygotsky's Zone of Proximal Development

Lev Vygotsky's (1896-1934) Zone of Proximal Development (ZDP) was a novel; approach to explaining the role of support of learning. ZDP describes what an individual can do, achieve or learn alone and what he can do with the help or assistance from an experienced peer or adult who is either a teacher or facilitator. His thoughts have since become the foundation of much research and theory in cognitive development. Vygotsky (1978) found that children could solve more difficult problems through supports which can be in form of instruction or some form of assistance from a more knowledgeable partner. The Zone of Proximal Development (ZPD) is the gap between the actual development level of the learner and his or her level of potential development through access to support, information, or instruction from an experienced adult or in collaboration with peers. The ZDP has serious implications for this study with regards to the influence of the face-to-face and face-to-screen modes of instructional support on university undergraduates' interest and attitude to learning.

Face-to-face and face-to-screen modes of instruction: Implications for students' interest and attitude

Several factors have been identified as being capable of contributing to students' achievement after exposure to a process of instruction. Some of these factors include the use of innovative instructional strategy (Ogunleye & Babajide, 2011), teachers' communication styles (Ogunyemi & Olagbaju, 2020), use of audio-visual resources (Shah & Khan, 2015; Mpungose, 2020), interest (Olagbaju & Popoola, 2020) and attitude (Tesser, 1993). Also, some researchers have attributed the dwindling levels of students' interest and attitude to reading and learning as some of the factors responsible for poor learning outcomes of students in secondary and post-secondary levels of education. Undergraduates in the different universities in the Gambia are confronted with similar challenges because most of them often combine academics with employment or drive to get sponsors from Europe and the US. These activities affect their interest and attitude to school work, lectures, classroom participation, writing of examination, executive and delivery of classwork or project, and the submission of assignment.

Interests and attitudes are important learner variables that are capable of determining the effectiveness of any course or mode of instruction and learning outcomes. This has also informed why the government and other stakeholders in the Gambian educational sector have introduced several initiatives to promote effectiveness in teaching to make learning interesting, fun-filled, and enjoyable. The technology-supported instructional procedure has been found to contribute to students' interest and attitude to learning (Olagbaju & Popoola, 2020). Students tend to appreciate and pay attention to teachers who are knowledgeable, dynamic, and creative during instructional delivery either through the conventional face-to-face mode or the face-to-screen and other eLearning options.

The adoption of the face-to-screen mode of instruction by Gambian Universities as a precautionary measure to curtail the spread of COVID-19 in the country was aimed at actively engaging the students and sustaining their interests and attitude to learning. Institutions of learning that could not switch to fully online classes because of the requirements in terms of logistics, capital, and technical resources have

adopted the electronic schooling (eSchool) alternative. Most of the institutions in the country adopted the choice of face-to-screen mode of instruction which supports psychical distancing and the use of audio-visual resources. Since the inception of the face-to-screen mode of instruction in most conventional universities in the Gambia, most of the students and lecturers have had to struggle to cope with ICT-related challenges such as poor internet network, lack of internet-friendly phones and laptops, poor know-how in terms of operating the technologies or resources which pose serious threats to students' interest and attitude to learning. In some cases, learners have complained that they miss the personal attention and contact from lecturers.

Similarly, the limitations of the 'face-to-screen' mode of instruction are too many, especially with regards to students' interest and attitude to learning. The implementation of the face-to-screen instructional procedure was hasty. Due to the nature of the COVID-19 pandemic outbreak, most of the lecturers were not even trained on the use of audio-visual eLearning resources in instructional delivery. Although some of the universities provided internet-ready modems and data subscriptions for the lecturers and students respectively, training and orientation on the use of the face-to-screen mode of instruction for staff and students to ease the switch from the conventional face-to-face mode of instruction to the newly adopted face-to-screen instructional procedure.

Teaching is a two-way interaction and exchange between the instructor and the learner. In a face-to-face instructional approach, the teacher is physically present within the walls of a classroom to instruct and guide students in learning a particular concept. The face-to-face approach enables students to concentrate and interact with fewer distractions during the course of the lesson. It can be easily monitored by the instructor through hands-on activities, on-the-spot evaluation, and corrective feedback in the classroom. Karl et al (2008) present some of the benefits of the face-to-face mode of instruction as: it allows social and spatial awareness between the instructor and students, the arrangement and scenery of a classroom stimulates learning, aids effective teacher-learner and learner-learner interaction; supports the use of important non-verbal cues during instruction and provides a faster and more efficient means of communication than the online or face-to-screen mode of instruction.

However, the face-to-screen mode of instruction supports the use of technology, the internet, and audio-visual resources in instructional delivery. It allows the instructor to work remotely and defy space because the instructor does not need to be physically available in a classroom to teach. In a face-to-screen mode of instruction, the content can be pre-recorded or streamed live through audio-visual media such as television, laptops and personal computers, smartphones, Google meet, Google classroom, Zoom, YouTube, WhatsApp, and other social media tools. According to Aggarwal (2009) and Ghazi-Saidi (2020), advances in technology have provided limitless possibilities in instructional delivery through audio-visual aids for narrations and program hosting. Also, Mishra and Yadav (2004) posit that the use of audio-visual resources in teaching is capable of stimulating the interest of learners in different subject areas. Several studies have investigated the use of technology-supported face-to-screen instruction viz-a-viz the conventional face-to-face mode of instruction and the findings have been insightful.

The use of face-to-screen instruction and eLearning has been found to improve the quality of instruction and students' learning experience because concepts are easily presented with images and animations. However, instructional procedures in most lecture halls in Gambian Universities before the COVID-19 induced lockdown were largely conducted using the marker board with few halls having installed projectors for presentations and little or no use of e-learning resources. Although the face-to-screen mode of instruction is a child of necessity and still in its infancy in most Gambian Universities, an examination of the relationship between the two modes of instruction and students' interest and attitude to learning is important. The findings of such studies can provide information that will be beneficial to improving the quality of conventional face-to-face and face-to-screen modes of instruction.

A common problem with most of the studies is the selection of appropriate audio-visual resources in light of the multitude of audio-visual at teachers' disposal in the 21st-century technology-driven society. Studies (Awasthi, 2014; Mpungose, 2020; Olagbaju & Popoola, 2020) have established that there can be overuse or abuse of audio-visual resources in instructional delivery because it is not all audio-visual resources that can deliver the outcomes expected. Other studies have investigated the relationship between face-to-face and face-to-screen or online instruction and students' learning outcomes. For example, Beard and Harper (2002) investigated students' attitudes and opinions about the conventional face-to-face and technology-driven online instructions. Although the group that received face-to-screen instruction was able to learn at their own pace by making use of technology, the findings of the study showed that the students that received online or face-to-screen instruction were dissatisfied because of technical-related problems and the poor quality of interaction during the instruction.

Similarly, Wisan, Nazma, and Pscherer (2001) and Vamosi, Pierce, and Slotkin (2004) reported that students exposed to face-to-screen and online modes of instruction were dissatisfied with the channel of instruction especially because they were accustomed to the conventional face-to-face mode of instruction. No doubt, there will be a lot of distractions on the part of the student and may not be properly monitored by the instructor. Both approaches have their merit and demerit. For example, Shah and Khan (2015) found that animation and information presented on the screen during the face-to-screen mode of instruction provided a different learning experience that was beneficial to the development of critical thinking in students. Also, Fredericksen, Pickett, Shea, Pelz, and Swan (2000) reported that there are no significant differences between the satisfaction of students exposed to face-to-screen or online instruction and those exposed to the conventional face-to-face mode of instruction. Given these findings, it is important to examine the relationship between face-to-face and face-to screen modes of instruction and students' interest and attitude to learning in Gambian Universities. This study examined the perceived influence of face-to-face and remote instruction on students' interest and attitude to learning in Gambian Universities.

METHOD

This study examined the relationship between two modes of instruction and undergraduate students' interest and attitude to learning in Gambian Universities. The participants comprised 115 undergraduate students from the three conventional universities that recently adopted the face-to-screen and online learning mode of instruction as a response to the COVID-19 lockdown in the Gambia. An online-based questionnaire on "undergraduates' interest and attitude to learning through face-to-face and face-to-screen instruction" was designed using the Google Form platform and used to collect information from the respondents.

The instrument for Data Collection

Face-to-face and Remote/Face-to-screen Modes of Learning on undergraduates' interest and attitude to learning in the Gambian Universities Scale (FFMLGUS) was used to collect data. The instrument was administered online through a link that was sent to students through their lecturers and designated class representatives. The instrument contained 20 items: 10 each on interest and attitude to learning with responses ranging from always, sometimes to never.

Sampling Techniques

115 (100-400 levels) undergraduates across all the departments and the three conventional Universities in the Gambia were selected for this study. Data gathering coincided with the national declaration of COVID-19 lockdown, social and physical distancing restrictions in the country which prompted the closure of the Universities. Therefore, the researchers adopted an online survey using a Google form link.

The survey was conducted using a Google Form link shared on social networking sites, such as WhatsApp and Facebook, which are the most accessible social media platforms in Gambia. The data was gathered using a non-proportionate sampling approach. It is a combination of snowballing such that the researchers forwarded the link to students' class representatives and selected lecturers who in turn forwarded the same to the class WhatsApp groups. With this, almost all the group of students in the three universities was reached through their smartphones and other devices. The researcher ensured that the sample included 115 students from 100 to 400 levels across the three conventional universities in the Gambia that responded to the online survey.

RESULTS and DISCUSSION

Research Question One: Do undergraduates in Gambian Universities prefer face-to-face or face-to-screen mode of instruction?

Table 1. Undergraduates' Preference for face-to-face or face-to-screen mode of instruction

S/N	Items	N	Frequently	Rarely	Never	Mean
1	It is more fun to learn through uploaded videos and other eLearning channels than in a classroom.	115	38	49	28	2.08
			47.5%	40.8%	11.6%	
2	I am able to concentrate more with a teacher in the class than when seeing a video	115	84	22	9	2.65
			82.6%	14.4%	2.95%	
3	Watching lecture videos is as interesting as face-to-face classroom teaching.	115	41	51	23	2.15
			49.5%	41.1%	9.27%	
4	I am learning more contents from Face-to-screen teaching than the face-to-face approach.	115	35	51	29	2.05
			44.5%	43.2%	12.2%	
5	I prefer watching the e-Lectures live and participate in real time	115	65	37	15	2.46
			68.6%	26%	5.2%	
6	The use of e-Lecture channels makes me do more learning than in face-to-face classroom instruction.	115	37	44	34	2.02
			47.6%	37.7%	14.5%	
7	I usually look forward to video uploads by my lecturers	115	75	30	10	2.56
			76.2%	20.3%	3.38%	
8	I cannot wait to return to the conventional face-to-face classroom interaction.	115	80	25	10	2.60
			80%	16.6%	3.33%	
9	I love to watch the lecture videos over and over again unlike a face-to-face instruction	115	63	38	14	2.42
			67.7%	27.2%	5.0%	
10	I will like e-Lectures options to be maintained even after the lockdown.	115	62	30	23	2.33
			69.1%	22.3%	8.55%	

Standard Mean = 2.00; Weighted Mean = 2.33

Table 1 shows the frequency distribution of the Undergraduates' Preference for face-to-face or face-to-screen channels of instruction in Gambian Universities. The result shows that majority (47.5%) of the undergraduates frequently agreed that it is more fun to learn through uploaded videos and other eLearning channels than in a classroom (mean = 2.08); 82.6% frequently agreed that they are able to concentrate more with a teacher in the class than when seeing a video (mean = 2.65); 49.5% frequently agreed that watching lecture videos is as interesting as face-to-face classroom teaching (mean = 2.15); 44.5%

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frequently agreed that they are learning more contents from face-to-screen teaching than the face-to-face approach (mean = 2.05); 68.6% frequently agreed that they prefer watching the e-Lectures live and participate in real time (mean = 2.46); 47.6% frequently agreed that the use of e-Lecture channels makes them do more learning than in face-to-face classroom instruction (mean = 2.02); 76.2% frequently agreed that they usually look forward to video uploads by my lecturers (mean = 2.56); 80% frequently agreed that they cannot wait to return to the conventional face-to-face classroom interaction (mean = 2.60); 67.7% frequently agreed that they love to watch the lecture videos over and over again unlike a face-to-face instruction (mean = 2.42); and 69.1% frequently agreed that I will like e-Lectures options to be maintained even after the lockdown (mean = 2.33). In conclusion, the responses of the students to each item revealed that they preferred the face-to-screen mode of instruction to the conventional face-to-face mode of instruction.

Research Question Two: What is the perceived influence of face-to-face instruction on undergraduates' interest and attitude to learning in Gambian Universities?

Table 2. Perceived influence of face-to-face instruction on undergraduates' interest and attitude to learning in Gambian Universities

S/N	Items	N	Frequently	Rarely	Never	Mean
1	Watching lecture videos boosts my interest in learning as face-to-face instruction does.	115	38 / 50.8%	33 / 29.4%	44 / 19.6%	1.94
2	I would rather prefer that all the e-Lectures should be taught again in the classroom after the lockdown	115	61 / 69%	28 / 21.1%	26 / 10.2%	2.30
3	Face-to-face teaching allows me to prepare ahead of class and participate when learning.	115	85 / 82.2%	25 / 16.1%	5 / 1.61%	2.69
4	Learning via video and e-Channels does not facilitate as much learning as face-to-face classroom instruction.	115	44 / 53.4%	44 / 35.6%	27 / 10.9%	2.14
5	I do not support the use of e-Lectures.	115	49 / 55.8%	50 / 38%	16 / 6.08%	2.28
6	I prefer face-to-face classroom teaching to online/video teaching that relies on the internet.	115	78 / 77.4%	31 / 20.5%	6 / 1.98%	2.62

Standard Mean = 2.00; Weighted Mean =2.32

Table 2 shows the perceived influence of face-to-face instruction on undergraduates' interest and attitude to learning in Gambian Universities as shown by the frequency distribution of students' responses to the items used. The table shows a weighted mean of 2.32 which is greater than the standard mean of 2.00. This implies that the undergraduates positively perceived the influence of face-to-face instruction on their interest and attitude to learning in Gambian Universities. Two of the items used contributed to this positive perception because their means are greater than the weighted mean. In order of magnitude, the items are item 3 – Face-to-face teaching allows me to prepare ahead of the class and participate when learning (mean = 2.69) and item 6 – I prefer face-to-face classroom teaching to online/video teaching that relies on the internet (mean = 2.62). Hence, it could be concluded that Face-to-face teaching allows undergraduates to prepare ahead of the class and participate when learning, a reason why they prefer face-to-face classroom teaching to online/video teaching that is largely dependent on technology and the internet.

Research Question Three: What is the perceived influence of face-to-screen instruction on undergraduates' interest and attitude to learning in Gambian Universities?

Table 3. Perceived influence of face-to-screen instruction on undergraduates' interest and attitude to learning in Gambian Universities

S/N	Items	N	Frequently	Rarely	Never	Mean
1	Face-to-screen instruction accommodates the classroom atmosphere and corrective feedback unlike e-Lectures.	115	51 59.7%	39 30.4%	25 9.8%	2.22
2	E-Learning is the right way to go in the 21st century. It should be maintained after lockdown.	115	56 63.6%	37 28%	22 8.3%	2.29
3	I feel that all subjects can be taught through e-Lecture channels to enhance students' interest.	115	38 47.5%	49 40.8%	28 11.6%	2.08
4	I learn much from e-Resources such as videos and other e-Lecture materials.	115	84 83.4%	19 12.5%	12 3.97%	2.62

Standard Mean = 2.00; Weighted Mean = 2.30

Table 3 shows the perceived influence of face-to-screen instruction on undergraduates' interest and attitude to learning in Gambian Universities, as shown by the frequency distribution of students' responses to the items used. The table shows a weighted mean of 2.30 which is greater than the standard mean of 2.00. This implies that the undergraduates selected positively perceived the influence of face-to-screen instruction on their interest and attitude to learning in Gambian Universities. Item 4 – I learn much from e-Resources such as videos and other e-Lecture materials, which contributed to this positive perception because its mean (2.62) is greater than the weighted mean. This implies that undergraduates learn much from e-Resources such as videos and other e-Lecture materials.

The study found that undergraduates in Gambian Universities prefer the face-to-screen mode of instruction to the conventional face-to-face mode. This result supports Karl et al (2008) that learners prefer face-to-screen of instruction to the face-to-face approach. However, the result is at variance with the findings of several studies (Wisan, Nazma, & Pscherer, 2001; Ghazi-Saidi, 2020; Olagbaju & Popoola, 2020) that students are satisfied with and preferred face-to-face mode of instruction to the face-to-screen and other online modes. The findings of this study could be because the participants are mostly adults who are already familiar with the use of technology to a reasonable extent. The findings of this study also disagree with White (1999) that there is no significant difference in the students' preference for either face-to-screen or face-to-face mode of instruction. Also, the study found that most undergraduates in Gambian Universities had a positive perception of the influence of face-to-face instruction on their interest and attitude to learning. This finding of this study is not surprising because most of the learners are used to the conventional face-to-face mode of instruction and they have already established an opinion concerning the influence of the face-to-face mode on interest and attitude.

Lastly, the study found that most undergraduates in Gambian Universities had a positive perception of the influence of face-to-screen instruction on their interest and attitude to learning. This finding makes a big statement for the inclusion of technology into conventional classroom practices in Gambian Universities. In this study, students positively perceived the use of the face-to-screen mode of instruction on their interest and attitude because the use of technology improved the quality of instruction and allowed learners to participate in class real-time. The result also supports the findings of DeCarvalho (1991), Mishra and Yadav (2004), and Mpungose (2020) that the use of audio-visual resources in teaching is capable of stimulating the interest of learners in different subject areas.

Conclusion and Recommendations

The study examined the perceived influence of face-to-face and face-to-screen modes of instruction on undergraduates' interest and attitude to learning in Gambian Universities using 115 participants from 100 to 400 levels across all the three conventional Universities in the Gambia. The study adopted descriptive research design of survey type using Google form and ICT to administer the instrument for the collection of data for this study. Three research questions were raised and the results showed that the participants prefer the face-to-screen mode of instruction to the conventional face-to-face mode used before the COVID 19 restrictions. The result showed that most Gambian undergraduates had a positive perception of the influence of face-to-face instruction on their interest and attitude to learning. The third finding of this study was that most Gambian undergraduates had a positive perception of the influence of face-to-screen instruction on their interest and attitude to learning. Because of these findings, the following recommendations were made:

1. The face-to-screen mode of instruction should be retained in the conventional university system in The Gambia.
2. Face-to-screen mode of instruction should be progressively integrated into the operations of the conventional universities in the Gambia even in the post-COVID 19 era.
3. There is a need to continue to train lecturers on the effective use of technology and other face-to-screen modes in instructional delivery.
4. There is a need to develop more economically viable and data-friendly education Apps that can be incorporated into or used with conventional face-to-face instruction.

Limitations to the Study

Notable among the limitations to the study is in the area of data collection. Strict Covid-19 restrictions in the country limited face-to-face access to the respondents. However, this does not in any way affect that generalization of the results because students from all the tertiary institutions in the Gambia participated in the study.

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THE ROLE OF SILENT PAUSE PRECEDED BY DISCOURSE MARKER

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Abstract

The research focuses on analyzing the silent pauses that co-occur with discourse markers, on spontaneous interactions between Brazilian Portuguese speakers from metropolitan region of Belo Horizonte, that play cognitive function of information selection. The hypothesis is that this type of marker favors the introduction of full constituents in the conversational flow due to the unfilled pause that follows them. The sample that composes the research was extracted *from* the Corpus C-oral Brazil[1]. A preliminary analysis of the data confirms the role of discourse markers in inhibiting the rupture of syntagmatic units, as usually occurs in hesitations of another nature. The study has as main objective to collaborate to understand the variation of hesitations in the flow of speech, seeking to correlate cognitive processing and linguistic coding.

Keywords: Pauses, discourse markers, education, informational unit.

INTRODUCTION

The focus of this study is on a prosodic feature of a very thought-provoking nature, which plays a major role in the linguistic representation of cognitive processing: the pause. Thus, research, in its broad scope, has the purpose of mapping hesitations, filled or not by pause, and comparing them with mental operations, correlating, in turn, the vectors that motivate them. Such an investigation would lead us to a more accurate understanding of this important prosodic feature that organizes and guides conversational activity.

In this study, we privilege the pause versus discourse markers correlation. As we will see further on, the pause is not necessarily a prosodic feature filled by silence. On the contrary, the speaker, in spontaneous conversation, linguistically signals several cognitive operations with a planning function both in the form and in the content of the message. These linguistic signs are known as discourse markers with interactional function (Urbano, 2001 in Jubran, 2019), which characterize, by their nature, the filled pause. Before going further in this analysis, it is important to highlight we recognize that discourse markers, as well as hesitations, play different roles in the conversational flow. In this work, we focus our analysis only on those discourse markers with merely interactional functions that play a role in the communicative activity of pausing for oxygenation of the thought in order to access full informational unity to be introduced in the discourse. We also emphasize that the discourse markers in theory are occurrences from Brazilian Portuguese, with no direct correlation with discursive marking strategies in other languages. Thus, we chose not to translate the discourse markers, but to interpret them according to the role they play in the conversational flow highlighted for analysis.

In this way, our interest is to understand, a priori, the relation of this filled pause in the conversational flow in order to clarify its random nature or not within the syntactic constituents. It is assumed that the pause filled by discourse operators occurs at the border of informational units that, in our view, can be constituted of full syntagmatic units or introduced by the nucleus of the syntactic constituent. Such a discovery could contribute to the understanding of the apparent random variation in the punctuation strategies used by students in basic and even higher education.

METHOD

Corpus Data

We selected for analysis the concomitance of pauses signaled by discourse markers followed by silence in the context of informal conversations. The study sample was extracted from the C-Oral Brasil corpus, composed of spontaneous dialogues, in family and public context, of residents of the metropolitan region of Belo Horizonte. The analyzed data were extracted from a set of spontaneous public and family interactions that total 59663 tokens and 3502 types. The corpus transcript already provides the occurrence of brief pauses with sign notation (/).

Samples annotation

We must highlight that C-ORAL BRASIL is dedicated to the study of spontaneous speech in Brazilian Portuguese and, therefore, has prosodic notations such as those developed by Moneglia & Cresti (1997). All conversational turns analyzed in this investigation were cut from the corpus without any intervention in its original notation, although the segmentation that interests us, in a specific way, is the simple pause, signaled by the simple bar (/), which indicates a perceptible intonational break of non-terminal value, that is, it indicates the boundary of tonal unity within the statement. It is this simple break of non-terminal value within the statement preceded by a discourse marker that we call a double pause: filled by the discourse marker and unfilled by the brief silence. The other notations should be disregarded, as they relate to prosodic phenomena that will not be dealt with in this work, such as end of turn: // $, turn numbering [n], among others.

Methodological decisions

For analysis, a survey of the most frequent discourse markers was made first among the top 100 occurrences, followed by a silent pause. The main premise of this phase of the research is that discourse markers with the function of signaling a certain cognitive mechanism favor the emergence of full syntagmatic constituent's right after the pause, without internal disruptions. Confirming the principle, it is assumed that the study may contribute even more to the understanding of the role of hesitation in the linguistic thought-coding relationship as well as to a better understanding of the variation present in the strategies of punctuation of texts of students from all levels of basic and higher education.

What pause is?

O'Connell, & Kowal, (1983: 221) define pause as a period of silence in a person's speech or a period of vocal inactivity of a certain duration embedded in the conversation flow. For Oliveira (2000/2002), the interval of silence that characterizes the pause must necessarily be that which occurs within vocalizations. Mollica and Braga (1985) analyzed the phenomenon of pause in marking a discursive topic and attested to a positive correlation between degree of topical relevance and filling in silence in syntactic context between the subject and the rest of the sentence. Studies like Oliveira (2000/2002) also point out the importance of pausing in the organization of the compositional structure of narratives. It is, therefore, vocal inactivity of highlight importance for the understanding of the functioning at syntactic and interactional level of the speech.

Marcuschi (2006: 164), when dealing with hesitation, states that not all silence is pause and that not every pause is hesitation. For the author, the pause can occur between speaking turns, constitute a

speaking turn or manifest inside the turn, in syntactic borders with different communicative activity, whether for syntactic planning, cognitive planning or even for information selection. Marcuschi (in Jubran, 2019: 50) defines hesitation as ruptures in speech, in material linearity, in a syntactic and prosodic context without apparent motivation, but not random. Hesitation, according to the author, can manifest itself in various ways, from prosodic phenomena, discourse markers, paralexical items. For Marcuschi, the filled and unfilled pauses depend on ruptures by silence or hesitations through discourse markers or repetitions of fragments of syntactic constituents as prepositions. For the author, in fact, the pause can manifest itself in different ways, which does not mean postulating that the filled pause cannot co-occur with the unfilled one. In Marcuschi's terms (2006: 168), the filled pauses refer to the occurrences of hesitation of the type "ah", "eh", "mm", vowel lengths with a hesitative feature and conversational markers with a pause effect for information retrieval / selection. Unfilled pauses, on the other hand, are brief silences or not within phrases, in speech flows not foreseen by the syntax. In the corpus under investigation, it was possible to identify three macrotypes of pauses:

a) Unfilled pause:

[1]*FLA: [1] **o" / Bru / a** gente vai explicar como é que a gente trabalha aqui //$
*EMM: [2] <isso> //$
*BRU: [3] <ham ham> //$
*BRU: [4] <hum hum> //$
*FLA: [5] essa <daqui / é a> bolsa de sangue / igualzinho ela chega da coleta //$
*BRU: [6] ham ham //$
*FLA: [7] sai do doador / lá / e chega pra gente assim //$[2]

In (a), FLA, EMM and BRU interact in a public context where blood is collected. FLA gives BRU instructions on how the job is done. The "/" signal "brief pauses" within turns. In the first turn, BRU occurs interspersed with brief pauses, consisting of a simple period of silence between what is said before and what is introduced next. In this case, the silent pause served to mark the factual function of orienting speech to this interlocutor.

b) Filled pause:

*JUN: [199] e a gente quer /Wilian / que nesse dia / seja um momento / também / cultural po cara //$
*JUN: [200] porque a gente vai tar <resgatando essa questão> da cultura //$
*CAR: [201] <claro> //$
*CAR: [202] <lógico> //$
*JUN: [203] então seria alguma apresentação mesmo //$
*JUN: [204] agora / poderia ter também algum número **de [/1] de** dança / country / nũ sei //$[3]

In this section, which is a conversation in public interaction, JUN and CAR combine the organization of dance events in a June party. In the last turn, JUN repeats the preposition "de" (of), signaling, through hesitation, a prospective pause to introduce the suggestion of a type of dance for the event. These repetitions, as well as stretching, among others, with the function of oxygenating the thought, without giving the impression of having finished speaking, are understood as filled pauses.

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[1] In this study, in all interactions, the discourse marker "hum hum" must be interpreted as "agreement".

[2] * FLA: [1] o "/ Bru / we will explain how we work here // $* EMM: [2] <this> // $* BRU: [3] <ham ham> // $* BRU: [4] <hum hum> // $* FLA: [5] this <here / is the> blood bag / just like it arrives from the collection // $* BRU: [6] ham ham // $* FLA: [7] leaves the donor / there / and reaches us like this // $.
[3] * JUN: [199] and we want / Wilian / that day / be a moment / also / cultural for man // $
* JUN: [200] because we will be <rescuing this issue> from culture // $
* CAR: [201] <clear> // $
* CAR: [202] <logical> // $
* JUN: [203] so it would be some presentation // $
* JUN: [204] now / there could also be some number of [/ 1] dance / country / I don"t know // $

c) Double pause:

*JUN: [191] <na> comunidade / eles apresentam em outra comunidade / são meninos da nossa aqui /
o" / da nossa comunidade //$
*WIL: [192] uhn //$
*JUN: [193] tendeu //$
*JUN: [194] e / e eu acredito que deve ter até aluno daqui que / dança com eles lá //$
*WIL: [195] mesmo //$
*WIL: [196] **uai /** eu vou procurar saber então //$
*JUN: [197] então //$
*JUN: [198] e [/1] e nũ é [/2] acho que nũ é coisa muito &d [/1] complicado / nem nada não //$[4]

In the interaction, JUN and WIL talk about dances at the June party and compare what is done in two communities in different cities in the metropolitan region of Belo Horizonte. JUN says to WIL that there must be a student from their community that dances with students from the other group. WIL replies that he will seek to know, using the discourse marker "uai" at the beginning of his turn followed by a silent pause. In this case, "uai" serves both to take turns and to pause thinking. It is, therefore, a pause filled by a discourse marker followed by a brief silence.

Thus, we argue that discourse markers with the function of signaling cognitive processing are usually followed by silence of some duration, in such a way that the conversational flow is filled with a full constituent, without disruptions in the syntactic structure underlying the cognitive processing.

Discourse Markers: A Very Vast Land

Studies on discourse markers are very numerous in the literature (Schiffrin, 1990; Fraser, 1999; Brinton, 1996; Schourup, 1999; Castilho, 1989; Marcuschi, 1991; Urbano, 2001; Rost-Snichelotto, 2008; Risso, Silva, & Urbano, 2002; Castilho, 2010; Tavares, 2003; Batista, 2013; Risso, Oliveira, Silva, & Urbano in Jubran, 2019). Researches, in general, interpret them as elements of a pragmatic nature with complex properties and with a varied textual-discursive function. Batista (2013) even argues that, in the list of discourse markers, we find interjective phenomena. The distinctive features between these are minimally perceptible linked more specifically to the function. Batista, when describing and analyzing the function of interjection and the interactive marker of "uai", in accordance with Marcuschi (1997), points out that, from a formal point of view, conversational markers have wide variation: they can be primary, or non-lexicalized (ah, huh, etc.); secondary, or lexicalized: olha, então, quer dizer, entre outros (look, then, that is, between others); non-verbal, such as gestures, nods; and even suprasegmental, such as pauses and tone of voice. Urbano (in Jubran, 2019: 386) presents the following three aspects as the pilot core for defining the discourse markers:

1. The externality of the discourse markers in relation to the propositional content;

2. Syntactic independence;

3. The lack of communicative self-sufficiency.

Urbano (in Jubran, 2019: 453) points out that the discourse markers are of different natures, sequencing or basically guiding the interaction. The interaction markers, in theory, constitute a subset of linguistic elements that are characterized, in particular, by being external to the propositional

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[4] * JUN: [191] <na> community / they present in another community / they are children of ours here / o "/ of our community // $

* WIL: [192] uhn // $

* JUN: [193] tended // $

* JUN: [194] and / and I believe there should even be a student here who / dances with them there // $

* WIL: [195] same // $

* WIL: [196] wow / I"ll try to find out then // $

* JUN: [197] then // $

* JUN: [198] and [/ 1] and is"nt [/ 2] I think is"nt too much & d [/ 1] complicated / not at all // $

content of the sentence, syntactically independent and communicatively non-autonomous. Typical examples are: ah, ahn, ahn, huh, uhn, "claro" (of course), "entendeu?" (got it?), "tá?" (okay?), "sabe" (you know), "não é verdade" (it"s not true), etc., in context like:

*EMM: [223] / a gente vai cadastrar / no sistema //$
*EMM: [224] aí fica / mais fácil //$
*EMM: [225]   antes / que que a gente fazia //$
*EMM: [226] a gente não [/3] a gente só cadastrava aqui / aquilo que foi produzido //$
*FLA: [227] **hum hum //$**
*EMM: [228] e no outro dia / o &na [/2] o auxiliar / nosso auxiliar administrativo / ele digitava //$
*BRU: [229] **ahn //$**
*EMM: [230] só que esse tava dando muito erro //$[5]

In this section, EMM, FLA and BRU talk about the insertion of information in the activity control system of the donation center. FLA uses "hum hum", signaling to EMM that she is accompanying the explanations. BRU, in turn, uses "ahn" with the same function. In this case, these markers are typically interactional whose function corresponds to that of the pilot core mentioned above. It should be noted that these are formally distinct elements, from paralinguistic units to orational construction.

For the purposes of this investigation, we selected in the corpus only the typical interactional markers of Brazilian Portuguese spoken in Belo Horizonte area, mostly non-lexicalized, that make up the most frequent occurrences in the data set and that perform the function of monitoring the conversational flow, used as a resource for "monitored" selection of information.

Informational Unit: The Obvious not so Obvious

Chafe (1974: 54), when dealing with intonational units, explains that the language-thought relationship occurs in a continuum of (in) awareness that he called activation states. In this conception, any idea or thought can be allocated in three distinct cognitive states: focus, peripheral or unconscious. Chafe associates these states respectively with an active, semi-active and inactive language processing state. These are states of consciousness that manage communicational activity. Although this separation is not categorical, since Chafe considers these three states in a broader spectrum and with unclear borders, the author stresses that the movement of ideas in our cognition fluctuates through these different states of consciousness. For the author, the delimitation mechanism of an information unit or an intonational unit involves understanding what happens with language in these different states. Chafe (1974: 58) further argues that objectively speaking does not occur in an uninterrupted prosodic flow, but in "jets" of language as a result of biological necessity. The sounds of the tongue are physiologically produced by the exhalation of air from the lungs, which must be replaced periodically. The replacement, however, does not occur at random. It normally operates synchronously with basic functional segmentations of speech, which Chafe calls an intonational unit. For Chafe (1974: 59), the identification of this type of unit involves the recognition of a set of changes:

1. Change in fundamental frequency (pitch);

2. Change in duration (shortening or lengthening of syllables and words);

3. Change in loudness;

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[5] * EMM: [223] / we will register / in the system // $

* EMM: [224] there it is / easier // $

* EMM: [225] before / what we did // $

* EMM: [226] we didn"t [/ 3] we only registered here / what was produced // $

* FLA: [227] **um hum** // $

* EMM: [228] and the other day / o & na [/ 2] the assistant / our administrative assistant / he typed // $

* BRU: [229] uh // $

* EMM: [230] but this one was giving a lot of error // $

4. Alternation of vocalization with silence (pause);

5. Change in vocal quality;

6. Shift of turn.

These changes may suggest that the contour of an intonational unit may occur at random, given that spontaneous conversation is discursively complex and operates with truncations, overlaps and turns of speech that vary in a spectrum ranging from merely prosodic to lexical and orational markings. Although based on intuition, Chafe (1980; 1985) argues that the emotional unit is a verbalization of a focus of awareness of the speaker at the time of speech. That is, it would be a materialization of information from short-term memory, present in the active state of consciousness, where cognitive language processing occurs. The intonational unit, in this sense, would be a small amount of active information in the speaker's memory, verbalized at once, although it may, and is common in spontaneous conversation, to have disfluencies in the introduction of these units due to hesitations of different natures as seen in previous sections. The intonational unit, according to Chafe, can thus present different types, among them:

   i) Substantive - which provides substantive ideals of an event;

   ii) Regulatory - which occurs as an interactional marker to signal interaction between participants, relevant context, judgments, mental processes, among others;

   iii) Fragmentary - occurrences truncated in speech turns.

In the corpus, we identified a passage that exemplifies these three types:

   *DEB: [17] aí / infelizmente / é o único horário que eu consegui / encaixar //$ **(substantiva)**
   *DEB: [18] talvez aí é que seria interessante a participação de outros professores //$ **(substantiva)**
   *JUN: [19] <é porque / &he / é [/1] é> [/1] +$ **(fragmentária)**
   *DEB: [20] <porque a gente teria> mais horários / pra trabalhar //$ **(substantiva)**
   *JUN: [21] <é porque &s> +$ **(fragmentária)**
   *DEB: [22] <porque serão> vinte semanas //$ **(substantiva)**
   *WIL: [35] <por causa desse projeto //$ **(substantiva)**
   *WIL: [36] ham ham> //$ **(regulatória)**[6]

Another relevant aspect about these units is their extension. Each language encodes information in a specific way, which weakens the measurement of the intonation unit by the number of words. Considering the types of units presented above, the fragmentary, although it corresponds to a turn, cannot be measured by the fact that it does not constitute a complete unit of thought and by presenting high unpredictability. The other occurrences also signal barriers, because the restriction in relation to the information processing capacity in the active state of consciousness is not always matched with grammatical coding. On the other hand, it is very common in the literature to correlate intonational unity with phrases and / or sentences (Decat, 2001; 2011; 2019). The types of substantive units, in fact, tend to be verbalized in the form of sentences or parts thereof, because sentences and their constituents denote events and states of affairs that make up the largest percentage of information that we communicate in our interactions. For Chafe (1974: 68), these ideas that we identify as events and states are transient in the active locus of the speaker's consciousness and are, in conversation,

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[6] * DEB: [17] there / unfortunately / it's the only time I got / fit // $ (substantive)

* DEB: [18] maybe that's where the participation of other teachers would be interesting // $ (substantive)

* JUN: [19] <is because / & he / is [/ 1] is> [/ 1] + $ (fragmentary)

* DEB: [20] <because we would have> more hours / to work // $ (substantive)

* JUN: [21] <it's because & s> + $ (fragmentary)

* DEB: [22] <because it will be> twenty weeks // $ (substantive)* WIL: [35] <because of this project // $ (substantive)

* WIL: [36] ham ham> // $ (regulatory)

consistently replaced by each other. In the author's view, events and states are centered on the participants, who form the referential network of the macrotopic of the content of the conversational act. Referents, therefore, are important components of the informational unit and are basic ideas that remain active in the consciousness of speakers at the moment of interaction. Thus, Chafe argues that a substantive intonational unit that is not a referent is unusual. For the purposes of this study, we pair the intonational unit with the informational unit, bearing in mind Chafe's (1974: 69) statement that the intonational unit is a linguistic expression of information, in the active locus of the speaker's consciousness and, for the linguistic manifestation, in the listener's consciousness, or, at least, it constitutes a mere intention of the speaker.

Informational Unit Versus Grammatical Unit

In principle, the informational unit does not maintain necessary alignment with the grammatical unit. Note some examples extracted from the corpus under analysis. This means that the information operates in a different logic than the one with which we construct the simple phrases, the sentences, the relations between clauses. However, unforeseen pauses are frequent, as can be seen in (1):

> (1) LUA: é / eu acho **que** / uma coisa também que ajudaria nisso / é [/] era se as [/] as coordenações nas escolas fossem melhor / né
> LUA: como é
> LUA: que que cê acha[7]

The pause highlighted in bold in the excerpt (1) occurs after the subordinate operator in the syntactic locus in which it is expected that there is no processing of parsing marks between sentences. At first glance, there is a case of unplanned slicing between complex sentences. However, at the discourse level, "eu acho que" (I think that) can be considered a "borderline" construction of a marker that represents hesitation, well analyzed by Urbano (in JUBRAN, 2019) as a planning mechanism. It should be noted that the other pauses that are attested in the passage come from another type of hesitation, as already described in Marcuschi (2006) with refraction (é-is / era-was) and without refraction (as - the / as - the), like in the passage (2):

> (2) então / a orientadora / ela nũ quer fazer o papel da coordenadora //$
> SHE: e / vice-versa //$
> SHE: né //$
> SHE: então / tem que tar [/] tem que ter **pessoas / com** [/] com disposição pra ajudar o professor / né //$
> SHE: e isso nũ tem no Estado.[8]

In sections (3) and (4), on the other hand, the pause function marks the focus on " quer assistir" (want to watch), specifier of "quem" (who). Mollica (1984) was the first study on some functions of the pause at the border between subject and verb. For the question whether it would be a case of phrase breakdown, the findings suggest explanations of a structural and psycholinguistic order.

> (3) SHE: então é aquele entra-e-sai //$
> SHE: então o" / dou aula **pra quem /** quer assistir //$
> LUA: mas isso é que idade //$

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[7] LUA: yes / I think / one thing that would also help with this / yes [/] was if the [/] coordinations in schools were better / right
LUA: how is it
LUA: what do you think

[8] (2) so / the advisor / she doesn't want to play the role of the coordinator // $
SHE: e / vice versa // $
SHE: right // $
SHE: so / you have to have it [/] you have to have people / with [/] willing to help the teacher / right // $
SHE: and there is no such thing in the state.

SHE: primeiro ano / né /\$[9]

For the interval filled by pause at (4), the subsequent material is revealing. Even claiming a null function with a phrase break, the subsequent context of repetition of the NP[10] "objetivos" (objective), in (4), favors the hypothesis that the speaker paused after harmonizing for not being very sure of the lexical choice or grammatical object of the verb.

(4) ANL: mas **pra harmonizar /** os objetivos os objetivo que a gente se propõe / a gente tem que dar satisfação do que se faz // \$
ANL: agora / o legal de [/] dessa coisa toda / dos grupos serem pequeno / eu sinto / dentro do espiritismo / é que um grupo apóia o outro independente de comando //\$[11]

On the other hand, a brief silence event in the context of ambiguity stands out in the excerpt (5).

(5) *SHE:e eu nũ concebo a idéia / por exemplo / dum coordenador / &orien [/] coordenar um professor de inglês / sem ter a mínima noção //\$
SHE: da língua //\$
SHE: até pa te cobrar //\$
SHE: né / pa falar assim / Nossa **mas isso aqui / que cê tá é uma besteira muito grande** / né //\$[12]

The sequence of SHE"s speech leaves doubts as to whether "que cê tá fazendo é uma besteira muito grande" (what you are doing is very big nonsense) is a warning from a supposed English coordinator or if it is an explanation of the type of nonsense that the teacher would be committing. In both cases, the pause can be interpreted as a focus marker.

The events of brief silence bolded in (6), in turn, are of a different order.

(6) SHE: então / na escola que eu tenho a coordenadora / eu **vejo que / a parte de /** conversar com o aluno / né / em relação à disciplina / problema familiar / &he / problema de material / o aluno que tá desinteressado / tudo / acontece / superbem //\$
SHE: funciona //\$
SHE: agora / na outra escola / que nũ tem &a [/] &um [/] &al [/] uma pessoa comprometida com isso / **o aluno também ele nũ quer /** se comprometer //\$[13]

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[9] (3) SHE: so it's the come-and-go // \$
SHE: so "/ I teach for those who / want to watch // \$
LUA: but that's what age // \$
SHE: first year / right / \$

[10] Nominal phrase.

[11] (4) ANL: but in order to harmonize / the objectives, the objectives we propose / we have to give satisfaction to what we do // \$
ANL: now / the cool thing about [/] this whole thing / the groups are small / I feel / within spiritism / is that one group supports the other independent of command // \$

[12] (5) * SHE: and I don't conceive the idea / for example / of a coordinator / & orien [/] coordinating an English teacher / without having a clue // \$
SHE: of the language // \$
SHE: until I charge you // \$
SHE: right / to talk like this / Wow / but this here / you are a big mistake / right // \$

[13] (6) SHE: so / at the school where I have the coordinator / I see that / the part of / talking to the student / right / in relation to the subject / family problem / & he / material problem / the student who is disinterested / everything / happens / excellently // \$
SHE: it works // \$
SHE: now / at the other school / who doesn't have & a [/] & a [/] & al [/] a person committed to it / the student also doesn't want to / commit // \$

It is evident in (6), first, the pause in the subordinate syntactic interval similar to the examples described in (1) and (2). The matrix I see that can be interpreted, at the discourse level, is a construction that the speaker uses to better plan the subsequent processing. The pause after the preposition "de" (of), of course, would constitute a grammatical break in the prepositional constituent, precisely because it was present with a value of "demonstrative", "of presenter" to Chafe (1974) of the informational unit "conversar com aluno" (to talk to a student), to which is added the sense of exemplification, of explanation, of clarification of the previous content. Bearing in mind that the "problema familiar" (family problem) phrase is also highlighted prosodically in order to signal the cause of the student's disciplinary issues. Also note, in the same excerpt (6), the sequence of breaks/pauses with the function of enumerating "problema de material, o aluno que tá desinteressado" (material problems, the student who is disinterested). Thus, the data attests to what Chafe conceives as "jets" with which the melodic contours are distributed iconically in the information flow.

Issues related to discourse processing planning are also observed in relation to the distribution of information. It is notable the pause that precedes "isso" (this) with the value of a signal, an explanation that comes after the topicalized element, as highlighted too in (7).

> (7) SHE: **o livro que eu adotei** / não compra //\$
> SHE: porque / também / aí eu já começo / a ver lá / o negócio lá de cima / né //\$
> SHE: secretaria de Estado / da Educação / governo / que faz / né / essa propaganda toda / de material e tudo / nũ tem //\$[14]

In this regard, Braga & Mollica (1985) verified the discursive function of the pause when they mark topics and subtopics. There are many examples, in the sample examined, in this research stage, categorized as an independent variable in the quantitative treatment of the data. See (8) below:

> (8) FLA: o" / Bruno / a gente vai explicar como é que a gente trabalha aqui //\$
> EMM: <isso> //\$
> BRU: <ham ham> //\$
> BRU: <hum hum> //\$
> FLA: **essa <daqui /** é a> bolsa de sangue / igualzinho ela chega da coleta //\$
> BRU: ham ham //\$
> FLA: sai do doador / lá / e chega pra gente assim //\$[15]

The topic "essa daqui" (this here) is highlighted both by the deictic "aqui" (here), which establishes the reference of the entity "bolsa de coleta de sangue" (blood collection pouch), among many that are used in the hospital, and to reinforce topicalization. There are cases, such as those studied in Braga & Mollica (1985), in which the topic is doubly filled by a brief silence and an anaphoric pronoun, before the predicate, as can be seen in the first example highlighted in (9) "esperamos <que esse> novo programa <que> vai vim /ele/ \$" (we hope <that this> new program <that> will come / he / \$):

> (9)EMM: esperamos <que **esse>** novo programa <que> vai vim **/ ele /\$**
> MAR: porque nós +\$
> MAR: <é> //\$

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[14] (7) SHE: the book I adopted / don't buy // \$
SHE: because / too / then I already start / to see there / the business up there / right // \$
SHE: Secretary of State / Education / Government / that does / right / all this propaganda / of material and all / does'nt have // \$

[15] (8) FLA: o "/ Bruno / we will explain how we work here // \$
EMM: <this> // \$
BRU: <ham ham> // \$
BRU: <hum hum> // \$
FLA: this <here / is the> blood bag / just like it arrives from the collection // \$
BRU: ham ham // \$
FLA: leaves the donor / there / and reaches us like this // \$

MAR: **é um novo <programa** / a caminho> //\$
FLA: [<é / vai vim **um programa novo**> //\$
EMM: / <tá pra ser instalado><aí> +\$
BRU: <como assim> //\$
BRU: **programa /** <de computador> //\$
FLA: de <computador> //\$
EMM: <de computador> //\$[16]

The conversational interaction between the EMM, MAR, FLA and BRU speakers, in (9), also shows that the same referent is being distinctly topicalized, shifted to the left and accompanied with copulation in "é um novo <programa> a caminho //\$" (is a new <program> on the way> // \$) by MAR, reinforced by FLA, moving to the right "vai vim um novo programa" (a new program will come). In this case, without pause and already an old reference (PRINCE, 1981), taken up by BRU on the left "programa / <de computador>//" (program / <of computer> //) and, finally, encoded only with the nucleus of the NP followed by the pause, renewed referent that it is by the "computador" (computer) predictor-specifier.

Also analyze the topics highlighted in (10):

(10) FLA: bom / aí a bolsa chega / aí / a gente / homogeniza / desgruda as plaquetinhas da parede <dela assim> / faz tipo uma / cinturinha +\$
BRU: <hum hum> //\$
FLA: <**os nomes /** que eu ponho hhh> //\$
BRU: <ocê tem nome pra tudo / né hhh> //\$
FLA: e aí / encaçapa nesses [/] nessas caçapas aqui //\$
FLA: porque vai rodar naquelas centrífugas /\$
BRU: sei //\$
FLA: / e vai separar daquele líquido //\$
FLA: que cê tá vendo //\$
BRU: <ah / tá> //\$
FLA: <uma parte vermelha que é só de hemácia> //\$
BRU: <**aquilo ali /** acho que eu já vi na televisão> / já //\$[17]

---

[16] (9) EMM: we hope <that> new program <que> will come / he / \$
MAR: because we + \$
MAR: <is> // \$
MAR: it's a new <program / on the way> // \$
FLA: [<a new program is coming> // \$
EMM: / <it's about to be installed> <there> + \$
BRU: <as so> // \$
BRU: program / <computer> // \$
FLA: from <computer> // \$
EMM: <computer> // \$

[17] (9) FLA: good / then the bag arrives / there / we / homogenize / unglue the plaques on the wall <hers like this> / do it like one / belt + \$
BRU: <hum hum> // \$
FLA: <the names / that I put hhh> // \$
BRU: <you have a name for everything / right hhh> // \$
FLA: and there / pocket in these [/] in these pockets here // \$
FLA: because it will run on those centrifuges / \$
BRU: I know // \$
FLA: / and will separate from that net // \$
FLA: what are you seeing // \$
BRU: <ah / ok> // \$
FLA: <a red part that is just red blood cells> // \$
BRU: <that over there / I think I've seen it on television> / already // \$

The FLA speaker highlights the NP referring to "nomes" (names) through the topicalization mechanism to the right "os nomes / que eu ponho" (the names / which I put), in a clearly didactic speech, when explaining to his interlocutors how the labels on each blood bag are identified in the hospital environment . In the sequence, the explanation turns to the erythrocytes inside the blood bag, to which BRU then alludes, for what he already knows by the media and for what the topicalized referent represents by means of double deixis followed by a pause in "aquilo ali / acho que eu já vi na televisão" (that there / I think I''ve seen it on television). A similar strategy can be read in (11):

(11) aí **o caderno /** é um negócio meio atrasado / assim //$
FLA: porque **/ <é um caderno> /** <poderia ser no computador hhh> //$[18]

In (11), the melodic contour followed by a brief silence topicalizes the NP "caderno" (notebook) in "aí o caderno / é um negócio meio atrasado" (there it is the notebook / is a bit late). Similar mechanisms are again used in the explanatory subordinate, highlighting the NP, this time for a type of topicalization in the fashion of the "Chinese topic", "porque / <é um caderno> / <poderia ser no computador" (because / <is a notebook> / <could be on the computer), which have been interpreted as stray structures in the various Decat studies mentioned. There is, in fact, little connection between the sentences in a paratax relationship.

The events of brief silence are also important vectors in discursive continuity, in general, with associated use of markers, as "aí" (there), "né" (isn't it?). In excerpts (12), (13), some examples are shown.

(12) FLA: **aí** depois disso / a gente vem aqui pra esse caderno / né //$
EMM: nós fazemos um [/1] uma anotação / considerando o quê //$
EMM: a data / né / essa data / é um [/] a gente põe o dia / que tá sendo coletado / <e / nós> temos o dia juliano //$
BRU: <sei> //$

(13) FLA: que é o dia <do ano> //$
BRU: <como é que é> //$
FLA: hoje / é o dia cento-e-noventa-e-dois do ano //$
BRU: ah / tá **//$**
FLA: entendeu //$
BRU: tendi //$
FLA: **aí /** cada dia / vai ser uma [/1] uma nova numeração / assim / né //$
FLA: como é que é&di +$
FLA: eu nũ sei direito como é que funciona esse esquema / assim //$
FLA: **&he** / passa o dia / amanhã vai ser o cento-e-noventa-e-três //$
EMM: isso //$
FLA: [26**] aí /** vai começar / zero zero um //$
FLA: **então** cada doador / tem um número / <pronto> //$
BRU: <ah> / tá //$[19]

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[18] (11) then the notebook / it's a little late / like this // $
FLA: because / <is a notebook> / <could be on the computer hhh> // $

[19] (12) FLA: then after that / we come here for this notebook / right // $
EMM: we make a [/ 1] an annotation / considering what // $
EMM: the date / right / that date / is a [/] we set the day / that is being collected / <and / we> have the Julian day // $
BRU: <i>> $

(13) FLA: which is the <of the year> // $ day
BRU: <how it is> // $

The explanation of FLA, in (11), has the continuity guaranteed by the marker following the adverbial phrase in "aí depois disso / a gente vem aqui pra esse caderno / né/" (there after that / we come here for this notebook / right /). The pause emerges at the end of the adverb of time "depois disso" (after that) because it forms an informational whole that refers to the timeline of the narrative, in which it explains how to proceed with the proper security of blood identification. In (12), the marker "aí" (there) is also reinforced "cada dia" (each day), in addition to being filled by the pause "aí / cada dia/ vai ser uma [/1] uma nova numeração / assim / né//$" (there / each day / there will be a [/ 1] a new numbering / like this / right // $). In the same direction, we highlight the reinforcement of the interlocutor BRU by "tá" (ok) and by the abbreviated processing of the verb "to understand" in "BRU: ah / tá // $ BRU: tendi // $" (ah / ok // $BRU: got it//$).The discursive continuity is still filled by the conjunction followed by pause "&he / passa o dia / amanhã vai ser o cento-e-noventa-e-três //$" (& he / spends the day / tomorrow will be the hundred-and-ninety-and-three // $). Tavares (1999) attested the functionality of "aí" (there), "então" (then), "daí" (then), as retroactive-propelling discursive sequencers. The researcher attests to the discursive multifunctionality in several genres. Note also, in section (12), that the game of the conversation ends with "FLA: então cada doador / tem um número / <pronto> //$" (FLA: then each donor / has a number / <ready> // $) and is ended by "BRU: <ah> / tá //$" (BRU: <ah> / ok // $). The pattern is repeated in (12) with the use of "aí" (there) and "então" (then) in subsequent conversational turns.

Other sequencers alternate with a similar function, as seen in (14):

> (14) FLA: **então** / já vai pro sistema //$
> FLA: pra eles / é bem melhor //$
> FLA: **bom / aí** a bolsa chega / **aí /** a gente / homogeniza / desgruda as plaquetinhas da parede <dela assim> / faz tipo uma / cinturinha +$
> BRU: <hum hum> //$
> FLA: <os nomes / que eu ponho hhh> //$
> BRU: <ocê tem nome pra tudo / né hhh> //$
> FLA: **e aí /** encaçapa nesses [/1] nessas caçapas aqui //$
> FLA: porque vai rodar naquelas centrífugas /$
> BRU: sei //$
> FLA: e vai separar daquele líquido //$[20]

FLA: today / is the one hundred and ninety-two day of the year // $
BRU: ah / ok // $
FLA: got it // $
BRU: tendi // $
FLA: there / every day / there will be a [/ 1] a new numbering / like this / right // $
FLA: how is it & di + $
FLA: I don't really know how this scheme works / like this // $
FLA: & he / spends the day / tomorrow is going to be one hundred and ninety-three // $
EMM: this // $
FLA: [26] there / will start / zero zero one // $
FLA: so each donor / has a number / <pronto> // $
BRU: <ah> / ok // $
[20] (14) FLA: so / go to the system // $
FLA: for them / it's a lot better // $
FLA: good / then the bag arrives / there / we / homogenize / unglue the plaques on the wall <hers like this> / do it like one / belt + $
BRU: <hum hum> // $
FLA: <the names / that I put hhh> // $
BRU: <you have a name for everything / right hhh> // $
FLA: and there / pocket in these [/ 1] in these pockets here // $
FLA: because it will run on those centrifuges / $
BRU: I know // $

The description of FLA in (13) follows on from the previous section, and the pause, in almost all cases, follows the marker. It is worth noting that it does not emerge when it is preceded by the marker "bom" (good) marker, which has the function of a turn initiator. The brief pause events also emerge before and or after brazilian portuguese classifiers "tipo / tipo assim" (type, type like this) that Lima-Hernandez (2005) studied in doctoral thesis. Read the example in (15):

> (15) FLA: bom / aí a bolsa chega / aí **/** a gente / homogeniza / desgruda as plaquetinhas da parede <dela assim> / faz **tipo** uma / cinturinha +$
> BRU: <hum hum> //$
> FLA: <os nomes / que eu ponho hhh> //$
> BRU: <ocê tem nome pra tudo / né hhh> //$
> FLA: e aí / encaçapa nesses [/1] nessas caçapas aqui //$
> FLA: porque vai rodar naquelas centrífugas /$
> BRU: sei //$
> FLA: / e vai separar daquele líquido //$[21]

It is worth mentioning that this marker is widely used in colloquial speech with a deictic value. It is also accompanied by a pause, as in the example in (16):

> (16) FLA: [23] eu nũ sei direito como é que funciona esse esquema **/ assim //$**
> FLA: [24] &he / passa o dia / amanhã vai ser o cento-e-noventa-e-três //$
> EMM: [25] isso //$
> FLA: [26] aí / vai começar / zero zero um //$
> FLA: [27] então cada doador / tem um número / <pronto> //$[22]

It should be noted, in the transcribed excerpts, that the non-alignment between informational unit and grammatical unit is quite clear, considering that the pause highlights one term or more than one term of the linguistic constructions. According to Chafe (1974; 1980; 1985), the discursive parts that should be in the focus of consciousness are highlighted prosodically. Topicalized NPs are good examples, as in (17):

> (17) FLA: <**os nomes /** que eu ponho hhh> //$
> FLA: [27] então **cada doador /** tem um número / <pronto> //$.[23]

Or in (18):

FLA: and it will separate from that net // $

[21] (15) FLA: good / then the bag arrives / there / we / homogenize / unglue the little tags on the wall <her as-yes> / do it like one / belt + $
BRU: <hum hum> // $
FLA: <the names / that I put hhh> // $
BRU: <you have a name for everything / right hhh> // $
FLA: and there / pocket in these [/ 1] in these pockets here // $
FLA: because it will run on those centrifuges / $
BRU: I know // $
FLA: / and will separate from that net // $

[22] (16) FLA: [23] I don't really know how this scheme works / like this // $
FLA: [24] & he / spends the day / tomorrow will be one hundred and ninety-three // $
EMM: [25] that //$
FLA: [26] there / will start / zero zero one // $
FLA: [27] so each donor / has a number / <ready> // $
[23] (17) FLA: <the names / that I put hhh> // $
 FLA: [27] so each donor / has a number / <ready> // $.

(18) SHE: agora / na outra escola / que nũ tem &a [/] &um [/] &al [/] **uma pessoa comprometida com isso /** o aluno também ele nũ quer / se comprometer //$.[24]

PRELIMINARY ANALYSIS OF RESULTS

The data showed a high frequency of conversational markers with a "filled pause" function, followed by a brief silence. Table 1, composed, at this stage of the analysis, of raw data, lists the markers and highlights the internal syntactic frontier of turn in which they occur introduced by the following prepositions and conjunctions.

Table 1[.25] Brazilian Portuguese Markers with filled pause function on the internal border of the turn

Marcadores/ Frequência	aí 2704	né 2204	tá 2170	hum 1522	hhh 1416	assim 1348	ah 1186	uhn 379	uai 318	ahn 248	ué 149	hein 136	oh 51	oi 51	uê 24	eh 19	uh 12	TOTAL 13937
/ de	3	16	1	0	2	21	1	0	0	0	1	0	0	0	0	0	0	45
/ mas	6	11	2	0	3	12	53	0	10	0	5	0	1	0	0	0	0	103
/ pra	6	6	0	0	1	7	2	0	0	0	0	0	0	0	0	0	0	22
/ com	4	5	0	0	0	17	1	0	0	0	0	0	0	0	0	0	0	27
/ na (em + a)	9	5	0	0	1	5	2	0	0	0	0	0	0	0	0	0	0	22
/ no (em + o)	2	4	2	0	0	13	0	0	0	0	1	0	1	0	0	0	0	23
/ da (de + a)	0	8	0	0	0	2	1	1	0	0	1	0	0	0	0	0	0	13
/ até	2	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	5
/ depois	10	2	1	0	1	4	1	0	0	0	0	0	1	0	0	0	0	20

The selected markers are among the top 100 in the corpus. Firstly, the existence of some discourse interaction markers (hein, oh, oi, uê, eh, uh, ahn, uhn, hum) is emphasized. They disfavor, in the corpus data, the occurrence of a double pause. This is an indication that the interactional markers perform specific functions, of a less multifunctional nature, as in:

(19) *NAT: [161] minha vida hoje / então / nũ é / tem em geral / eu celebro mais à noite / né / atendo os doentes / quando tem os grupos aí de Rede / tem o conselho paroquial que se reúne uma vez por mês / temos três pastorais / conforme a igreja de Belo Horizonte / uma na área de espiritualidade / a de aprofundamento / outro na área de inserção social / e outro na [/1] em [/1] na / aprofundamento da vida comunitária // $
*NAT: [162] <então tem a &esp> +$
*BAL: [163] <qual a diferença> das duas //$
*NAT: [164] **hein //$**
*BAL: [165] a diferença das duas //$
*NAT: [167] inserção social / é pa ajudar / principalmente os nossos irmãos / mais pobres / aí e &enf [/1] viria / então não temos / nenhum / aqui / tem umas [/2] deve ter umas [/1] umas dez escolas / <nenhuma de> ensino médio //$[26]

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[24] SHE: now / at the other school / who doesn't have & a [/] & a [/] & al [/] a person committed to it / the student also doesn't want to / commit // $.

[25] For a better understanding of the data of the table 1, consider that the table shows the context of occurrence of the marker with filled pause. For example, the marker "aí" occurred 2704 times in the corpus, 3 of times followed by pause (/) and preposition "de" (of).

[26] * NAT: [161] my life today / so / it is / there is in general / I celebrate more at night / you know / I care for the sick / when there are groups there in Rede / there is the parish council that meets once per month / we have three pastorals / according to the church of Belo Horizonte / one in the area of spirituality / that of deepening / another in the area of social insertion / and another in [/ 1] in [/ 1] in / deepening of life community // $
* NAT: [162] <then there"s & esp> + $
* BAL: [163] <what is the difference> of the two // $
* NAT: [164] hhu // $
* BAL: [165] the difference between the two // $
* NAT: [167] social insertion / is to help / mainly our brothers / the poorest / there and & enf [/ 1] would come /

In this excerpt, the marker "huh" constitutes a conversational turn, signaling a breach of expectation, exercising a retrospective scope since the strangeness is caused by the previous turn. A more accurate investigation of these markers is a task for a separate study. The focus here is on double break occurrences. The other occurrences in Table 1 show systematicity of the pause paradigm preceded by a discourse marker with an interactional-cognitive function, of a prospective nature. In this measure, they are good indicators to attest the hypothesis of the existence of an operator of search or of the selection of an information unit in the discursive flow, which, after vocal inactivity, is introduced through a full constituent, as seen in the occurrence that follow:

> (20) *CAR: [8] eu trabalhei com instituto de pesquisa / eu trabalhei como revisor / como pesquisador / como / estatístico //$
> *JAN: [9] <hum hum> //$
> *CAR: [10] <então> / ou seja / então muita experiência / muito contato com pessoas / me fez com [/3] fez com que eu / desenvolvesse uma capacidade boa de [/1] **né / de relacionar com as pessoas** //$[27]

In (20), the informant reports his professional experience and justifies the impact of this experience on his ability to relate to people. The discourse marker "né" (isn'it?), followed by a brief silence, signals the emergence of a syntagmatic unit immediately introduced in the speech. The informant, through this marker, allows access to the information unit composed of a full prepositional phrase of nominal, adjectival and adverbial basis. It is assumed that the marker inhibits internal ruptures of the constituents, through hesitations, repetition of fragments of the constituent. This is an indication that the propulsive pauses in cognitive processing are of a different nature. A strong hypothesis is that accessing thought in search of forgotten information requires different linguistic coding if compared to access for monitored selection of a given information unit.

The following excerpt is a typical occurrence of a double pause. In this case, the discourse marker, with a filled pause function, was used to oxygenate the thought and allow the insertion of the information unit. Note that the double pause tends to inhibit internal breaks in the grammatical segment that carries the information. See (21) below:

> (21)*CAR: [76] então / a [/1] a proposta de fazer a gincana / desse jeito / sem custo / é interessante que os meninos ficam mais satisfeito / e tudo / &he / &s [/1] né / sem [/1] sem cobrar nada //$
> *CAR: [77] **aí / mas aí tem um problema** / porque / o [/1] o turno da tarde / por exemplo / usou a gincana o ano passado / era de graça / a &gi [/2] a [/1] o [/1] o [/1] <os comes> e bebes / e tudo / mas usou a pescaria / e [/1] e [/1] e [/1] e os jogos / boca do palhaço / e tudo / pa arrecadar um dinheiro / pra fazer / uma festa pos menino no dia das crianças // $[28]

In (21), CAR, when discussing about school fees, introduces two turns of speech that are opposed to the realization of a gymkhana without any cost. The turn [77] is initiated by a double pause that scopes an informational unit composed of adversative sentence. It is observed, once again, that the

so we have / none / here / there are some [/ 2] there must be some [/ 1] about ten schools / <none of> high schools // $

[27] (20) * CAR: [8] I worked with a research institute / I worked as a reviewer / as a pain researcher / as / a statistician // $
* JAN: [9] <hum hum> // $
* CAR: [10] <then> / ie / so a lot of experience / a lot of contact with people / made me with [3] made me / develop a good ability to [/ 1] you know / to relate to people // $

[28] (21) * CAR: [76] then / a [/ 1] the proposal to make the contest / like this / at no cost / it is interesting that the boys are more satisfied / and everything / & he / & s [/ 1] right / without [/ 1] without charging // $
* CAR: [77] there / but there is a problem / because / o [/ 1] the afternoon shift / for example / used the gymkhana last year / it was free / a & gi [/ 2] a [/ 1] o [/ 1] o [/ 1] <the food> and drinks / and everything / but used the fishing / e [/ 1] and [/ 1] and [/ 1] and the games / clown mouth / e everything / to raise some money / to do / a party after the boy on children"s day // $

unit of information scoped does not suffer internal ruptures. In general, the occurrences in the table confirm this interpretation. Let's look at some more data:

(22) *JRM: [207] como é / amaciamento / pode ser esse produto mesmo //$
*JRM: [208] mas aí é só [/2] nũ precisa fazer tração //$
*JAN: [209] <que que é tração> //$
*JRM: [210] <com o pente> //$
*JRM: [211] <&he / com> o pente / né //$
*JAN: [212] <ah / tá> //$
*JRM: [213] porque / geralmente homem / **assim / com o cabelo mais curto /** só quer amaciar mesmo / aí faz //$

(23) *MAR: [53] e / &he / o Leonardo gosta que ponha palmito / que ele é metido / né //$
*TAT: [54] é / o <Careca é> //$
*MAR: [55] <palmito> / azeitona pretas //$
*TAT: [56] <metido> //$
*MAR: [57] né //$
*MAR: [58] **aí / <depois que tá tudo prontim>** +$
*TAT: [59] <uhn> //$
*TAT: [60] <têm que ser pretas> //$
*MAR: [61] tem //$
*MAR: [62] porque / a preta é mais macia //$
*TAT: [63] ah //$
*MAR: [64] né //$
*MAR: [65] então ele gosta //$
*MAR: [66] **aí / depois que tá prontinho ali** / você / abre a massa / &n [/1] eu costumo abrir ela num plástico / porque aí fica mais fácil d'' ocê virar no [/1] no [/1] no seu +$

(24) *LUZ: [1]porque /eu só soube que eu nũ /6 eu tive certeza absoluta que eu nũ era daqui quando eu saí //$
*LUZ: [2] que eu senti que então / eu tava no meu lugar / né //$
*LUZ: [3] porque eu /1 eu me senti / respirando / **né / adequada / né / no lugar** //$
*LUZ: [4] <falei> / Nossa //$
*LAU: [5] <sei> //$
*LUZ: [6] passei a vida toda num lugar errado //$[29]

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[29] (22) * JRM: [207] how it is / softening / it can be that same product // $
* JRM: [208] but that's it [/ 2] nũ need to do traction // $
* JAN: [209] <which is traction> // $
* JRM: [210] <with the comb> // $
* JRM: [211] <& he / com> the comb / right // $* JAN: [212] <ah / ok> // $
* JRM: [213] because / usually a man / like this / with the shortest hair / just wants to soften / really does // $

(23)* MAR: [53] and / & he / Leonardo likes to put heart of palm / that he is involved / right // $
* TAT: [54] is / the <Bald is> // $
* MAR: [55] <heart of palm> / black olives // $* TAT: [56] <mitted> // $
* MAR: [57] right // $* MAR: [58] there / <after everything is ready> + $
* TAT: [59] <uhn> // $* TAT: [60] <must be black> // $* MAR: [61] has // $
* MAR: [62] because / black is softer // $
* TAT: [63] ah // $
* MAR: [64] right // $
* MAR: [65] so he likes // $
* MAR: [66] there / after it's ready there / you / open the dough / & n [/ 1] I usually open it in a plastic / because then it becomes easier for you to turn into [/ 1] in [/ 1] on your + $

(24) * LIGHT: [1] because / I only knew that I wasn / 6 I was absolutely sure that I wasn''t from here when I left

The occurrences in (22), (23) and (24) are typical double pauses, in which the discourse marker operates with a prospective pause function to prepare the cognitive activity of speech processing for the introduction of a information unit grammatically full, or without breaks/ruptures.

(A) Sintony between Informational Unit and Grammatical Unit

We have seen until then that the double pause favors a harmony between informational and grammatical unity, whether of a nominal, sentential, adjectival, adverbial or other nature. However, there are cases where the pause is filled within the syntactic constituent, as seen in:

(25)*REN: [191] tem que ser no Carrefour //$
*FLA: [192] ai / Rena / tá cheio //$
*REN: [193] tá //$
*REN: [194] lotado //$
*REN: [195] yyyy //$
*FLA: [196] é aqui //$
*REN: [197] **precisando de / papel higiênico //$**
*FLA: [198] papel higiênico //$
*REN: [199] tá cheio mesmo / viu //$
*FLA: [200] o" //$
*FLA: [201] se a gente vai de de táxi / voltar de táxi / po" comprar um //$[30]

In (25), we have a silent pause within a prepositional phrase. It is worth asking: is the NP cut by the nucleus constituted by the preposition "de" (of) an informational unit? There is an evident rupture in the syntactic constituent, in which the pause occurs between the nucleus and the NP inside it. Is it the pause or the grammatical unit that determines the informational unit? This is a separate research question. We are still concerned in this text with the relationship between pause, informational unit and text punctuation. The asymmetry between grammatical and informational unit are important aspects to reveal the apparent randomness in the text punctuation of the students in general.

Conclusion

In the communication, based on the quantitative and expanded examples of the sample excerpts, we argue that there is an iconic function in the forms of hesitation in the course of the propositional packaging process. This role is revealed more clearly with the addition of the pause at the analyzed borders. In a more expanded version of the study, the greater number of syntactic limits leads us to verify a ranking that classifies the uses of more productive markers followed by pauses with the attribution of their role in the information flow. Certainly, robust evidence favors more precise

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// $
* LIGHT: [2] that I felt that then / I was in my place / right // $
* LIGHT: [3] because I / 1 felt / breathing / right / adequate / right / in place // $
* LIGHT: [4] <spoken> / Wow // $
* LAU: [5] <sei> // $
* LIGHT: [6] I spent my whole life in the wrong place // $
[30] (25) * REN: [191] has to be at Carrefour // $
* FLA: [192] ai / Rena / it's full // $
* REN: [193] ok // $
* REN: [194] full // $
* REN: [195] yyyy // $
* FLA: [196] is here // $
* REN: [197] in need of / toilet paper // $
* FLA: [198] toilet paper // $
* REN: [199] it's really full / saw // $
* FLA: [200] o "// $
* FLA: [201] if we go by taxi / return by taxi / you can buy one // $

interpretation of the effects of meanings, pointing to phases of investigation in which the cognitive nature of discourse elements of a segmental and suprasegmental nature is deepened.

Acknowledgments

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ONLINE READING ATTITUDES AND BEHAVIORS SCALE: VALIDITY AND RELIABILITY STUDY[1]

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Abstract

In this study, the scale named "Survey of Online Reading Attitudes and Behaviours" developed by Putman (2014) was adapted to Turkish after obtaining the necessary permissions. It was concluded that the scale could be used in Turkish education to determine the attitudes and behaviours of middle school students towards online reading activities. It was observed that the predicted five-factor structure of the scale explained 43.47% of the total variance and maintained the 53 item structure in accordance with the original scale. The internal consistency coefficient is .83 for the whole scale; .78 for the effect dimension; .83 for the cognition dimension; .92 for the value dimension; it was calculated as .81 for the self-regulation dimension and .789 for the anxiety dimension. The differences between the 27% lower and upper groups were examined in order to ensure the reliability procedures. In the analysis ($t_{(742)}$=24.35, p<.01), statistically significant differences were observed between the lower and upper groups. Subsequently, confirmatory factor analyzes were conducted to examine the compatibility with the original scale. As a result of the analysis, it was seen that the fit indices of the scale were in the desired range (TLI=.90; CFI=.87, GFI=.89, RMSEA=.06). As a result of all the procedures performed for the scale, it was decided that the scale is a tool that can determine the attitudes and beliefs of middle school students towards online reading.

Keywords: Teaching of Turkish language, online reading attitude, online reading behavior.

INTRODUCTION

Developing technologies are changing the way we read and write. Readers often encounter not only potentially large amounts of online text but also web technologies that offer new research tools. In addition to this, online texts link various media and resources to help readers find the information they need.

Literacy areas are also developing in line with the developments in technology. While writings on stones, woods and various natural materials used to be read in ancient times, the technological developments in every field have made it possible to read and write in digital environments and holographic environments by enriching the literacy environments. In both daily and business life, people spend most of their time in front of the computer screen and a great deal of written and visual reading and analysis is performed on this digital screen. This has led to emergence of a new type of reading called "screen reading". According to Dillon (1992), the use and reading of electronic texts will be preferred more because of their advantages such as easy storage, retrieval, flexibility of structure and saving resources.

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[1] This study was carried out as a doctoral thesis prepared by Süleyman Ünlü and executed by Prof. Dr. Musa Çifci

In today's age of technology, a lot of information is produced, shared and kept in digital environments. Because of this, screen reading is becoming an obligation for people (Güneş, 2009). Students are more interested in digital media because of such obligations and the attractiveness of technology, and they spend most of their time in these digital media. Accordingly, they perform their understanding and narrative actions by making use of these digital environments. In other words, today's generation is native digital media users.

The Internet is changing the face of education. Nowadays, many people from different segments of society read online for different purposes. Reading on a screen that may contain hyperlinks, videos and pictures has different characteristics compared to reading on paper. Online reading requires a new set of cognitive and metacognitive reading strategies that help the reader understand (Coiro & Dobler, 2007; Henry, 2006; Incecay, 2013).

Different populations in different circumstances may have different approaches to digital reading. Ackerman and Goldsmith (2011) mentioned some advantages and disadvantages of reading online and on paper. Some researchers have claimed that reading on the screen encourages the reader to scan the text to find specific information rather than read it in detail, and as a result, online reading improves reader's comprehension (Herold, 2014). In addition, other researchers such as Coiro and Doblers (2007) stated that online reading provides readers with the opportunity to use their existing knowledge and inferential reading strategies. A new literacy perspective is considered important to take advantage of these opportunities.

New Literacies: A Dual-Level Theory

The new literacy perspective provides a distinct perspective when examining online reading comprehension. In addition, the new literacy perspective suggests the idea that some of the skills and strategies required for reading non-online and printed texts are also used for reading and understanding online texts. But it is acknowledged that there are also a number of new skills, strategies and trends that are necessary for students to be able to read and understand online texts effectively (Duke & Carlisle, 2011; Leu, Zawilinski, Castek, Banerjee, Housand, Liu, & Oneil, 2007). There are numerous concepts related to new strategies and skills required for reading, writing and communicating on the Internet such as digital literacies, ICT literacies, information literacies, electronic literacies. Coiro, Knobel, Lankshear, and Leu (2008) touched upon four common points based on these definitions:

1. New social practices, skills and dispositions are required to use new technologies, and there are few studies on online reading,

2. New literacies constitute essential elements for civic, economic and personal participation of a global community,

3. As new technologies continue to emerge, new literacies will continue to emerge,

4. The complex and multimodal reality of new literacies requires using multiple theoretical perspectives to explore and understand the issue of online reading.

The rapidly evolving nature of literacy poses a significant challenge for the development of a dual-level theory (Coiro, Knobel, Lankshear, & Leu, 2008). As the concept of literacy is continuously redefined by an ever-changing context, a dual-level new literacy theory is recommended (Leu, Kinzer, Coiro, Castek, & Henry, 2013). New literacy is conceptualized at two levels. These are; upper case (New Literacies) and lower case (new literacy).

New Literacies (Leu, Kinzer, Coiro, Castek, & Henry, 2013) investigate technologies such as instant messaging, social networks, blogs wikis and e-mails and new social applications on the internet (Greenhow, Robelia, & Hughes, 2009; Lewis & Fabos, 2005). Moreover, Literacy in this term can be expressed as the sum of the findings revealed by studies based on lower case literacy.

New literacy, which is written as lower case, explores a specific area of new literacy and / or new technology, such as social communicative processes that occur with phone messaging (e.g., Lewis & Fabos, 2005).

One of the areas that new literacy addresses is online reading. The concept of online reading, which is examined from the perspective of literacy, is also addressed in the literature as "online research and comprehension". Online reading refers to the act of reading while connected to the Internet in digital media and focuses on reading on digital devices such as computers or mobile devices (iPad, smartphones, tablets, etc.) rather than reading on paper (Herold, 2014).

Affective Factors, Self-regulation and Online Research and Reading Comprehension

School-age children, particularly adolescents, are generally expected to acquire online reading skills in tandem with the advances in technology (Putman, Wang, & Ki, 2015). In addition, when the existing research is examined, it is seen that it has been proven that middle school students do not have the ability to find information effectively in online environments, and that they do not show the adequate patience and persistence while doing research (Eagleton, Guinee, & Langlais, 2003; Eagleton & Dobler, 2007; Bennett, Maton, & Kervin, 2008; Kuiper, Volman, & Terwel, 2009). In addition, it is thought that students do not evaluate information critically (Hoffman, Wu, Krajcik, & Soloway, 2003; Kuiper, Volman, & Terwel, 2005; Kiili, Laurinen, & Marttunen, 2008).

In online research and comprehension, affective factors such as self-efficacy, motivation, self-control, value, attitude and anxiety play an important role as cognitive dimensions such as skills and strategies do (Tsai & Lin, 2004; Moos & Azevedo 2008; Coiro, 2009; Moos, 2009; Putman, 2014; Putman, Wang, & Ki, 2015; O'Byrne & McVeryy, 2009). Taking the role of affective factors into consideration is thought to be important for maximizing online research and reading comprehension processes. In their studies, Hofman, Wu, Krajcik and Soloway (2003), Tsai and Lin (2004), and Coiro, Knobel, Lankshear and Leu (2008) found that self-efficacy and motivation are positively correlated with the use of strategies in online tasks. Tsai and Tsai (2003), and Moos and Azevedo (2009) stated that the students having a high level of self-efficacy in online contexts have high self-regulation skills. In this connection, in the study entitled as "Exploring Dispositions Toward Online Reading: Analyzing the Survey of "Online Reading Attitudes and Behaviours" by Putman (2014) revealed a five-factor structure exhibiting a strong reliability with alpha coefficients ranging from .82 to .89 as a result of the exploratory factor analysis (EFA) to measure middle school students' attitudes and behaviours (cognitive and behavioural relationship, self-regulation, anxiety, value and online reading effect) towards online reading.

Survey of Online Reading Attitudes and Behaviours (SORAB) is a 71-item self-report tool developed as a general assessment of students' attitudes and behaviours towards online reading. The design of the items is based on previously validated tools that measure emotional structures (see Gambrell, Palmer, Codling, & Mazzoni, 1996; Hinson, DiStefano, Daniel, 2003).

Significance of the Study

The effect of online reading on learning is increasing with each day. Today's students are faced with different types of texts every day. These texts include nonlinear texts, hyper texts, and digital texts. Being literate today can often be expressed as using many new technologies such as blogs, wikis, messaging, using some combination of calls, Facebook, foursquare, Google Docs, Skype, Chrome, iMovie, Contribute, Basecamp. Over time, the definition of literacy has changed. One of the changing definitions of literacy is Maker literacy. Maker literacy is the creation and reproduction of products such as artworks and texts through some entertaining activities and workshops with the use of new technologies (Wohlwend, Scott, Yi, Deliman, & Kargin, 2018: 3). In other words, it aims to strengthen both the technology affiliation and creative developer skills of individuals mostly in early childhood periods. It can be said that maker literacy will play an important role in preparing students for the world that new technologies will shape. In a sense, it is a series of activities that develop

multiple literacy skills (Marsh, Kumpulainen, Nisha, Velicu, Blum-Ross, Hyatt, Jónsdóttir, Levy, Little, Marusteru, Ólafsdóttir, Sandvic, Scot, Thestrup, Arnseth, Dýrfjöröð, Jornet, Kjartansdóttir, Pahl, Péetursdóttir, & Thorsteinsson, 2017: 79).

Based on the changing definitions of literacy, Güneş (2013) stated that the amount of online reading students are engaged in is increasing day by day. While the Internet is changing the nature of literacy, many scholars are interested in examining the nature of changing literacy (Altay & Altay, 2017; Aydemir, 2017; Aydemir, Sakız, Doğan, & Aşıcı 2017; Bakla, Çekiç, & Demiröz, 2016; Baştuğ, 2015; Çifci & Ünlü, 2020a; Esmer & Ulusoy, 2015; Destebaşı, 2016; İnceçay, 2013; Kartal & Pekkanlı, 2011; Kayaoğlu & Akbaş, 2014; Keskin, 2014; Leu, Kinzer, Coiro, Castek, & Henry 2017; Street 2003; Yamaç 2018).

Hagood (2003) emphasizes that online literacy is a part of today's world and that educators should not forget that Internet readers are at the centre of reading while doing research on reading. For these reasons, it becomes important to investigate the dimensions of online reading. In this context, it is possible that changes experienced in reading affect middle school students as well as all segments of society. It is thought that it is important to try to impart the habit of online reading starting from primary school and that the properly developed online reading habits will provide a great advantage in reading and writing in the digital world.

Considering the increase in the amount of online reading of students, the limited number of studies especially on middle school students constitutes the starting point of the current study. In this regard, the purpose of the current study is to adapt the "Online Reading Attitudes and Behaviours Scale" into Turkish and to conduct its reliability and validity studies.

METHOD

The study group of the current research is comprised of a total of 844 (480 females, 364 males) middle school students attending middle schools located in the Konak and Bornova districts in the city of İzmir in the 2019-2020 school year. The distribution of the participating students across the genders and grade levels is shown in Table 1:

Table 1. Demographic features of the participants

Grade level	Female Students		Male Students	
	f	%	f	%
6th grade	143	.50	144	.50
7th grade	172	.59	122	.41
8th grade	165	.63	98	.37

All of the participating students attend state schools. The numbers of students from different grade levels are close to each other, with 294 seventh graders, 287 sixth graders and 263 eight graders. The mean age of the participating students is 11.8 (standard deviation: .37).

Data Collection Tool

The Online Reading Attitudes and Behaviours Scale includes a total of 53 items which can be read and understood by the participating students on their own. The first 31 items and the last 4 items in the scale are designed as four-point Likert scale of "Strongly Disagree", "Disagree", "Agree", "Strongly Agree". On the other hand, the remaining 14 items in the scale are designed to be responded with one of the following options; "Never", "Rarely", "Frequently" and "Always". While the positive items in the scale are responded with one of the following response options: "Strongly Disagree=1", "Disagree=2", "Agree=3", "Strongly Agree=4", the last reversely coded 8 items in the scale are

responded with one of the following options: "Strongly Disagree=4", "Disagree=3", "Agree=2", "Strongly Agree= 1".

The scale items are subsumed under 5 factors developed to measure online reading attitudes and behaviours. These 5 factors are named as follows:

1. Effect: includes 6 items. A sample item: "I think children who are really good at using the Internet get better grades at school."

2. Cognition: includes 11 items. Sample items: "I am confident that I can combine information from multiple websites in ways that make sense to others.", "I am confident that I can determine whether the information on a website is reliable.", "When I know I will be graded, I am more careful with my research using the Internet."

3. Value: includes 14 items. Sample items: "Using the Internet is important for me.", "I believe that using the internet for research and reading makes learning more interesting.", "Using the Internet for research is beneficial because it saves time for people.", "I believe the Internet makes it easy to obtain useful information.".

4. Self-regulation: includes 14 items. Sample items: "When I have trouble understanding something on the Internet, I ask a friend or classmate for help.", "When I am doing research on the Internet, I stop to think about whether my research is going well and change my strategy if necessary.", "When I'm confused about something I've read on the Internet, I'll go back to the previous screen.".

5. Anxiety: includes 8 items. A sample item: "I feel helpless when I am asked to search for information on the Internet.".

In the scoring of the scale, standardized values obtained from the division of the total scores belonging to the sub-scales by the number of items are used. The same scoring process holds true for the whole scale. In the applications, it will be decided whether the scorings will be performed on the basis of the sub-scales or the whole scale according to the correlation values between the dimensions of the scale.

Procedure

In the adaptation of the scale "Exploring dispositions towards online reading: Analyzing the survey of online reading attitudes and behaviours" developed by Putman (2014) into Turkish, the following stages were followed:

Translation of the scale from English to Turkish (1), evaluation of the translated scale (2), translation of the translated scale back to the original language (3), evaluation of the original version of the scale with the translated form (4) and giving the final form by obtaining expert opinion (5).

In the first stage, the scale, which was translated into Turkish by the researchers, was also checked by experts in English language and literature and educational sciences for full compliance with the original scale.

Then, the piloting of the scale was conducted on a total of 844 middle school students. By using the data obtained from the piloting, reliability and validity analyses of the scale were performed. During the process of analysing the reliability, validity and compliance with the original form, the opinions of an academician specialized on curriculum and instruction and an academician specialized on measurement and evaluation were sought.

As a result of the analyses, the adapted scale was found to be in compliance with the 53-item and 5-factor original structure of the scale. In this way, the final form of the scale was given and became ready for administration. The scale is shown in the Appendix section. In the analysis of the data collected through the data collection tool, exploratory factor analysis was conducted in SPPS (25) statistical software and Amos (24) program was used to test the structure of the scale by establishing

the structural equation model. As a result of all the analyses conducted on the scale, it was concluded that the scale is a measurement tool that can be used to determine middle school students' attitudes and behaviours towards online reading.

RESULTS

In the current study, exploratory and confirmatory factor analyses were conducted. The exploratory factor analysis was performed to determine the factor structure of the scale and item-factor relationships (Tabachnick & Fidell, 2001).

First, it was tested whether the data were suitable for the analysis and then the adequacy of the sample was tested and in this regard, the KMO value was found to be .859, the Barlett Sphericity value was found to be $x^2=17160.466$, the degree of freedom was found to be 1378 and the significance value (p=.000) was found to be lower than 0.1%. In addition, in the between-variables correlation analysis, no variable having "0" coefficient and a coefficient higher than ".90" was observed. No item having uncorrelated images was found. On the basis of these values, no item was discarded from the scale. In the first analyses, the residual value ratio of the scale was calculated to be 17% (Çokluk, Şekercioğlu, & Büyüköztürk, 2010).

The five-factor structure of the scale was found to explain 43.47% of the total variance. Varimax rotation was performed on the basis of the principle components analysis. The item-factor distributions and loading values of the scale obtained as a result of the exploratory factor analysis are presented in Table 2:

Table: 2 Results of the exploratory factor analysis for the online reading attitudes and behaviours scale

Items	Factors				
	1	2	3	4	5
Value 25	**.878**	-.027	-.001	-.042	.018
Value 7	**.843**	.038	-.052	-.017	.001
Value 24	**.839**	.004	-.025	-.019	.127
Value 20	**.834**	-.039	.003	-.067	-.028
Value 22	**.822**	.001	-.069	.037	.109
Value 21	**.804**	-.017	.016	-.048	-.047
Value 31	**.793**	.038	-.009	-.007	-.066
Value 27	**.764**	.003	-.060	.009	.179
Value 26	**.744**	.033	-.058	-.016	.241
Value 28	**.742**	-.056	.026	-.039	-.094
Value 29	**.594**	-.060	.104	-.030	-.035
Value 30	**.557**	.026	.044	.045	.036
Value 23	**.514**	.005	-.001	-.006	.165
Value 8	**.455**	.064	-.114	-.003	.079
Self-regulation 10	.009	**.625**	.117	.062	.032
Self-regulation 7	.027	**.624**	.079	.042	.026
Self-regulation 9	-.014	**.622**	.106	.049	.004
Self-regulation 6	-.024	**.608**	.055	-.020	.032
Self-regulation 8	-.012	**.607**	.146	.114	-.010
Self-regulation 12	.020	**.590**	.065	.074	.025
Self-regulation 3	.039	**.554**	.082	-.022	-.063
Self-regulation 14	-.052	**.554**	.185	-.087	.028
Self-regulation 13	-.045	**.519**	.123	-.002	.016
Self-regulation 1	-.017	**.492**	.110	.031	-.043

Self-regulation 11	-.007	**.492**	.105	-.054	-.012
Self-regulation 5	.047	**.455**	.089	-.087	-.024
Self-regulation 4	.037	.355	**.095**	-.004	.045
Self-regulation 2	-.012	.331	**.001**	-.128	-.043
Cognition 12	-.018	.156	**.670**	.076	-.042
Cognition 10	-.016	.166	**.669**	.047	-.031
Cognition 16	.004	.098	**.649**	.099	.019
Cognition 18	-.068	.114	**.639**	.077	-.033
Cognition 14	-.022	.013	**.635**	.161	-.008
Cognition 17	-.015	.191	**.631**	.008	-.046
Cognition 11	-.025	.102	**.618**	.036	.030
Cognition 19	-.010	.125	**.587**	.032	-.036
Cognition 15	-.003	.085	**.542**	.070	.096
Cognition 9	-.026	.219	**.507**	-.044	-.055
Cognition 13	.073	.233	**.420**	.088	-.024
Anxiety 2	-.017	-.060	.100	**.786**	.038
Anxiety 3	-.025	-.002	.099	**.767**	-.062
Anxiety 1	.013	-.093	.100	**.738**	.103
Anxiety 8	-.036	-.039	.151	**.735**	-.046
Anxiety 4	-.003	.016	.043	**.651**	-.024
Anxiety 6	-.057	-.023	.136	**.570**	.002
Anxiety 7	-.052	-.045	-.025	**.570**	.000
Anxiety 5	.029	.089	.011	**.354**	-.002
Effect 2	.123	.039	-.036	.029	**.735**
Effect 4	.076	.056	-.055	.010	**.710**
Effect 1	-.061	-.001	.038	-.002	**.708**
Effect 3	.064	-.012	-.045	.001	**.672**
Effect 6	.084	-.017	-.033	.014	**.639**
Effect 5	.157	-.066	.050	-.053	**.629**

As can be seen in Table 2, as a result of the exploratory factor analysis, the scale items are gathered under 5 factors. Moreover, it is seen that none of the items has a loading value lower than .32 and that the mean loading value is .63.

It is also seen that 14 items of the scale are gathered under the value dimension and the items in this dimension have loading values ranging from .878 to .455, and that another 14 items are gathered under the self-regulation dimension and the items in this dimension have loading values ranging from .625 to .331.

Eleven items of the scale are gathered under the cognition dimension and the items in this dimension have loading values ranging from .670 to .420. Eight items are gathered under the anxiety dimension and in this dimension, there is one loading value under .40 and the highest loading value is .786. Six items of the scale are gathered under the effect dimension and in this dimension, the highest loading value was calculated to be .735 while the lowest loading value was calculated to be .629.

Thus, it is seen that while the self-regulation and cognition sub-dimensions have the lowest loading values, the value and effect dimensions have the highest loading values and the anxiety dimension is located in the middle with its loading values.

Pearson Product-Moment Correlation coefficients were calculated and the level of independence of the sub-scales of the Online Reading Attitudes and Behaviours Scale from the whole scale was examined. The levels of correlation between the five sub-scales of the scale are given in Table 3.

Table 3. Correlations between the sub-scales of the online reading attitudes and behaviours scale

	Value	Self-regulation	Cognition	Effect	Anxiety
Value	1	.233**	.270**	.259**	.286**
Self-regulation		1	.452**	.527**	.212**
Cognition			1	.349**	.242**
Effect				1	.273**
Anxiety					1

As can be seen in Table 3, there are strong correlations between the second, third and fourth factors. Moderate correlations are observed between the first and fifth factors and the second, third and fourth factors. All the correlations observed are statistically significant at the level of 1%.

In order to investigate the scale's level of performing consistent measurements, Cronbach Alpha internal consistency values were calculated for the whole scale and the sub-scales. Bindak (2005) argues that the reliability in scales is an important requirement to establish the validity of the scale. Findings obtained for the reliability of the scale are given in Table 4.

Table 4. Reliability coefficients of the online reading attitudes and behaviours scale and its sub-scales

Sub-scale	Number of Items	Cronbach's Alpha internal consistency coefficient
Value	14	.92
Cognition	11	.83
Self-regulation	14	.81
Effect	6	.78
Anxiety	8	.78
Whole scale	53	.83

The internal consistency coefficient calculated for the whole scale is .83; it is .78 for the effect dimension, .83 for the cognition dimension, .92 for the value dimension, .81 for the self-regulation dimension, and .78 for the anxiety dimension. These values indicate that the scale is a reliable measurement tool.

In addition, in order to establish the reliability of the scale, the differences between the lower 27% (N=200, Mean=2.85, Std.Dev.=.34) and upper 27% (N=200, Mean=3.47, Std.Dev.=.31) groups were analysed. As a result of the analysis, it was concluded that there are significant differences between lower and upper groups ($t_{(742)}$=24.35, p<.01).

After the completion of the exploratory factor analysis, in order to test whether the structure predicted by the researcher was confirmed, a structural equation model was established and confirmatory factor analysis was conducted on the scale. As a result of the analyses, the goodness-of-fit indexes of the scale were found to be in the acceptable range (TLI: .902; CFI: .873, GFI: .896, RMSEA: .061). The findings related to the goodness-of-fit indexes are given in Table 5:

Table 5. Goodness-of-fit indexes for the reading attitudes and behaviours scale

Variable	χ^2	sd	χ^2/sd	GFI	AGFI	CFI	TLI	RMSEA
Scale			≤5	≥.85	≥.80	≥.90	≥.90	≤.08
Online Reading Attitudes and Behaviours	4994.92	1315	3.80	.896	.878	.873	.902	.061
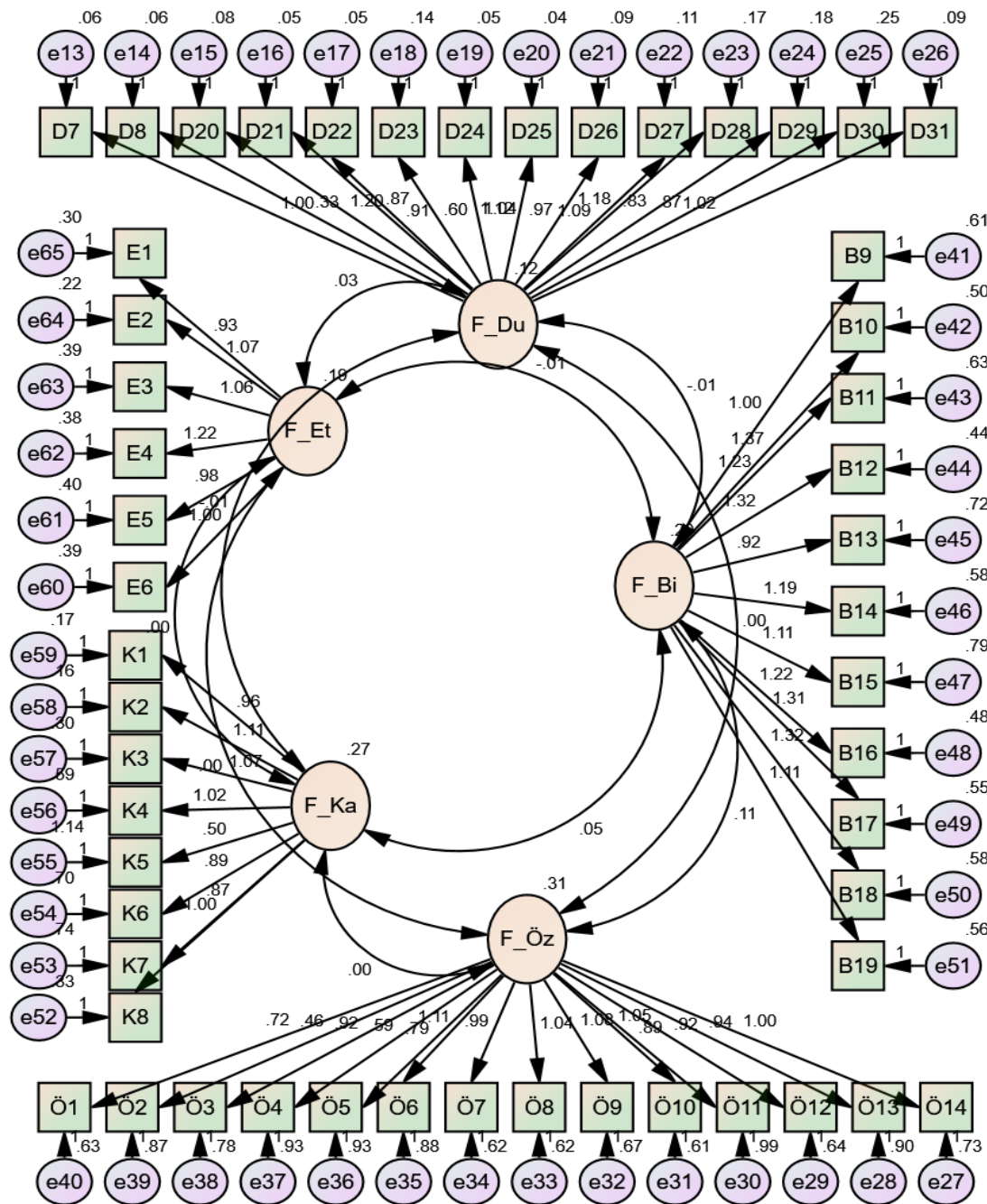
Figure 1. Path diagram for the factor-item structure of the online reading attitudes and behaviours scale

F_Öz=Self-Regulation; F_Ka=Anxiety; F_Bi=Cognitive & Behavioral Engagement; F_Et=Efficacy for Online Reading; F_Du=Value/Interest.

DISCUSSION and CONCLUSION

The current study was conducted to adapt the scale "Exploring dispositions towards online reading: Analyzing the survey of online reading attitudes and behaviours" developed by Putman (2014) into Turkish and to conduct the reliability and validity analysis of this adapted scale to be used to

determine middle school students' online reading attitudes and behaviours. A positive and strong correlation was observed between the original English scale and the Turkish form of it (r=.94, p<.01).

In the current study, within the context of reliability studies, it was investigated whether the items could distinguish between the lower 27% and upper 27% groups and it was concluded that each item can discriminate and that there are significant differences between the groups. The internal consistency coefficients calculated for the whole scale and its sub-scales were found to be high.

The sample size was determined to be adequate for exploratory factor analysis and various tests were conducted to check the construct validity of the scale. The factor loadings of the items in the scale were found to be generally higher than .50 and that the factor loadings of just two items were found to be close to the bottom line while the others were found to have high values. The scale items were observed to be gathered under five groups and these groups were named as value, self-regulation, cognition, effect and anxiety considering the original scale.

With the change in reading attitudes and dispositions, existing literacies have begun to be redefined in the 21st century. Research continues on cognitive skills and strategies related to the use of new literacies, but information on disposition and affective variables is very limited (Putman, 2014).

Putman (2014) developed a five-factor structure (value, self-regulation, cognition, effect and anxiety) to determine students' attitudes and behaviours towards online reading. It was found that students 'attitudes towards reading digital texts had a significant effect on students' achievement (Divya & Haneefa, 2020). Students' participation in reading, either positively or negatively, is affected by their attitudes towards reading. Positive dispositions or attitudes, beliefs become the basic measure of successful reading and learning for students, especially in the digitalized information age (Coiro, 2012).

Given that Internet is available almost anywhere and that most of the research examining the various structures in online inquiry is done on culturally homogeneous examples, it is important to start thinking about the differences in how these variables manifest themselves in various international contexts.

Cross-cultural comparisons will be important to meaningfully understand how students in countries that focus on online research and reading comprehension participate in information seeking activities. As the studies conducted in this direction has gathered momentum in Turkey (Altay, & Altay, 2017; Aydemir, Sakiz, Doğan, & Aşıcı 2017; Baştuğ & Keskin, 2012; Çifci & Ünlü, 2020b; Destebaşi, 2016; Esmer & Ulusoy, 2015; Güneş, 2010; İnceçay, 2013; Kayaoğlu & Akbaş, 2014; Keskin, 2014; Odabaş, 2017; Yamaç & Öztürk, 2019; Yamaç, 2019; Yaman & Dağtaş 2013), the scale whose reliability and validity has been established is thought to be used by researchers who want to conduct research on online reading attitudes and behaviours.

The findings obtained from the validity and reliability studies of the scale have proved that this measurement tool is valid and reliable enough to determine middle school students' online reading attitudes and behaviours. The researchers of the current study are of the opinion that findings that can contribute to literature have been obtained in the study.

Limitations of the Study

The study group of the current research is comprised of 844 middle school students attending ten different state schools in different districts of the city of İzmir in the 2019-2020 school year and participating in the study on a volunteer basis.

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APPENDICES

Online Reading Attitudes and Behaviours Survey [Çevrimiçi Okuma Tutumları ve Davranışları Ölçeği]

		Strongly Disagree	Disagree	Agree	Strongly Agree
1	I feel confident that I can use a browser (like Safari, Explorer, or Firefox) to navigate the Internet [İnternette gezinmek için bir tarayıcı (Safari, Explorer veya Firefox gibi) kullanabileceğim konusunda kendime güvenirim].				
2	I feel confident that I can open a web address directly by typing in the address				

	[Bir web adresini doğrudan adresi yazarak açabileceğim konusunda kendime güvenirim].				
3	I feel confident I can use the "back" and "forward" buttons to move between web pages [Web sayfaları arasında geçiş yapmak için "geri" ve "ileri" düğmelerini kullanabileceğim konusunda kendime güvenirim].				
4	I feel confident that I can use a search engine (like Google) to locate material during research [Araştırma sırasında materyal bulmak için bir arama motoru (Google gibi) kullanabileceğim konusunda kendime güvenirim].				
5	I feel confident understanding terms/words related to the Internet [İnternet ile ilgili terimleri / kelimeleri anlama konusunda kendime güvenirim].				
6	I feel confident trouble shooting Internet problems [İnternet problemlerini giderme konusunda kendime güvenirim].				
7	I feel confident that I can find information on the Internet much faster than I can when I use a book to search [İnternette kitap kullanarak yapabildiğimden çok daha hızlı bilgi bulabileceğim konusunda kendime güvenirim].				
8	When I search for information on the Internet, I remember it better [İnternette bilgi araştırdığım zaman bu edindiğim bilgiyi daha iyi hatırlarım].				
9	I am confident that I can think of a question to ask about content before reading/searching on the Internet [İnternette okuma / araştırma yapmadan önce konu ile ilgili bir soru oluşturabileceğim konusunda kendime güvenirim].				
10	I am confident I can skim the results of an Internet search page to see what link might be best [Hangi bağlantının en iyi olabileceğini görmek için internet arama sayfası sonuçlarını gözden geçirebileceğim konusunda kendime güvenirim].				
11	I am confident that I can read the search summaries of websites carefully to understand the meaning of information on the website [Web sitesindeki bilgilerin ne anlama geldiğini anlamak için web sitelerinin arama özetlerini dikkatlice okuyabildiğim konusunda kendime güvenirim].				
12	I am confident that I can skim a website to decide whether or not the information is useful for my question [Verilen bilginin araştırdığım soru için yararlı olup olmadığına karar vermek için bir web sitesini gözden geçirebileceğim konusunda kendime güvenirim].				
13	I can stay focused on the information I need from a website rather than getting distracted by things I do not need [İhtiyacım olmayan şeylerin dikkatimi dağıtması yerine, bir web sitesinden ihtiyaç duyduğum bilgilere odaklanabilirim].				
14	I am confident that can make a prediction about where a website link might lead if I click on it [Bir web sitesi bağlantısının üzerine tıkladığımda nereye yönlendireceğine dair bir tahminde bulunabileceğim konusunda kendime güvenirim].				
15	I am confident I can use knowledge of how a webpage is set up to help locate information on it [Web sayfası üzerindeki bilginin yerini bulmak için bir web sayfasının nasıl kurulacağı bilgisini kullanabileceğimden eminim].				
16	I am confident I can use the search engine located within a website to find information on the site [Bir web sitesine yerleştirilmiş olan bir arama motorunu, sitedeki bilgileri bulmak için kullanabileceğim konusunda kendime güvenirim].				
17	I am confident that I can combine information from more than one website in a way that makes sense to other people [Birden fazla web sitesinde bulunan bilgileri başkalarına anlamlı gelebilecek şekilde birleştirebileceğim konusunda kendime güvenirim].				
18	I am confident that I can determine if information on a website is a reliable and trustworthy [Bir web sitesindeki bilgilerin güvenilir olup olmadığını belirleyebileceğim konusunda kendime güvenirim].				
19	I am more careful in my research using the Internet when I know that I am going to be graded [Notlandırılacağımı bildiğim zaman, interneti kullanarak				

	yaptığım araştırmalarımda daha dikkatli olurum].				
20	I prefer to use the Internet for research because it helps my grades [Derslerdeki başarıma fayda sağladığı için İnterneti tercih ederim].				
21	Once I start researching information on the Internet, I cannot stop because I want to find the answers [İnternette bilgi araştırmaya başladığımda, kendimi durduramam çünkü aradığım cevabı bulmak isterim].				
22	I would rather complete research on the Internet than using a book or magazine [Araştırmayı bir kitap ya da dergiden ziyade internette tamamlamayı tercih ederim].				
23	I would rather read on the Internet than read a book during free time [Boş zamanlarımda kitap okumaktan ziyade internet üzerinde okuma yapmayı tercih ederim].				
24	Reading a book or magazine is more relaxing than reading on the Internet [Bir kitap veya dergi okumak, internette okumaktan daha rahatlatıcıdır].				
25	I think kids who do not use the Internet miss out on a lot of important information [İnterneti kullanmayan çocukların birçok önemli bilgiyi kaçırdığını düşünüyorum].				
26	I think kids who are really good at using the Internet get better grades in school [İnternet kullanımında gerçekten iyi olan çocukların okulda daha iyi notlar aldığını düşünüyorum].				
27	Everyone should know how to use the Internet [Herkes interneti nasıl kullanacağını bilmeli].				
28	Being able to use the Internet is important to me [İnterneti kullanabilmek benim için önemlidir].				
29	I believe using the Internet for research and reading has made learning more interesting [İnterneti araştırma ve okuma için kullanmanın öğrenmeyi daha ilgi çekici hale getirdiğine inanıyorum].				
30	Using the Internet for research is beneficial because it saves people time [İnterneti araştırma için kullanmak faydalıdır çünkü insanlara zaman kazandırır].				
31	I believe the Internet makes it easier to get useful information [İnternetin faydalı bilgiler edinmeyi kolaylaştırdığına inanıyorum].				

Please indicate how often you do the following: ("Never" "Sometimes" "Often" "All the Time")

		Never	Sometimes	Often	All the Time
1	When I have trouble understanding something on the Internet, I re-read the task [İnternette bir şeyi anlamada sorun yaşadığımda, görevi tekrar okurum].				
2	When I have trouble understanding something on the Internet, I go ask a friend or classmate for help [İnternette bir şeyi anlamada sorun yaşadığımda, yardım almak için bir arkadaşıma ya da sınıf arkadaşıma sorarım].				
3	While I am conducting research on the Internet, I stop and think about how well I am doing and change strategies if necessary [İnternette araştırma yapıyorken durup araştırmamın iyi gidip gitmediğini düşünürüm ve gerekirse stratejimi değiştiririm].				
4	When I become confused about something I am reading on the Internet, I scroll back to previous screens [İnternette okuduğum bir şey hakkında kafam karıştığında, önceki ekrana geri dönerim].				
5	Before I begin to research on the Internet, I look to see if I can break the task into smaller pieces to make it easier [İnternette araştırmaya başlamadan önce, işi kolaylaştırmak için görevi daha küçük parçalara ayırabilir miyim diye bakarım].				
6	If I am doing researching something on the Internet, I can motivate myself				

	even if the topic is boring [İnternette bir şey araştırıyorsam, konu sıkıcı olsa bile kendimi motive edebilirim].				
7	When I have completed an Internet project, I think about how well it went and what I could change [Bir internet projesini tamamladığımda, ne kadar iyi gittiğini ve neleri değiştirebildiğimi düşünürüm].				
8	I always think about the information I am reading on the Internet to help me understand if it matches the required information I am looking for [Aradığım gerekli bilgilerle eşleşip eşleşmediğini anlamama yardımcı olması için internette okuduğum bilgiler hakkında her zaman düşünürüm].				
9	When I encounter difficulties on the Internet, I work through them by telling myself that I can complete the task [İnternette zorluklarla karşılaştığımda, kendime bu işi tamamlayabileceğimi söyleyerek üzerinde dikkatle çalışırım].				
10	Before I start a task on the Internet, I organize myself and think about how I will accomplish the task [İnternette yapacağım bir işe başlamadan önce kendimi hazırlarım ve bu işi nasıl tamamlayacağım hakkında düşünürüm].				
11	Before using information from a website to answer my question, I check to see if the author is reputable [Sorumu yanıtlamak için bir web sitesindeki bilgileri kullanmadan önce, yazarın bilinen biri olup olmadığını kontrol ederim].				
12	Before beginning an Internet search about a topic, I think about what I know about that topic [Bir konu ile ilgili internette araştırmaya başlamadan önce, konu ile ilgili ne bildiğimi düşünürüm].				
13	When I navigate to a website on the Internet, I tend to read the whole page before clicking on any hypertext (links) [İnternetteki bir web sitesine gittiğimde, herhangi bir köprü metni (link) üzerine tıklamadan önce bütün sayfayı okuma eğilimindeyimdir].				
14	Before beginning an Internet search about a topic, I think about whether I know how to find information on it [Bir konu hakkında internet araştırmasına başlamadan önce, bu konu hakkında nasıl bilgi bulacağımı bilip bilmediğim hakkında düşünürüm].				

Please indicate which of the following best represents your feelings about each question.
("Strongly Disagree" "Disagree" "Agree" "Strongly Agree")

		Strongly Disagree	Disagree	Agree	Strongly Agree
1	Researching information on the Internet intimidates me [İnternette bilgi araştırmak beni korkutur].				
2	Researching information on the Internet makes me feel tense [İnternette bilgi araştırmak beni gergin hissettirir].				
3	I feel helpless when asked to research information on the Internet [İnternette bilgi araştırmam istendiğinde kendimi çaresiz hissederim].				
4	I cannot relax when I am reading/researching on the Internet [İnternet üzerinde okurken / araştırırken rahat hissetmem].				
5	I believe it is easy to get lost when I am using the Internet for research [İnterneti araştırma için kullandığımda konudan sapmamın (kendimi kaybetmemin) kolay olduğuna inanırım].				
6	Sometimes I worry that other kids do not think I can read on the Internet as well as they can [Bazen diğer çocukların internette onlar kadar iyi okuma yapamayacağımı düşünmelerinden kaygılanırım].				
7	I go out of my way to avoid using the Internet [İnterneti kullanmaktan kaçınmak için fazlasıyla çaba sarf ederim].				
8	I feel anxious about using the Internet [İnterneti kullanma konusunda endişeli hissederim].				

SELF-REGULATION PREDICTS YOUNG CHILDREN'S PEER RELATIONS

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Abstract

The aim of the study is to examine the predictive effect of self-regulation on peer relations. Data were collected from 3486 children. Of the study sample, 1736 were girls (49.9%) and 1747 were boys (50.1%). All the children were from high SES families and attending private preschools in 10 cities in Turkey. The results showed that all peer relations variables were statistically significantly correlated with self-regulation skills of the children. Simple linear regressions analyses showed that self-regulation was statistically significant predictor of all peer relation variables (prosocial behaviours, aggressive behaviours, asocial behaviours, exclusion by peers, hyperactivity-distractibility, and fear-anxiety). Self-regulation explains the greatest variation in hyperactivity-distractibility of the children (15%) and the least variation in asocial behaviour (%3). This study shows that self-regulation in early childhood may lead to problems in peer relations. Problems with peers have long-term effects on children's development and mental health. This finding underlines the importance of promoting self-regulation skills in early years.

Keywords: Self-regulation, peer relations, young children.

INTRODUCTION

Self-regulation, in the broadest sense, is defined as the ability of individuals to monitor and manage their attention, cognition, emotions and behaviours in order to achieve a goal and / or meet the cognitive and social expectations in a particular situation (Claussen et al., 2021; Perry, Calkins, Dollar, Keane, & Shanahan, 2018; Berger, Kofman, Livneh, & Henik, 2007). Every child is born with the capacity to self-regulate and the motivation for self-regulation (Bronson, 2000). Many researchers recognized self-regulation as the cornerstone of early childhood development (Eisenberg, Smith, Sadovsky & Spinrad, 2004; Gillespie & Siebel, 2006; Shonkoff & Phillips 2000). Self-regulation skills, like other skills, begin to develop gradually from birth. Children first begin to control their physical body and behaviour, and then learn to regulate their emotions over time. Regulation of cognitive activities emerges as the last stage in the development of self-regulation (Bodrova & Leong, 2007). Around the age of three, children become increasingly independent in regulating their emotional, behavioural and mental processes, with the support of cognitive and language development. According to Vygotsky (1962), language development, at the age of three, accelerates the development of children in regulating their own behaviour, thoughts and emotions. Although self-regulation skills reach a level that can be observed by the age of four, their development

continues (Posner & Rothbart, 2000). Similarly, studies on the neurobiology of self-regulation show that many important developmental changes related to the development of self-regulation occur in the early childhood (Blair, 2002; Blair & Raver, 2015). According to Kopp (1982, 1989), early childhood is a period of rapid and remarkable achievements in the development of self-regulatory skills. During this period, the children become more independent and enters a period in which they can effectively regulate their own emotions, behaviours and cognitive activities

Self-regulation is a multidimensional construct (Boekaerts, Maes, & Karoly, 2005). It comprises three executive functions, namely; attentional control, inhibitory control and working memory. (Diamond, 2016; McClelland, & Cameron, 2012; Zelazo, Müller, Frye, & Marcovitch, 2003). These three concepts are the functions of the prefrontal cortex, which is the slowest growing part of the brain. Attentional control is an important domain in self-regulation (Rueda, Posner & Rothbart, 2004) and refers to the capacity of an individual to choose what to pay attention and what to ignore (Ruff & Rothbart, 1996; Wass, Scerif, & Johnson, 2012). Inhibitory control involves goal-directed suppressing an impulsive, dominant response to a goal (Cuevas, Rajan, & Bryant, 2018). Working memory involves keeping the information in mind for a period of time while synchronously processing the information (Baddeley, 2003).

In the first 5-6 years of life, significant improvements occur in executive functions, thus self regulation, that have a great impact on the further development of the child. The socio-emotional development of children is also closely related to the development of self-regulation skills. Self-regulation skills enable children to control their emotional expressions and therefore to establish increasingly more complex relationships with others within the framework of social rules. In addition, within the socio-emotional context, self-regulation includes the ability to adapt to changing situations, prevent inappropriate behaviours in a particular situation, and prioritize socially accepted behaviours (Whitebread & Basilio, 2012). The first years of life are also a period in which important developments are recorded in terms of peer relations. Young children acquire rich experiences in terms of peer relations and gain various competencies in this regard (Gülay Ogelman, 2020). This increase in the intensity of relationships requires children to have stronger self-regulation skills. Self-regulation skills contribute to the increase in children's ability to manage a variety of demands in social relationships and lay the groundwork for developing positive social behaviour standards that children will use in future peer interactions (Calkins, 2007). Problems such as inability to control impulses in early childhood, and inability to regulate behaviours according to social demands are associated with behavioural problems in later years (Calkins, 1994; Robson, Allen & Howard, 2020; Rubin, Burgess, Dwyer, & Hastings, 2003; Shaw, Bell, & Gilliom, 2000). Disruptions in children's ability to manage arousal and behavioural impulses, for example, can often lead to aggressiveness and opposition to adults' requests (Crockenberg & Litman, 1990; Kuczynski, Kochanska, Radke-Yarrow, & Girnius-Brown, 1987). Children who lose control of their behaviours and emotions when their wishes or desires are inhibited by adults, may likewise have difficulties in dealing with frustration in peer relations (Denham, Bassett, & Zinsser, 2012).

The first studies on self-regulation skills and development in early childhood began in the 1980s (Kopp, 1982, 1989). However, studies on children's self-regulation skills in Turkey started to increase as from the 2010s (e.g. Aksoy & Yaralı, 2017; Aydın & Ulutaş, 2017; Erol & İvrendi, 2018; Ertürk Kara & Gönen 2015; Fındık Tanrıbuyurdu & Güler Yıldız 2014; Güler Yıldız, Kara, Fındık Tanrıbuyurdu, & Gönen, 2014; Tanrıbuyurdu, 2012; Yağmurlu & Altan, 2010;). Accordingly, the number of studies conducted with Turkish children in the literature is quite scarce. Moreover, there is no study on the relationship between peer relations and self-regulation. In this regard, studies on self-regulation skills of Turkish children and their predictive effect on peer relations are necessary and important. This study will also shed more light on the relation between self-regulation and peer relations of young children; therefore can contribute to international literature.

Hence, the aim of the study is to examine the predictive effect of self-regulation on peer relations. The research problems are as follows;

1. Does self-regulation levels of children predict statistically significantly children's level of prosocial behaviours?

2. Does self-regulation levels of children predict statistically significantly children's level of aggression with peers?

3. Does self -regulation levels of children predict statistically significantly children's level of asocial behaviours?

4. Does self-regulation levels of children predict statistically significantly children's level of exclusion by peers?

5. Does self-regulation levels of children predict statistically significantly children's level of hyperactivity-distractibility?

6. Does self-regulation levels of children predict statistically significantly children's level of fear-anxiety?

METHOD

Participants

The data used in this study were obtained from teachers' reports, which is one of the most reliable sources for evaluating children's skills (Lambert et al., 2014; Saraç & Karakelle, 2012; Verhulst et al., 1994). Data were collected for 3486 children. Of the study sample, 1736 were girls (49.9%) and 1747 were boys (50.1%). All the children were from high SES families and attending private preschools in 10 cities in Turkey. Children's age ranged from 48 to 82 months (M = 65.957, SD = 7.146). All of the children were normally developing children. Children with developmental problems were not included in the study.

Materials

Self Regulation Skills Scale for 4-6 Years Old Children (Teacher Form)

Self-Regulation Skills Scale for Children aged 4-6 (Teacher Form) was developed by İvrendi and Erol (2018) to determine the self-regulation skills of 4-6 year old children based on teacher report. The 22 item-scale contains three subscales: Attention (nine items), Working Memory (five items) and Inhibitory Control (eight items). The items are formulated into statements so teachers could respond on a five-point scale (1= never; 5=always). Scale scores can be calculated separately for each sub-dimension, as well as the total self-regulation score. In this study, the total self-regulation score was used. Cronbach's Alpha for the original scale was .94. In this study, the Cronbach's Alpha coefficient of the scale was calculated as .954. Higher scores indicate higher levels of self-regulation.

The Child Behavior Scale

The Child Behaviour Scale is a scale developed by Ladd and Profilet (1996) to assess children's relationships with their peers at preschool environment. Turkish adaptation of the scale was carried out by Gülay (2008) and validated for children aged 5-6. In another study Gülay Ogelman et al., (2015) validated the scale for 4 year olds. Teachers respond on 3-point Likert-type scale (0= doesn't apply, 1= sometimes apply and 2= most often apply). The 44-item scale consists of six subscales; namely, Aggression towards peers (seven items), Prosocial Behaviour (ten items), Asocial Behaviour (seven items), Exclusion by Peers (seven items), Hyperactivity-Distractibility (four items) and Fear-Anxiety (nine items). Total score cannot be obtained from the scale. Separate scores are calculated for each sub-dimension. The total scores obtained from the subscales denote how often the behaviour represented by that scale was performed. For each subscale higher scores indicate higher levels of behaviour represented by that scale. The Cronbach's Alphas for the subscales were .89, .92, .87, .94,

.88 and .77, respectively. In this study, the Cronbach's Alpha coefficients for the subscales were calculated as .71, .89, .83, .82, .78 and .75, respectively.

Procedure

Two hundred twenty teachers from 42 private preschools filled in both scales. The forms were sent to the teachers by e-mail. They were asked to rate only students they had known for at least 6 months. After completion, they sent the forms back via email.

Data analysis

The data of the study were analysed using the SPSS 21.0 software package for statistical analysis. Pearson Product Moment Correlation coefficients were calculated for the relationship between children's self-regulation skills and peer relations variables. Simple linear regression analyses were performed for the predictive effect of self-regulation on peer relation variables.

RESULTS

Preliminary Analysis

Descriptive statistics and correlations among study variables are presented in Table 1. All the peer relation variables were statistically significantly correlated with self-regulation skills of the children.

Table 1. Descriptive statistics and correlations coefficients regarding self-regulation and peer relation variables

	n	Mean	Std.Dev.	r	p
Self regulation	3486	94.868	12.740	-	-
Prosocial behaviour	3486	13.229	5.441	.271	.000
Aggressive behaviour	3486	1.644	2.124	-.255	.000
Asocial behaviour	3486	2.086	2.527	-.157	.000
Exclusion by Peers	3486	1.748	2.746	-.133	.000
Hyperactivity-Distractibility	3486	1.534	1.915	-.392	.000
Fear-Anxiety	3486	2.292	2.667	-.309	.000

Simple Linear Regression Analyses

Series of simple linear regression analyses were conducted to see the predictive effect of self-regulation on peer relations. The results are presented in Table 2.

Table 2. Results of simple linear regression analyses on predictive effect of self-regulation on peer relations of children.

	R	R^2	F	Std. E	B	t	p
Prosocial behaviour	.271	.074	276.386	.007	.271	16.625	.000
Aggressive behaviour	.255	.065	242.350	.003	-.255	-15.568	.000
Asocial behaviour	.157	.025	88.386	.003	.271	16.625	.000
Exclusion by peers	.133	.018	62.885	.004	-.133	-7.930	.000
Hyperactivity-Distractibility	.392	.153	613.346	.002	-.393	-25.127	.000
Fear- Anxiety	.309	.095	367.263	.003	-.309	-19.164	.000

Simple linear regressions analyses showed that self-regulation was statistically significant predictor of all peer relation variables. Self-regulation explained 7% variation in prosocial behaviour (R=.271, R^2=.074, F= 276.386, p<.000), 7% variation in aggressive behaviour (R=.255, R^2=0.065, F= 242.350, p<.000), 3% variation in asocial behaviour (R=.157, R^2=.025, F=88.386, p<.000), 2% variation in exclusion by peers (R=.133, R^2=.018, F=62.885, p<.000), 15% variation in hyperactivity-distractibility (R=.392, R^2=.153, F=613.346, p<.000) and 10% variation in fear-anxiety (R=.309, R^2=.095, F=367.263, p<.000).

DISCUSSION and CONCLUSION

This study was conducted to examine the predictive effect of self-regulation skills of young children on peer relations. A positive and significant relationship was found between young children's self-regulation levels and prosocial behaviours. The results also demonstrated that there is a significant negative relationship between self-regulation levels and aggressive, asocial behaviours, exclusion by peers, hyperactivity-distractibility and fear-anxiety levels. Additionally, self-regulation skills significantly predicted each peer relation variables. Among all peer relation variables, self-regulation explains the greatest variation in hyperactivity-distractibility level of the children (15%). This result supports Barkley (2001, 2004), who argues that hyperactivity and distractibility are mainly caused by children's self-regulation problems and that even Attention Deficit Hyperactivity Disorder is basically a self-regulation disorder. This result is also in line with the results of the Ros and Graziano (2019) as well as Graziano, Landis, Maharaj, Ros-Demarize, Hart, and Garcia (2019) studies.

Young children with higher levels of self-regulation skills show higher levels of prosocial behaviour towards their peers. Children with low self-regulation skills can be aggressive, fearful-anxious, hyperactive-distractible, and exhibit asocial behaviour in peer relations. Additionally, they may be excluded by peers. Several other studies also support the findings of this research. In a study conducted by Ramani, Brownell, & Campbell (2010), 435 children between the ages 3 to 4, researchers found that children with better impulse control were more adaptable and friendly, showed less challenging attitudes towards adults exhibited positive behaviours towards their peers. They, also, participate more in play with their peers and exhibited less negative behaviours during play. Several researchers (Eisenberg, Guthrie, Fabes, Shepard, Losoya, & Murphy, 2000; Fabes, Eisenberg, Jones, Smith, Guthrie, & Poulin, 1999) stated that self-regulation could be related to social competence in peer relationships in early childhood and middle childhood. Children with higher levels of self-regulation may act less impulsively when they experience problems in peer relationships and may display accommodating and relaxed attitudes. Similarly, children who have problems with self-regulation may show impulsive, opposing, incompatible attitudes towards their peers. Hughes, White, Sharpen and Dunn (2000) stated that one of the reasons for the negative peer relationships of young children may be problems related to behavioural regulation. Some authors (Duckworth & Kern, 2011; Moffitt et al., 2011) asserted that high levels of self-regulation might increase social competence. Similarly, Reebye (2005) suggested that impulse control might underlie aggressive behaviour. In their study with Turkish 5 year-olds, Gulay Ogelman and Fetihi (2021) showed, that young children's levels of coping with peer pressure, aggression and social preferences could be predicted by their emotion regulation strategies. In a laboratory study, Calkins, Gill, Johnson and Smith (1999) also found that toddlers' negative emotionality levels were positively associated with peer conflicts. Researchers (Blair & Razza, 2007; Eisenberg et al., 2004; Olson, Lopez-Duran, Lunkenheimer, Chang and Sameroff, (2011) also found a negative relation between self-regulation and aggression, and a positive relation between self-regulation and social competence.

The development of self-regulation skills in early childhood is generally considered as early signs of life success in later years (Montroy, Bowles, Skibbe, McClelland, & Morrison, 2016; Piotrowski, Lapierre, & Linebarger, 2013). Early childhood years are the most critical times to support children's self-regulation skills (Blair, 2002; Perry, 2019). Self-regulation problems in early childhood, if not intervened, appear as serious problems like risk-taking, relationship problems, health, employment problems and poor decision making in adolescence and adulthood. (Butler, 2004; Moffitt et al. 2011). Many studies have proven that self-regulation can be improved with intervention in early childhood. For example Flook, Goldberg, Pinger and Davidson (2015) reported that children's self-regulation could be increased with mindfulness-based interventions. In another study with Israeli children, Dan (2016) showed that self-regulation skills of children could be developed with an intervention focusing solely on children's self-regulation skills.

In line with the literature and the findings of this research, it can be said that young children's self-regulation skills are an important factor in healthy peer relationships. Self-regulation can support children in maintaining successful peer relationships. Problems that may occur in self-regulation can also lead to various problems in peer relationships. Peer relations have an important place in the happiness and academic life of children. Thus, supporting self-regulation with interventions in preschool settings will enhance children's peer relations as well and have long-term benefits.

Conclusion, Limitations and Recommendations

The results of this study are notable in terms of revealing the importance of self-regulation skills in peer relations. Young children's capacities for self-regulation are reflected in their peer relations. Therefore, teachers should focus on developing young children's self-regulation skills. Activities supporting self-regulation skills should be an important part of everyday practices of teachers. Children with problems in self-regulation should be supported. It is important that teachers and parents collaborate and take initiative in developing children's self-regulation skills. This is one of the first studies with a large sample in Turkey. However, more studies are needed to better understand self-regulation development of Turkish children. Self-regulation skills of Turkish children should be examined in relation with other social, emotional and academic variables and long-term effects of self-regulation skills of preschool children should also be studied. The interaction of peer relationships with self-regulation should also be considered in line with different evaluation methods such as sociometry.

Limitations of the study

Caution should be taken when interpreting the findings. Although data for this study were obtained from a large sample from 10 different cities in Turkey, all the children were from high SES families. On this regard, it is not possible to generalize the results to the children from different socio-economic backgrounds. Considering the relationship between socio-economic status and children's self-regulation skills (Nesbitt, Baker-Ward & Willoughby, 2013; Størksen, Ellingsen, Wanless, & McClelland, 2015; Sarsour, Sheridan, Jutte, Nuru-Jeter, Hinshaw, & Boyce, 2011), it is important to conduct further studies with children from families of different socio-economic levels.

Another limitation of the study is the peer relations variables discussed. In this study, only aggression, prosocial behaviour, asocial behaviour, exclusion by peers, hyperactivity-distractibility and fear-anxiety were discussed as variables of peer relations. Other peer relation variables such as victimization, sociomeric status and friendship quality should be also examined in further studies.

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AN IMPORTANT ANTECEDENT OF CLASSROOM ENGAGEMENT: SCHOOL BELONGING

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Abstract

The aim of this study is to examine the relationships between high school students' school belonging and classroom engagement. Dependent variable of the study is school belonging and independent variable of the study is behavioral, cognitive and emotional engagement. The study was conducted in cross sectional research design. In the study quantitative method was used. Purposive sampling method was utilized in the study. 236 high school students who received education at 9th and 10th grades, were between 15-17 years old were included in the study. Data were collected via School Belonging Scale and Classroom Engagement Scale. In the analysis of the data, simple regression analysis technique was applied in the study. According to the results of the study, as long as school belonging feeling increases, behavioral, emotional and cognitive engagement of the students in the classroom increases. At this point, school psychologists, psychological counselors, teachers and school managers can produce preventive and constructive intervention programs that will increase students' school belonging feelings in school context.

Keywords: School belonging, engagement, high school, classroom engagement.

INTRODUCTION

With positive psychology movement, elements of a good life have been examined (Veenhoven, 2000). A lot of studies have been conducted about the elements composing a good life both at society level and individual level (Veenhoven & Hagerty, 2006). According to Seligman (2002), one of the indicators of a good and happy life is engaged life. One of the points that engagement is in life is school and classroom (Arslan, 2021; Renick & Reich, 2021; Başal & Eryılmaz, 2021).

Engagement is described as the connection between an action and the individual (Finn, 1993). According to Skinner, Furrer, Marchand, and Kindermann (2008), it is seen that engagement occurs at society level, school level and classroom level. Additionally, regardless of where engagement occurs, it has emotional, behavioral and cognitive dimensions (Fredericks, Blumenfeld, & Paris, 2004). Emotional engagement at classroom level means being interested in the lesson, being happy while the course is being lectured and feeling integrated with the course; behavioral engagement means asking questions, sharing their feelings and opinions about the topic in the lesson and attending the lesson in a prepared way; cognitive engagement means following the topics lectured in the lesson cognitively, associating the topic with the daily life and integrating the topic with the previous information (Eryılmaz, 2014; Fredericks, Blumenfeld & Paris, 2004; Skinner et al., 2008). There are a lot of factors that affect the classroom engagement of the students. One of these may be school belonging feeling.

Human is a social being. He wants to feel relaxed in the environment he is in. One of the feelings that provide the individual to feel relaxed in the society is the sense of belonging (Allen, Kern, Rozek, McInerney, & Slavich, 2021; Appleton, Christenson, & Furlong, 2008). Sense of belonging is described as the state in which the members will be supported, loved and will satisfy their needs (Osterman, 2000). School belonging, on the other hand, is described as the subjective mood about to what extent the student is approved, respected, supported and included in the school by the other individuals at school (Goodenow, 1992; Sarı, 2013).

In literature, engagement is taken into hand mostly as school engagement (Appleton, Christenson & Furlong, 2008; Finn, 1989). The number of studies conducted at classroom level is very little (Eryılmaz, 2014; Eryılmaz & Altınsoy, 2016; Li, Chen & Li, 2020; Skinner et al., 2008). It has been seen that new studies are conducted at classroom level on this subject (Wang, Bergin & Bergin, 2014). There are lots of positive results of classroom engagement and school engagement. As school engagement increases, academic success of the students increases, too (Appleton, Christenson, Furlong, 2008; Eryılmaz & Altınsoy, 2016), moreover, attendance to school increases, too (Finn, 1989; Fredericks, Blumenfeld & Paris, 2004). Additionally, increasing the engagement of students; it increases students' motivation for a long time (Reeve & Lee, 2014); It positively affects the reading success of adolescents (Froiland & Oros, 2014), increases the academic success of students (Olivier, et al., 2019), and facilitates students' learning (Lancaster & Lundberg, 2019).

On the other hand, sense of school belonging is a metaconcept affecting positive and negative academic results. In a lot of studies conducted in literature, it was found out that as sense of school belonging increases, students produce positive academic results. For instance it was found out that, as students' sense of school belonging increases, their academic success increases (Arslan, 2021; Goodenow & Grady, 1993; Neel & Fuligni, 2013) and their academic motivations increase (Furrer & Skinner, 2003). These findings and information demonstrate that both school belonging and engagement are important. On the other hand, sense of school belonging act as a buffer for students' negative psychological and risky behaviors and sense of belonging in a high level decreases the possibility of depression, social exclusion and showing problematic behaviors (Altınsoy & Özyer, 2018; Saraví, Bayón, & Azaola, 2020; Ashford, 1997). Furthermore, it was found that, in parallel with the decrease in the students' sense of school belonging, their academic success decreases and thus the possibility of displaying risky behaviors for students increases (Arslan, 2021; Kostelecky, 2005).

One of the important factors affecting students' engagement is the school. At school, as the support that students receive from their peers and teachers increases, students' engagement in class increases (Kiefer, Alley, & Ellerbrock, 2015; Moreira, et al, 2018). When the teacher-student relationship occurs in a positive way in the school environment, thus the engagement of students in the lesson increases (Archambault, Vandenbossche-Makombo & Fraser, 2017). It has been concluded that there are important relationships between perceived school climate and engagement (Fatou & Kubiszewski, 2018). In parallel with the increase in the quality of teaching in the school, it was found that the level of engagement in the lessons also increased (Quin, Hemphill, & Heerde, 2017). These studies show that school is an important factor in class engagement. However, it is seen that there are very few studies examining the relationship between class engagement and school belonging.

Learning at school and in the classroom, fulfilling academic duties helps students to realize themselves, to feel the sense of competence and to get near to a job that will make them continue their lives (Eryılmaz, 2015). One of the factors affecting the students to learn in the classroom is classroom engagement (Fredericks, Blumenfeld & Paris, 2004). Presenting the factors that will increase the students' classroom engagement may provide both individual and social gains (Appleton, Christenson, Furlong, 2008; Finn, 1989; Fredericks, Blumenfeld & Paris, 2004; Skinner, Furrer, Marchand & Kindermann, 2008). Sense of belonging which affects a lot of variables academically may also affect classroom engagement. However, the number of empirical studies on that topic is very little. In conclusion, in this study it is aimed to examine the relation between the sense of school

belonging and cognitive, emotional and behavioral engagement which are some of the dimensions of classroom engagement.

In line with this purpose, the research questions of the study are as follows:

- Does the sense of school belonging in high school students predict significantly and positively, cognitive engagement, one of the sub-dimensions of classroom engagement?
- Does the sense of school belonging in high school students predict behavioral engagement, which is one of the sub-dimensions of classroom engagement, significantly and positively?
- Does the sense of school belonging in high school students predict emotional engagement, which is one of the sub-dimensions of classroom engagement, significantly and positively?

METHOD

Research Design

The aim of this study is to examine the relations between high school students' school belongings and classroom engagement. Dependent variable of the study is school belonging and independent variable of the study is behavioral, cognitive and emotional engagement. The study was conducted in cross sectional research design. In the study quantitative method was used (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2014).

Research Group

Purposive sampling method was utilized in the study (Büyüköztürk et al., 2014). Students having education in two state high schools in Bilecik constituted the sampling of the study in accordance with the aim of the study. In the determination of the students who would join the research group, 2 9th grade and 2 10th grades were selected from both schools randomly. Students getting education in these classrooms were included in the study. In conclusion, 114 female (50.4%) and 112 male (49.6%) high school students between 15-17 years took part in the study. 96 of the students were 9th grade (42.5) and 130 of them were 10th grade students (57.5%).

Data Collection Tools

In the study, School Belonging Scale and Classroom Engagement Scale were used. Information about the psychometric features of the scales is given below:

Personal Information Form: Data on demographic features of the participants such as age, gender and education status were obtained through personal information form.

Classroom Engagement Scale (CES): CES was developed by Eryılmaz (2014). The scale is composed of 15 items about the cases of the university students' classroom engagement. In CES there are three subsections. These are named as emotional engagement, cognitive engagement and behavioral engagement. The variance explained by these three sections is 64.04. It is stated that alpha reliability coefficient of the scale is .92. High grades taken from CES mean that classroom engagement levels of the individuals are high. Furthermore, reliability study was also made for the adolescents in this study. It was found out that Cronbach Alpha coefficients took place between .84 and .91.

School Belonging Scale (SBS): School Belonging Scale (SBS) will be collected through The Psychological Sense of School Membership Scale. This scale was developed by Goodenow (1993). It was a tool in 5 point likert scale (1. Strongly incorrect, 5. Strongly correct) with 15 items and it was developed with the aim of measuring the levels of students' feeling as an important part of their schools, their feelings about being accepted, being valued, being included in a group, their connections with the school, teachers and peers. The items taking part in the scale were expressions measuring the subjective, personal perspectives of the students about the school rather than an objective evaluation (I am treated respectfully as much as the other students in that school, I am proud

of belonging to that school. etc.). 5 items in the scale (3, 6, 9, 12 and 16th items) contained negative expressions. For grading the scale, when the negative items were graded adversely, scale grades could be measured by averaging all items for each student. Moreover, the students' grades could be measured on the basis of sub-scales. High grades taken from the scale meant that the sense of belonging to school was high. Adaptation of the scale to Turkish was realized by Sarı (2015) on students at 2nd level in elementary school. In the study in which high school sampling was made by Sarı (2015), Cronbah Alpha internal consistency coefficient was .84. In this study, the evaluation of the scale will be made according to the total grade.

Application of the Research

The applications of the scales took about 30-35 minutes. They were applied by receiving the necessary permissions from the relevant institutions before the research. Data were collected as group application in the study. Data were collected from the participants during school hours with the help of the teacher of the course. Data were collected on voluntary basis. First, participants were informed about the aim of the study shortly and then scales were given to the participants who volunteered to join to the study. Furthermore, additional explanations were made to the participants when necessary. Credentials were not asked from the participants.

Analysis of Data

In this study, it was aimed to examine the relationships between cognitive, emotional and behavioral engagement, which are the dimensions of classroom engagement, and the sense of school belonging. Data were collected via School Belonging Scale and Classroom Engagement Scale. For this purpose, Simple Linear Regression Analysis technique has been used. In addition, descriptive analyzes of the relevant variables were carried out.

RESULTS

In this study, the relationships between school belonging and classroom engagement (cognitive, emotional and behavioral) were examined. For this purpose, Simple Linear Regression Analysis technique was used. The relationships between the school belonging variable and cognitive engagement, behavioral engagement, and finally emotional engagement, respectively, were discussed. Descriptive statistics of the variables of the study are given in Table 1.

Table 1. Descriptive statistics

	Mean	Std.Dev.
School Belonging	62.78	12.29
Behavioral Engagement	15.63	4.67
Emotional Engagement	16.69	4.12
Cognitive Engagement	17.49	4.40

Analysis results regarding the predictive effect of the sense of school belonging in high school students on cognitive engagement

The relationship between classroom engagement and sense of school belonging was first examined in the context of cognitive engagement, which is one of the sub-dimensions of classroom engagement. Simple Linear Regression Analysis results of the sense of school belonging and cognitive engagement are presented in Table 2.

When the analysis results of the cognitive engagement are examined, it is seen that sense of school belonging is a significant predictor of cognitive engagement, ($R=.41$, $R2=.17$, $F_{(1, 224)}=46.45$, $p<.01$). 17% of the total variance about cognitive engagement is explained through school belonging.

Table 2. The relationship matrix between school belonging and cognitive engagement

	B	SEB	Beta	t	p
Constant	Cognitive Engagement				
School Beloning	.15	.02	.41	6.82	.00

* *p*<.05, ** *p*<.01

Analysis results regarding the predictive effect of the sense of school belonging in high school students on behavioral engagement

The predictability of school belonging to behavioral engagement was carried out with the Simple Linear Regression Analysis technique. Results are presented in Table 3.

Table 3. Relationship matrix between school belonging and behavioral engagement

	B	SEB	Beta	t	p
Constant	Behavioral Engagement				
School Beloning	.21	.02	.55	9.86	.00

* *p*<.05, ** *p*<.01

When the analysis results of the behavioral engagement are examined, it is seen that sense of school belonging is a significant predictor of behavioral engagement, (R=.55, R2=.30, $F_{(1, 224)}$= 97.12, p<.01). 30% of the total variance about behavioral engagement is explained through school belonging.

Analysis results regarding the predictor of emotional involvement in high school students' sense of school belonging

Finally, the relationships between emotional engagement, one of the sub-dimensions of class participation, and belonging to the school were examined. Analysis results for this purpose are presented in Table 4.

Table 4. The Relationship matrix between school belonging and emotional engagement

	B	SEB	Beta	t	p
Constant	Emotional Engagement				
School Beloning	.17	.02	.51	8.76	.00

* *p*<.05, ** *p*<.01

When the results of the analysis are examined, it is seen that sense of school belonging is a significant predictor of emotional engagement, (R=.51, R2=.26, $F_{(1, 224)}$=76.68, p<.01). 26% of the total variance about emotional engagement is explained through school belonging. In Figure 1 below, the findings of the study are summarized.
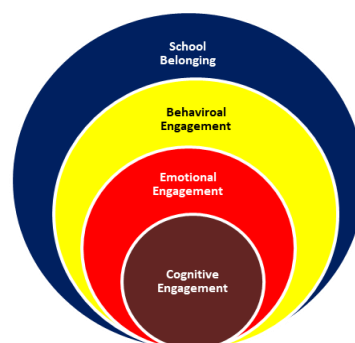

Figure 1. The relationships between school belonging and classroom engagement

DISCUSSION and CONCLUSION

This study was conducted with the aim of examining the relations between the sense of school belonging and classroom engagement. When the study results are examined it is seen that school belonging has relations with all dimensions of classroom engagement in a positive direction. It is seen that sense of belonging explains behavioral engagement most, then emotional engagement and lastly cognitive engagement.

First of all, it is seen that studies examining the relations between the sense of school belonging and classroom engagement are rare. In the existing studies, that the sense of school belonging may increase the students' motivation levels and engagement levels is taken into hand with possibility and theoretically (Goodenow, 1993; Li, Chen & Li, 2020; Saraví, Bayón, & Azaola, 2020; Skinner, Furrer, Marchand, & Kindermann, 2008). In this study, the relation which was referred as possibility, was taken into hand and evaluated empirically. At this point, it can be said that this study made a significant contribution to the literature.

In this study, it is found that that the sense of school belonging is related with behavioral engagement most. In other words, as students' sense of school belonging increases, their classroom engagement levels increase in behavioral terms, too. Studies conducted in literature reveal the importance of behavioral engagement. For instance, according to Chase, Hilliard, Geldof, Warren and Lerner (2014), as students' classroom engagement levels in behavioral terms increase, their academic success increases, too. However, these studies are interested most in behavioral engagement at school level. On the other hand, this study is interested in behavioral engagement at classroom level. Furthermore, because this study examines behavioral engagement as a result of school belonging, it differs from the other studies.

Moreover, the conducted studies have revealed that as the students' sense of belonging increases, they take place in various activities at school actively (Abdollahi, Panahipour, Akhavan-Tafti, & Allen, 2020; Altınsoy & Eryılmaz, 2017; Arslan, 2021; Eryılmaz & Altınsoy, 2016; Finn, 1989; Maddox & Prinz, 2003; Thomson, 2005). By carrying the meaning of the findings stated above to the classroom dimension, this study specialized it more. In other words, the topic that in which activities the students take place in an active way has been taken into hand generally in school context. However, the direction and context of that being active should be expressed. This study is important because it added direction and context to the previous explanations. In other words, as the students' sense of belonging increases, students ask more questions about the lesson in the classroom, answer the questions asked by the teacher and join the activities about the topic more behaviorally in the classroom.

According to the results of this study, as the high school students' sense of school belonging increase, their classroom engagement in emotional terms increases. In other words, as the students' sense of belonging increase, their sense of curiosity and their interest in the lesson increases and they feel integrated with the lesson. These findings reveal the importance of positive feelings both at school and in the classroom environment. According to Frederickson (2001), positive feelings build the individuals' capacity, widen their point of view and mend the negations of the past. Additionally, Eryılmaz and Aypay (2001) expressed that in getting motivated to engage in the lesson for the students, an important factor is to be in positive body and mood state. In conclusion, this study revealed the importance of positive feelings both at school and in classroom context. Furthermore, this study revealed that there is a spillover effect from school context to classroom context in terms of positive feelings.

In this study, it is seen that that the sense of school belonging is least related with the students' cognitive engagement in classroom context. The reason of that situation may be cultural factors. According to Markus and Kitiyama (1991) there are two kinds of societies; individualist and collectivist. Individuals in Turkish society seem close to collectivist cultures (Kağıtçıbaşı, 2000). At

this point, relational collectivity in collectivist cultures seems much more significant. When classroom is taken as a small microcosmos of the community, it is seen that school belonging is much more closely related to the behavioral and emotional engagement of this group. However, in individualist societies, personal effort based success is taken as a more important factor. Thus, cognitive engagement may be affective in much more individualist communities. Studies supporting these data were conducted in Turkish culture. For example, Arastaman (2006) stated that Turkish high school students displayed high dependence to school behaviorally, but low dependence cognitively.

As a consequence, the increase in high school students' sense of school belonging affects their classroom engagement behaviorally, emotionally and cognitively. The findings of the study can be summarized in that direction. Moreover, based on the findings of the study, applications to increase the students' school belonging are needed in order to increase the students' engagement in classroom level. At this point, school psychologists, psychological counselors, teachers and school managers can produce preventive and constructive intervention programs that will increase students' sense of school belonging in school context.

Limitations of the Study

Although important findings were obtained in this study between classroom engagement and sense of school belonging in high school students, there are some limitations. Since the study was conducted on a limited sample, the generalizability of the findings can be considered as a limitation. Another situation is that this study is a correlational study due to the cross-sectional nature of the data being collected in a single time.

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INVESTIGATION OF CAREER ADAPTABILITY OF TEACHERS WORKING IN SPECIAL EDUCATION SCHOOLS

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Abstract

The purpose of this study is to investigate the career adaptability of Turkish teachers working in special education schools in terms of psychological well-being and job satisfaction. The study group consist of 214 Turkish teachers working in the special education training in İstanbul. Personal Information Form, Career Adaptability Scale, Minnesota Satisfaction Questionnaire and Psychological Well-Being Scale were collected in the study. In the analysis of the findings obtained in the study, multiple regression analysis, t-test and ANOVA techniques were used. When the research findings are examined, female Turkish teachers working in special education schools have higher career adaptability than male Turkish teachers. Besides, Turkish teachers in the age range of 36-40 have more career adaptability than other age groups. According to the results of the research, job satisfaction and psychological well-being are important variables explaining career adaptability of Turkish teachers working in special education schools.

Keywords: Career adaptability, Turkish teacher, psychological well-being, job satisfaction, career development.

INTRODUCTION

Career adaptability is defined as skills that help individuals successfully manage career-related transitions and adjustments over the course of their career development (Savickas, 2013). These abilities are discussed through an examination of four distinct dimensions. The first is career concern, which refers to an individual's planning skills regarding their career development. The second aspect is career control, which encompasses the ability of individuals to make decisions and take responsibility for their career development. The third facet is career curiosity, which relates to the ability of individuals to learn about themselves and their surroundings during career development. The final dimension is career confidence, which addresses problem-solving skills in individual's career development process (Savickas, 2005, 2012, 2013).

There are various psychological factors that affect the career adaptability of individuals. One of these psychological factors is job satisfaction. This term refers to the degree by which individuals are content with their jobs (Vieira, 2005). In the profession of teaching, job satisfaction is expressed as either a teacher's attitudes towards the students, towards the school they work for, or as the satisfaction or dissatisfaction they felt about the profession itself (Vural, 2004). There are two important theories that explain job satisfaction. The first is the scope theory, and the other is expectation theory. Scope theories explain job satisfaction based on motivation. Expectation theories deal with job satisfaction in relation to needs and values (Aşık, 2010).

Psychological well-being is another factor that affects the career adaptability of individuals. Psychological well-being corresponds to the eudemonic dimension of well-formed, whereas

subjective well-being corresponds to its hedonic dimension (Ryff, 1989). In other words, subjective well-being represents a hedonistic understanding of happiness, whereas psychological well-being refers to the understanding of positive functioning (Ryff, 1989). The concept of psychological well-being is defined as the ability of individuals to be aware of their lifelong goals and potential, while continuing with their lives, and establishing a healthy relationship with their environment (Ryff, 1989). In addition, the determinants of psychological well-being have been put forth by Ryff & Keyes (1995). These are establishing positive relationships with people, good command of the environment, autonomy, having life goals, personal development and self-acceptance.

Teaching is a profession that includes subject specific knowledge, as well as qualities such as tolerance, self-sacrifice, self-improvement, and fulfillment of professional duties. Teaching deserves to be on the basis of all professions. This is because teaching is a key profession that plays a role in teaching cognitive and kinetic subtleties of other professions (Türer, 2009). The teacher is a mediator for teaching, who designs exams, establishes discipline, and advocates a middle class morality (Çelikten, Şanal, & Yeni, 2005). The teaching profession currently requires occupational competence and expert knowledge and skills in social, cultural, economic, scientific and technological dimensions of education (Şişman & Acat, 2003). In addition to this, the teaching profession becomes more demanding when it comes to education of children with mental retardation, which also brings stress. Specifically, dependent on the type and degree of disability of children with mental retardation, it is observed that teachers working with these children are more likely to feel a psychological burden than others (Şahbaz & Dursun, 2010). The intensity of direct contact, the distinct characteristics of these children, the necessity of meeting their needs, and issues around classroom management, all have an impact on the performance of such teachers. In respect to career development, the continuing development of teachers is also beneficial for the children and institution in relation to ongoing teaching and learning outcomes. For this reason, teachers' structures of self should be in harmony with their profession. With this in mind, it is of significant value to reveal the factors that might best facilitate these teachers' adjustment to the demands of their profession.

Career adaptability is a very important psycho-social variable (Savickas, 2005), because career adaptability is related to individuals' transition from school to work life (Koen Klehe & Van Vianen, 2012); goal orientation and career optimism (Tolentino, Garcia, Lu, Restubog, Bordia, & Plewa, 2014); job participation (Rossier, Hansenne, Baudin, & Morizot 2012); job loyalty (Rossier, Zecca, Stauffer, Maggiori, & Dauwalder 2012); job satisfaction (Fiori, Bollmann, & Rossier, 2015); career achievements (Zikic & Klehe, 2006); academic satisfaction (Duffy, Douglass, & Autin, 2015); career hopes; career satisfaction and career management skills of individuals (Hirschi, Niles & Akos, 2011); their likelihood of finding appropriate employment (Hirsch, 2010); and to know themselves and their profession (Zikic & Klehe, 2006). Moreover, when the literature on career development is surveyed, it is observed that studies about career adaptability of Turkish teachers are limited. For example, Eryılmaz and Kara (2017) have investigated the relationship between career adaptability and personality traits of prospective Turkish teachers. On the other hand, it can be noted that no studies in the literature currently exist, which investigate career adaptability, job satisfaction and psychological well-being of special education teachers. Accordingly, the aim of this study is to investigate the relationship between career adaptability, psychological well-being and job satisfaction of Turkish teachers working in special education schools.

The study aims to investigate the relationship between psychological well-being, job satisfaction and career adaptability of Turkish teachers working in special education schools. Five sub-goals were identified in accordance with the overall aim of the study. These include:

1. Does the psychological well-being of Turkish teachers working in special education schools significantly predict their career adaptability?

2. Does the job satisfaction of Turkish teachers working in special education schools significantly predict their career adaptability?

3. Does the career adaptability of Turkish teachers working in special education schools differentiate depending on the gender variable?

4. Does the career adaptability of Turkish teachers working in special education schools differentiate depending on the seniority variable?

5. Does the career adaptability of Turkish teachers working in special education schools differentiate depending on the age variable?

METHOD

Research Design

This relational study was implemented to reveal the relationship between career adaptability, psychological well-being and job satisfaction of Turkish teachers working in special education schools. Psychological well-being and job satisfaction are the independent variables of the study, and career adaptability is the dependent variable.

Study Group

The group of the study consists of 214 Turkish teachers, working in the field of special education in public schools in the European side of Istanbul, selected by the maximum diversity sampling method (McMillan & Schumacher, 2006).

Data Collection Instruments

Personal information form: This form, which is deemed to be relevant for the purpose of the research, was prepared by the researcher to obtain information on the demographic characteristics and work life of teachers working with children with special needs. The Personal Information Form consisted of close-ended items to collect information about the teachers working with individuals with special needs, such as gender, marital status, age group, seniority, education level (associate degree, bachelor's degree, graduate degree), field of graduation (special education form teacher, children development, guidance and counseling, branch teacher), the children group worked with (mild mental retardation, moderate-severe mental retardation, autism).

Minnesota satisfaction questionnaire: The first scale used in the study, the Minnesota Satisfaction Questionnaire was developed by Weiss, Dawis, England, and Lofquist (1967), measuring job satisfaction and consisting of 20 items. Baycan (1985) translated the scale into Turkish and conducted validity and reliability studies (Cronbach's alpha=.77). The Minnesota Satisfaction Questionnaire is a five-point Likert-type scale scored between 1 and 5. The scale is scored by marking one of these options: "Very dissatisfied", 1 point; "Dissatisfied", 2 points; "Neither satisfied nor dissatisfied", 3 points; "Satisfied", 4 points; "Very satisfied", 5 points. There are no reverse-coded items in the scale (Çam, Akgün, Babacan, Bilge, & Keskin, 2005). Twelve items of the scale measure job satisfaction based on intrinsic factors, whereas the remaining 8 items measure job satisfaction based on external factors. The intrinsic and extrinsic factors of the scale were addressed together, contributing to overall job satisfaction. The Minnesota Satisfaction Questionnaire (MSQ) and two sub-scales of job satisfaction, the intrinsic and extrinsic job satisfaction, can be measured together. Intrinsic satisfaction (Items 1, 2, 3, 4, 7, 8, 9, 10, 11, 15, 16, and 20) indicates how employees feel about the job itself, and extrinsic satisfaction (Items 5, 6, 12, 13, 14, and 19) reflects what employees feel about the institution they work for. When calculating the scores of the questionnaire, the general job satisfaction scores vary between 20 and 100, intrinsic job satisfaction scores vary between 12 and 60, and extrinsic job satisfaction scores vary between 6 and 30. The reliability coefficient of the scale used in most studies was found to be .85 in this study.

Psychological well-being scale (PWBS): The psychological well-being scale, developed by Diener, Wirtz, Tov, Kim-Prieto, Choi, Oishi, and Biswas-Diener (2010), and adapted to Turkish language by

Telef (2013), aims to measure the psychological well-being of individuals. The 7-point Likert type scale consists of 8 items and is scored between "Completely disagree" to "Completely disagree". The scale has a single dimension, and the lowest and highest scores to be taken on the scale are between 8 and 56. A high score indicates that the individual is successful in using many resources and that has a high-level of psychological well-being in general. According to the exploratory factor analysis, the total variance explained was found to be 42%. According to the confirmatory factor analysis results, the goodness of fit indices obtained were RMSEA=.08, SRMR=.04, GFI=.96, NFI=.94, RFI=.92, CFI=.95 and IFI=.9. According to the test-retest reliability, there was a positive and significant relationship between the two application (r=.86, p<.001). When the reliability of the scale was examined, the Cronbach's alpha value was found to be .80. Within the scope of this study, the reliability of the scale was calculated as .80.

Career adaptabilities scale

Initially developed by Savickas & Porfeli (2012) the scale was adapted to Turkish by Kanten (2012), who assessed its validity and reliability. The construct validity was performed by the confirmatory factor analysis. Based on the confirmatory factor analysis, some of the items (1, 2, 4, 7, and 18) were removed from the scale, which originally consisted of 24 items. As a result, a scale incorporating 19 items in four sub-scales was obtained. The sub-constituents of this scale are concern, control, curiosity and confidence.

Further, according to confirmatory factor analysis results, the 4-sub-scale and 19-item scale was found to have a RMSEA value of .074, 144 degrees of freedom and Chi-square value of 514.62. The degree of freedom of the Chi-square value was calculated as 3.50 (517.62/144=3.50). The aptness of fit values of the scale, according to the confirmatory factor analysis: NFI, .90, NNFI, .92, IFI, .93, CFI, .93, GFI, .90. In the reliability study conducted by Kanten (2012), the internal consistency coefficients of sub-scales ranged from .61 to .81.

Data Analysis

Multiple regression analysis was used to determine the predictive power of psychological well-being and job satisfaction in predicting career adaptability. In addition, the independent samples t-test was used to determine whether career adaptability differ significantly by gender. In addition, the ANOVA technique was used to determine whether career adaptability differ significantly in terms of seniority and age. Finally, some descriptive statistics (e.g. mean, standard deviation, etc.) were presented.

FINDINGS

The research findings are discussed under five main headings. First, the descriptive statistics for the variables in the study, next the findings related to the extent to which job satisfaction and psychological well-being significantly predict career adaptability, and finally the results of the one-way analysis of variance are introduced as a means of determining whether career adaptability differ according to seniority and age group.

Table 1. Descriptive statistics based on personal information form

Variables		n	%
Gender	Male	48	22.4
	Female	166	77.6
Age	25 years and under	47	21.9
	26-30 years	64	29.9
	31-35 years	36	16.8
	36-40 years	20	9.3
	41-45 years	23	10.7
	45 years and above	24	11.2
Marital Status	Married	108	50.5
	Single	106	40.5

Education Status	Degree	55	25.7
	Bachelor's Degree	146	68.2
	Graduate Degree	13	6.1
Seniority	5 years or less	119	55.6
	6-10 years	61	28.5
	11-15 years	10	4.7
	16-20 years	17	7.9
	21 years and above	7	3.3
Working Student Group	Mild Mental Retardation	48	22.4
	Moderate-Severe Mental Retardation	117	54.7
	The Autism Group	49	22.9
	Total	214	100

A total of 214 people participated in the study. Turkish teachers working in special education schools participating in the research, 48 were male and 166 were female. When the age distribution was examined, it was observed that there were 47 individuals under the age of 25; 64 between the ages of 26-30; 20 between the ages of 36-40; 23 between the ages of 41-45; 24 individuals above the age of 45. Of the participants, 108 were married, and 106 were single. Of them, 55 had associate degree, 146 had bachelor's degree, and 13 had graduate degree. The number of people working for 5 years or less in the profession was 119; 61 for 6-10 years; 10 for 11-15 years; 17 for 16-20 years; and 7 for working for 21 years and above. Of the Turkish teachers participating in the study, 48 were working with students with mild mental retardation, 117 were working with moderate-severe mental retardation, and 49 were working with the autism group.

Table 2. Descriptive statistics based on scales

Variables	Mean	Std.Dev.
Intrinsic Satisfaction	47.97	5.91
Extrinsic Satisfaction	27.54	5.75
Total of Job Satisfaction	75.51	10.49
Total of Psychological Well-Being	48.05	3.93
Total of Career Adaptability.	82.78	6.31

According to the three sub-scales of job satisfaction of 214 individuals participating in the research, the averages were calculated as $\bar{X}$=47.97 for intrinsic satisfaction, $\bar{X}$=27.54 for extrinsic satisfaction, and $\bar{X}$=75.51 for total job satisfaction. Psychological well-being and career adaptability were assessed in relation to one parameter, and average scores were found to be $\bar{X}$=48.05 for psychological well-being, and $\bar{X}$=82.78 for career adaptability.

Gender variable findings predicting career adaptability

This section of the study incorporates t-test results from independent samples to analyze career adaptability in terms of gender variable.

Table 3. T-Test Results of Independent Samples to ascertain Career Adaptability according to Gender Variable

Gender	n	Mean	Std.Dev.	df	t	p
Male	48	4.27	.314	212	1.985	.048*
Female	166	4.38	.334			

**p<.01; *p<.05

The above results of the analysis illustrate the difference between career adaptability of Turkish teachers who work in special education schools according to the gender variable. On examination of Table 3, it was concluded that career adaptability differ significantly depending on gender [t=1.985, p<.05]. According to these results, it can be said that male Turkish teachers working in special education schools have lower career adaptability than female Turkish teachers.

Findings in relation to seniority variable as a determinant of career adaptability

This component of the study implements one-way analysis of variance results, to investigate the career adaptability in terms of seniority variable.

Table 4. Results of one-way ANOVA for career adaptability of Turkish teachers working in special education schools according to seniority variable

Variable	Seniority Year	n	Mean	Std.Dev.	F	p
Career adaptability	5 years or less	119	4.37	.276	4.523	.02*
	6-10 years	61	4.24	.311		
	11-15 years	10	4.57	.000		
	16-20 years	17	4.52	.232		
	21 years and above	7	4.29	.995		

**p<.01; *p<.05

The results displayed above illustrate the difference between career adaptability of Turkish teachers who work in special education schools according to seniority variable. It may be observed from Table 4 that the career adaptability of Turkish teachers who work in special education schools differ significantly according to their seniority [F=4.523 p<.005]. Here, it is seen that the highest average belongs to the teachers with 11-15 years of seniority [X̄=4.57]. This is followed by the teachers with 16-20 years of seniority [X̄=4.52], 5 or fewer senior years [X̄=4.37], 21 or more senior years [X̄=4.29], and finally 6-10 senior years [X̄=4.24].

One-way analysis of variance, a parametric statistical test format, was used to test whether the participants' career adaptability varied according to their seniority. On analysis of variance, a statistically significant difference was found (p=.02), [p<.05]. Among the Post Hoc tests, the Tukey test was used to test the source of the difference. The direction of the difference was found as (6-10 years of seniority) - (11-15 years of seniority). In other words, there was a difference between the career adaptability of teachers working in special education schools in terms of their seniority.

Findings about age variable as an indicator of career adaptability

This section of the study includes the one-way analysis of variance results for investigating the career adaptability in terms of age variable.

Table 5. Results of one-way ANOVA for the career adaptability of Turkish teachers working in special education schools according to age variable

Variable	Age	n	Mean	Std.Dev.	F	p
Career adaptability	25 years or less	47	4.33	.32		
	26-30 years	64	4.26	.27	4,579	.00**
	31-35 years	36	4.30	.27		
	36-40 years	20	4.56	.26		
	41-45 years	23	4.53	.23		
	45 years and above	24	4.39	.51		

**p<.01; *p<.05

The above results illustrate the difference between career adaptability of Turkish teachers who work in special education schools according to age variable. Analysis of Table 5 reveals that adapt-abilities of teachers who work in special education schools differ significantly according to their age groups [F=4.579 p<.005]. Here it is observed that the highest average belongs to the teachers in the 36-40 age group [X̄=4.57]. This is followed by teachers who are between the ages of 41-45 [X̄=4.53]; aged 45 and over [X̄=4.39]; aged 25 and under [X̄=4.33]; and aged 31-35 [X̄=4.30]. The 26-30 age group has the lowest scores [X̄=4.26].

Among the parametric statistical tests, one-way analysis of variance was used to test whether career adaptability of participants varied according to age variable. Based on the analysis of variance, a statistically significant difference was found (p=.01), [p<.05]. Among the Post Hoc tests, the Tukey

test was used to test the source of the difference. The direction of the difference was found as (26-30 age group) - (36-40 age group). In other words, there was a difference between the career adaptability of Turkish teachers working in special education schools in terms of their age.

Job satisfaction and psychological well-being findings predictive of career adaptability

This section of the study includes the multiple regression analysis results for investigating the explanatory power of job satisfaction and psychological well-being on career adaptability. Table 6 shows the extent to which job satisfaction and psychological well-being can be indicative of career adaptability. The results are shown in Table 6.

Table 6. Results of multiple regression analysis of relevant between variables in study

Career adaptability	B	SE	β	*t*	p
Constant	48.22	4.88		9.87	.00
Intrinsic Satisfaction	.22	.08	.21*	2.55	.01
Extrinsic Satisfaction	.14	.08	.13	1.69	.09
Psychological Well-Being	.41	.1	.25**	3.84	.00

n=214, R= .47, R^2= .22, F=19.92, p< .01**, p<.05*

According to Table 6, there are significant correlations between job satisfaction, psychological well-being and career adaptability [R=.47, R^2=22, F=19.92, p<.01]. When the results of the t-test on the significance of the regression coefficient are examined, it is noted that intrinsic satisfaction (β=.21), and psychological well-being (β=.25), are significant predictors of career adaptability (p<.01, p<.05). Intrinsic satisfaction and psychological well-being explain about 22% of the total variance of career adaptability. According to Table 6, there is a significant and positive relationship between intrinsic satisfaction and career adaptability. Namely, as the intrinsic satisfaction increases, the career adaptability also increase. In addition, there is a significant and positive relationship between psychological well-being and career adaptability. That is, as psychological well-being increases, the career adaptability also increase.

DISCUSSION and CONCLUSION

This study was conducted to investigate the relationship between career adaptability and psychological well-being and job satisfaction of Turkish teachers working in special education schools. Based on the results, there is a significant and positive relationship between intrinsic satisfaction and career adaptability. That is, as the intrinsic satisfaction increases, the career adaptability also increase. In addition, there is a significant and positive relationship between psychological well-being and career adaptability. That is, as the psychological well-being increases, the career adaptability also increase. Finally, female Turkish teachers working in special education schools use their career adaptability more than male Turkish teachers. In addition, teachers in the 36-40 age group use their career adapt-abilities more than other age groups.

Psychological well-being of Turkish teachers working in special education schools included in the study significantly predicts their career adaptability. In the literature review, studies on career adaptability and subjective well-being (Hartung & Taber, 2008; Konstam, Tomek, Celen-Demirtas, & Sweeney, 2015), and well-being conditions (Maggori, Johnston, Krings, Massoudi, & Rossier 2013; Kavas, Duffy, & Douglass, 2015) were found. For example, Kavas, Duffy, and Douglass (2015) have investigated the relationship between Turkish university students' career adaptability and well-being. In their research results, a significant and positive relationship between career adapt-abilities and life satisfaction was observed. Similarly, Konstam et al. (2015) have investigated the correlation between career adaptability and subjective well-being in relation to unemployed adults. According to the results of this research, there has been a significant and positive relationship between trust and control dimensions of the career adaptability and life satisfaction. In addition, the control dimension of career adaptability shares a significant and positive relationship with positive emotions, a significant and negative relationship with negative emotions, and a significant and positive relationship with life

satisfaction. As a result, the findings of the aforementioned studies overlap with the findings of the current study. This can be explained by factors determining psychological well-being. The factors that determine psychological well-being are establishing positive relationships with people, good command of the environment, autonomy, having life goals, personal development, and self-acceptance (Ryff & Keyes, 1995). Individuals with self-acceptance and life goals have a positive sense of self, demonstrate awareness of their limitations, and develop positive feelings about the future (Ryff & Keyes, 1995). They may have adopted these structures of self in their career. In other words, psychologically mature individuals can make fresh discoveries about themselves and their professions, and they can make plans for their careers as well. Similarly, they may also be aware of their responsibilities in career development. In addition, they can also gain faith in overcoming obstacles or difficulties that may arise during career changes. As a result, it can be said that psychological well-being contributes positively to career adaptability.

In relation to job satisfaction, the intrinsic satisfaction of Turkish teachers working in special education schools included in the study significantly predicts their career adaptability. In the literature, there are studies investigating the relations between job satisfaction and career adaptability (Han & Rojewski, 2015; Zacher & Grifftin, 2015). Findings of the current study indicate that there is a significant and positive relationship between job satisfaction and career adaptability. These findings are consistent with the results of the studies mentioned above. Deci and Ryan's motivation theory could provide perspective into this result. There numerous theories employed to investigate job satisfaction. One of them is scope theory. Scope theory explains job satisfaction in terms of motivation (Köroğlu, 2012). Aside from this, Deci and Ryan have explained motivation with a theory encompassing three systems. The first of these refers to a system of motivation determined by biological instincts; the second pertains to a motivation system refined by punishment and awards; and the third is the system of motivation derived from within (Pink, 2009). Individuals influenced by the third system exhibit life goals such as planning goals, acquiring skills, and meeting them for autonomy. In addition, these individuals are inclined to attach a meaning and value to life (Pink, 2009). It can be concluded that these tendencies have been transferred to their career development and by extension to career adaptability.

There was a statistically significant difference in the career adaptability of Turkish teachers working in special education schools included in the study in terms of gender variable. Male Turkish teachers working in special education schools have lower career adaptability than female Turkish teachers. According to Karakuş (2016), male teachers' career planning levels are lower than female teachers. This finding corroborates the findings of this study. This can be explained by the developmental characteristics of women. When it comes to the education of children with special needs, teachers working in special education schools require as much patience and self-sacrifice as the families of disabled people do. On the other hand, it is a fact that children with disabilities who need special education require increased levels of sacrifice and patience than their normal peers in their education and care, which has also been shown to be emotionally challenging for teachers (Çokluk, 1999). According to Barkow, Cosmides, and Tooby (1995), women have proved more successful in developing caregiving characteristics than men due to intrinsic qualities. As a result, it can be said that they transferred these developmental characteristics to their career development processes.

A difference was observed in the career adaptability of Turkish teachers working in special education schools included in the study in terms of the age variable. The career adaptability of Turkish teachers in the 26-30 age group working in special education were found to be lowest, as compared with other age groups. The career adaptability of the Turkish teachers in the 36-40 age group were found to be higher than other age groups. This result can be explained by Super's life-span and life-space theory (Super, 1980). Super's life-span and life-space theory has five major professional development periods. These developmental periods are growth, exploration, establishment, maintenance, and decline. The 36-40 age group corresponds to the professional development period in the Super's theory. During this developmental period, individuals have three developmental responsibilities,

namely, decision making at work, and establishment and progress in their jobs (Super, 1980). In other respects, it can be said that the high-level of career adaptability of the 36-40-years old Turkish teachers who work in special education schools may indicate that they had successfully completed the developmental tasks as stipulated by their establishment period.

Limitations of the Study

This research has some limitations. The first of these is the data collection method is a survey application that provides cross-sectional data. Second, the sample size is limited to 214 Turkish teachers working in the field of special education in public schools on the European side of Istanbul. Another limitation is that 166 of the 214 Turkish teachers are female teachers.

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THE PROBLEMS SPECIAL EDUCATION TEACHERS ENCOUNTER AND THEIR SOLUTION RECOMMENDATIONS (THE CASE OF NORTHERN CYPRUS)

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Abstract

Providing efficient education services at special education centers requires teachers to work productively. Increasing teachers' productivity depends on specifying the problems they face at practice centers. The most significant advantage of specifying teachers' opinions is forming the basis for making regulations in order to present effective services for individuals with special needs. This study both aims at identifying the problems special education teachers face at the education centers and also finding their solutions accordingly. For this reason, 20 special education teachers who work at 5 private practice centers within The Ministry of Education, were interviewed during 2014-2015 educational year. This study is a qualitative research in case study model. The data is gathered with qualitative data collection techniques, interview forms consisting of semi-structured questions and it is analyzed with the content analysis method. At the research findings it is obvious that special education teachers have encountered several problems regarding; (a) their students' learning in class and behavioral characteristics, (b) other staff at school, (c) physical characteristics of the school and the classroom, (d) programme and (e) material development. These findings enabled the improvement of the recommendations for increasing the quality of the education given to individuals with special needs.

Keywords: Special education, individuals with special needs, individualized education plan.

INTRODUCTION

Special education, provided for students characteristically differentiating from students who benefit from general education services; is the complement of educational services which are organized according to individual needs, aiming to maximize the possibility of the individual's independent survival (Hallahan & Kauffaman, 2003; Kırcaali-İftar, 1998). According to Eripek (2007); the necessity of finding an answer to the questions of to whom special education will be given, from which special education service he/she will make use of and where this service will be provided, must be emphasized (Cavkaytar, 2014).

According to Eripek (1998), the individuals who need special education are noticed during pre-school period, because these individuals display different behaviours compared to their peers. According to Zarkowska and Clements (1995), these inappropriate behaviours harm both themselves and their environment, prevent them from learning new skills, and thus cause them to stay out of their learning environment (cited by Sucuoğlu, 2003).

Low intelligence level, the age and gender of the individual, and the level of disability increase the frequency of inappropriate behaviors in these individuals (Aman, Burrow, & Wolford, 1995; Bihm, Pointdexter, Kienlan, & Smith, 1992; Coe et al., 1999; Polloway, Epstein, & Cullinan, 1986; cited by

Sucuoğlu, 2003). In this respect, the disability of the individual directly or indirectly affects the characteristics of behaviour and learning negatively. At the same time, inappropriate family conditions, negative attitudes and behaviours of the environment and unqualified education causes the emergence of the problems in learning and behaviour. For this reason, in order to solve learning and behavioral problems beginning from pre-school period, it is quite significant to control inappropriate behaviour with appropriate educational services (Eripek, 2003).

In the aim of spreading special education services and applying them efficiently, the necessity of qualified and support staff has been increasing (Akçamete, 1998). The result of the increasing and differentiating needs requires staff with different qualities to take charge in (Friend, 2006). The teacher's character and personality, being highly educated, and his or her responsibility for his or her work affect the quality of the education the individuals with special needs are taking (Billingsley, 2004). At the same time, due to the increase in the number of special education classes, the lack of qualified staff in special education has become a great problem (Brownell, Sindelar, Bishop, Langley, & Seo, 2002). For providing sufficient special education for students with special needs, it is quite efficient that administrator's support their teachers and the duties of the staff are determined (Brownell et al., 2002). Most of the special education services require more than one expert to work together. For this reason, the lack of expert teachers in this field, the qualities of the teachers and the communication among teachers play an important role in improving the quality of special education services (Özsoy, 1998).

In order to provide appropriate education for individuals with special needs, it is necessary to organize a proper setting according to the type, level and the needs of the inability. Settings with bad acoustic insulation, noisy and dark places, affect the education environment negatively (Akçamete, 1998; Batshaw, 2002). Due to that reason, the characteristics of the individuals with special needs must be taken into account while organizing the environment (Özsoy, 1998). At the same time, a qualified building in which teachers work efficiently, and in which things are properly organized for special education, plays an important role in the quality of educational services (Brownell et al., 2002).

The individual with special needs, after being placed in an official school or institution according to the special education commission's evaluation report, must be observed beginning from preschool period at each stage in education and an appropriate educational programme for the student must be determined (MEB, 2006). The students, after being placed in any educational environment, follow the school's educational programme and this programme is applied to these students. The students, who cannot display the prerequisite skills the programme they follow requires, face difficulties in accomplishing the goals of the lessons. In order to organize an efficient educational programme for the students with special needs, the expected behaviours which students can display and behaviours which they are in need of, must be determined. Efficient education requires the improvement of educational programmes according to the method students can do and learn from (Avcıoğlu, 2015).

Providing special education facilities for the individuals with special needs and whether these facilities are appropriate or inappropriate for the needs of the child is crucial. Providing efficient educational services at special education centers require; educational settings designed according to the individual's inability type, level and need, educational programmes determined with proper aims, experimental learning materials that enables gaining skills and information, generalising the information and skills teachers gain with other resources and using them functionally. In order to provide this, special education service applications must be included. However, in what way the individual is provided with special education facilities and whether they are appropriate for the child's needs are seen as issues.

The people who provide special education for these individuals are teachers. In this respect, for identifying the problems special education teachers encounter and for specifying recommendations for the solution of these problems, researches are carried out inland and abroad, but no research is found in TRNC. Different problems related to each level of special education facilities are identified

in each one of these studies; in this study, it is aimed at identifying the problems related to the entire topic of material supply, organizing programmes, physical condition, school staff and students' behavioral and learning characteristics, and increasing the quality of special education services. In order to increase the efficiency of the teachers and thus provide a more extensive and effective educational service, the teachers' opinions related to the problems they face because of these matters, must be identified.

The most important benefit of identifying the teachers' opinions of the special education teachers who work at special education centers, is enabling teachers to work efficiently during their professional life and forming a basis for making necessary regulations in order to present special education efficiently to those in need.

For this reason, in this study, the problems special education teachers encounter and recommendations for their solution are aimed to be identified. In order to do that, answers to the questions below are searched for. Special education teachers': (1) What are the problems related to student behaviour in class and learning characteristics and solution offers? (2) What are the problems they face related to school staff and their solution recommendations? (3) What are the problems related to the physical conditions and their solution offers? (4) What are the problems they face related to educational programmes and their solution offers? And (5) What are the problems related to the materials and their solution offers?

METHOD

Research Model

This study which aimed at both identifying the problems special education teachers encounter and also determining their solution recommendations, is a qualitative research in case study model.

Participants

The population consists of special education teachers at 5 private special education centers within the Ministry of Education of TRNC, in 2014-2015 educational year. In the research, among the 28 special education classroom teachers who work at the 5 private special education centers within the Ministry of Education of TRNC, 20 teachers have formed the population voluntarily.

Table 1. Participant features

	Features	Number	%
Gender	Female	13	
	Male	7	
	Total	**20**	**100**
Age	20-30	5	
	30-40	7	
	40-50	8	
	Total	**20**	**100**
Undergraduate program graduated	Mentally Handicapped Teaching	4	
	Hearing Impaired Teaching	5	
	Visually Impaired Teaching	1	
	Special Education	1	
	Classroom teaching	6	
	Education Program and Management	3	
	Total	**20**	**100**

In the research, 13 of the teachers who are interviewed are women, 7 of them are men and 5 of them are between the ages of 20-30, 7 of them are between the ages of 31-40, and 8 of them are between the ages of 41-50. Moreover, it is indicated that 4 of these teachers are graduates of Mentally Handicapped Teaching Department, 5 of them are graduates of Hearing Impaired Teaching Department, 1 of them is a graduate of Visually Handicapped Teaching Department, 1 of them is a

graduate of Special Education, 6 of them are graduates of Classroom Teaching and 3 of them are graduates of Educational Programmes and Administration Department.

Collecting the Data

In this study, the data is gathered with the qualitative data collection method and interview forms of semi-structured questions. The interview questions are prepared according to the problems 3 teachers who work at a special education center in Nicosia, TRNC, have expressed during pre-interviews. Afterwards 3 experts' opinions; who all work at the university's special education field, are asked. According to the feedback collected from the experts necessary regulations are made on interview forms. As a result of these changes, the interview form consisting of 47 questions, is created.

The aim of the study is explained to the administrators of the practice centers during pre-interviews. The classroom teachers who work in 5 practice centers are seen separately, voluntary participants are specified and appropriate date and time are organized for interviewing each teacher.

The teachers who attended the research voluntarily are encoded from A to Z. The interviews between the dates of 05.12.2014-22.01.2015 are arranged according to the order of the codes. Teacher interviews are carried out between the dates of 05/12/2014 and 26/12/2014 and they took around 13 to 31 minutes.

The interviews are carried out in each teacher's own classroom. The researcher has given code names to the participants. Before the interview, the interview forms have been examined by the attendant and afterwards a pre-interview form including personal information has been filled out and the interview has been done according to the format being prepared. During the research, the data has been gathered through one to one meetings and it has been recorded by getting permission from the attendant.

The Analysis of the Data

After completing teacher interviews, the recordings were typed. In this research collected data was categorized and from this data themes were created. The data gathered from the interview forms was classified into 5 themes according to the interview questions. These themes are classified as this: 1. Problems that teachers face related to the students' actions and learning and the solution recommendations, 2. The problems related to school staff and their solution offers, 3. Physical problems of the environment and their solutions, 4. Problems related to the education programmes and their solutions and 5. Problems related to the materials and their solution recommendations.

A meaningful part such as a word, sentence or a paragraph among the data, was entitled during the coding process. In data coding process, for the parts which carry the same meaning and are interrelated, the same codes are used and different codes are not given. A chart is created and the appropriate codes, taken from specified codes, were placed in convenient words, sentences and paragraphs and then written next to the data. After completing the coding process, the data was checked. For the data, within the frame of apprehensible codes and themes, content analysis was made and an outcome was reached according to the findings.

The Validity and Reliability

This study's validity test was done according to the data gathered from the interview forms of semi-structured questions and it was carried out by checking whether the data in itself, was consistent or not connected to the environment. As a result of the observations related to the environment, reviewed data was found meaningful and was defined related to the environment. The reliability test was carried out by listening to the recordings and noting the data down. Afterwards 4 of these 20 recordings were chosen and listened randomly by an expert and notes were taken. The findings are compared and validity is checked. The notes that the researcher has taken are compared with the expert's notes and it is found out that the outcome is coherent.

FINDINGS and DISCUSSION

In this section, the sub goals created within the frame of the general aim of the study and the findings gathered from the themes related to these aims were included. At the same time, the findings were discussed between each other and by comparing within the body of literature.

The Theme and Code Headings Created within the Scope of the Research

THEME 1: Problems Experienced by Teachers Regarding Behavior and Learning Characteristics of Their Students and Solution Suggestions for These Problems

Inappropriate behavior

The effect of inappropriate behavior on teaching

Causes of inappropriate behavior

Suggestions for solving inappropriate behavior problems

Problems with controlling the classroom

Suggestions for solving problems encountered in controlling the classroom

Arrangements to the classroom environment to prevent inappropriate behavior

Problems with arrangements made in the classroom environment to prevent inappropriate behavior

Causes of problems with arrangements made in the classroom to prevent inappropriate behavior

Suggestions for solving problems with arrangements made in the classroom environment in order to prevent inappropriate behaviors

Studies on the functional use of taught skills and concepts in daily life

Problems encountered with the studies regarding the functional use of the taught skills and concepts in daily life

The reasons for the problems experienced in the studies on the functional use of the taught skills and concepts in daily life

Suggestions regarding the solution of the problems encountered in the studies related to the functional use of the taught skills and concepts in daily life

Problems in skill and concept teaching

Causes of problems in skill and concept teaching

Suggestions for solving the problems encountered in skill and concept teaching

Problems with students' learning characteristics

The effect of students' learning characteristics on teaching

Suggestions for solving the problems experienced about students' learning characteristics

THEME 2: Problems Experienced with School Personnel and Solution Suggestions for These Problems

Collaboration with other teachers at the school

Problems with communicating with other teachers at the school

Help received from other teachers at the school

Problems arising from the characteristics of the staff in the school auxiliary service staff

Suggestions for solving problems arising from the characteristics of the staff in the school auxiliary services staff

Problems encountered in defining the roles and responsibilities of the school assistant staff

Suggestions for solving the problems encountered in defining the duties and responsibilities of the school assistant staff

THEME 3: Problems Experienced by Teachers Regarding the Physical Environment and Solution Suggestions for These Problems

Problems arising from the physical characteristics of the school

Suggestions for solving problems caused by the physical characteristics of the school

Problems caused by the physical properties of the classroom

Suggestions for solving problems arising from the physical characteristics of the classroom

THEME 4: Problems Experienced with the Education Programs and Solution Suggestions for These Problems

Problems encountered while preparing an individualized education program

Suggestions for solving the problems encountered while preparing an individualized education program

Problems encountered while preparing an individualized teaching plan

Suggestions for solving the problems encountered while preparing an individualized education plan

Problems encountered while preparing a behavioral treatment plan

Suggestions for solving the problems encountered while preparing a behavioral treatment plan

Problems encountered while collecting up-to-date information through evaluations on student performance in academic fields

Suggestions for solving problems encountered while collecting up-to-date information through evaluations on student performance in academic fields

THEME 5: Problems Experienced with the Materials and Solution Suggestions for These Problems

Problems encountered in obtaining the materials needed

Suggestions for solving the problems encountered in procuring the needed materials

Problems encountered in providing the materials students need

Suggestions for solving the problems experienced in providing the materials needed by the students

Problems with the use / storage of materials

The problems teachers face related to the students' behavior and learning patterns and solution offers related to these problems

One of the findings of the first theme of the study is that, most teachers have observed students' self-harming, slanging and screaming behaviors in class as inappropriate behaviours.

Teacher H.: *"Since our student has autism, I observe behaviour that is intrinsic to autism. What are these? When he is not interested, he starts hitting for instance"*.

The finding that is mentioned, is an important data that came out during the research. When the body of literature related to this subject is examined, Acar (2000), in his study has revealed that among the inappropriate behavior teachers face, the most common ones are self-harming, speaking out without permission, standing up, wandering around the classroom, disturbing classmates and slanging.

In various studies this finding is supported with several, similar observations such as; not contributing to the activities in class (Ayhan, 2005; Güleç-Aslan, 2013), sexual issues (Güleç-Aslan, 2013), harming oneself and others, wandering around the class, crying, whistling, spinning objects (Güleç-Aslan, Özbey, Sola-Özgüç, & Cihan, 2014), tantrum and biting (Kodal, 2006). The reason of encountering these inappropriate student behaviour in class can be placing students with different diagnosis in the same classes since there is no special education law in our country and also not being able to apply efficient behavioral change techniques for preventing inappropriate behavior as the consequence of teachers from different fields of education working as special education classroom teachers.

When the participants were questioned related to the impact of inappropriate behavior on education, two findings were discovered as negative aspects affecting education. Firstly, the teachers expressed that inappropriate student behaviour affected the lessons negatively and that the efficiency of the lesson was lost; secondly, they added that the students have lost their attention and the attention span was getting shorter.

Teacher B: *"It influences negatively. There is no focus on a specific activity for a long time. I lose a lot of time since each of them is different from one another"*.

Teacher C: *"Of course. For instance, we can spend the first 10 minutes of the lesson trying to pick him up, calm him down and having him sit on his chair. So, our lesson is interrupted and after that it needs more work to catch their attention. It influences the efficiency of the lesson"*.

In one of his work, Çetin (2004) has pointed out that teachers who are graduates of different fields have faced the negative influences of inappropriate behaviour, and this finding is supported with the opinions of teachers mentioned above.

Teachers' negative attitudes towards the impact of students' inappropriate behaviour, can stem from the fact that some of the teachers cannot apply efficient classroom management techniques and they have lack of experience and sufficient information since they are graduates of classroom teaching programmes or educational programmes and administration departments.

When teachers are questioned regarding the reasons of inappropriate student behavior, they have stated that these behavior patterns arised due to family issues and attracting attention.

Teacher S: *"I'm saying that it can be related to the parents' attention. This child is still very little, she is just 6"*.

Acar (2000), has pointed out in his study that, the reasons of inappropriate student behaviour can stem from the student himself, from the need to catch attention due to the negative influence the student receives from the negative attitudes from his environment and from the activities which are not appropriate for the level of the student. It is clear that the information from Acar's (2000) study and this study's findings confirm each other. The inappropriate behaviour of the students with special needs can depend on many factors. It can be explained to the teachers that among the reasons of the

situation of displaying inappropriate behavior can be the parents' inconsistency to help the child gain better attitudes at home and the student's inability type and level. Moreover, as a result of the observations, it is emphasized that teachers cannot apply classroom management efficiently and they do not take responsibility.

It is observed that when teachers are asked whether they have difficulty in controlling the classroom, few of them has mentioned that they do. As support to this thought, Çetin (2004) and Ergenekon (2004), in their studies, have stated that teachers have difficulty in coping with inappropriate behaviour and thus this situation causes them to lose the control of the classroom. In one of their studies, Oliver and Reschly (2010) have pointed out that teachers' skills in preventing inappropriate behaviour and maintaining classroom management are quite significant. The problems faced in classroom management can be the consequence of over-crowded classrooms and the loophole in the law since it allows the placement of students with different diagnosis in the same classes. Also, it brings to mind that teachers from different fields who work at special education centers have insufficient experience and information, thus this causes problems in classroom management. Nevertheless, most of the teachers have expressed that they didn't have difficulties in management. Although they have stated that they did not have any difficulty, they said that they observed inappropriate student behavior in class. Teachers' answers to both states have been contradictory. The teachers have mentioned that they have made arrangements in the classroom such as creating a seating arrangement according to the characteristics of student behaviour and inability type and removing extra objects in the classroom setting.

Teacher K: *"For instance, if the student disturbs others, i can put her in a separate group. I can take her to the corner. If she is looking out of the window, at least I turn him towards somewhere else or towards the wall, in the way she cannot see her friends".*

Teacher N: *"I tried not to have too many objects in class. I removed the things which attract their attention as visual stimulus. For example there were many things on the board. We removed them. We simplified the environment".*

In one of his studies, Çetin (2004) has stated that teachers have made arrangements in the classroom according to the activity; in the study that Kodal (2006) has carried out, it is said that teachers have made the seating arrangement according to the characteristics of the students; which are both parallel to the findings of this study.

According to one of Acar's (2000) studies, the finding that teachers' expectations are in compliance with their students' level, differentiates from the findings mentioned above. It can be said that the arrangements in the classroom are made according to students' inappropriate behaviour and inability type. When necessary arrangements are made according to the characteristics of the students, it is thought that it is much easier to cope with inappropriate behaviour.

Teacher D: *"When I say family-based, I spoke to the parents about the problem solution strategies that can be done at home. If you organize your life, we will get rid of these problems. We presented solution recommendations for the parents but they are not responding".*

Teacher E: *"I cannot make the arrangement I want since the classroom is too small. Apart from that, I do not face any problems".*

From the teacher expressions like this and similar others; it is clarified that teachers confront problems regarding classroom arrangement because of family-based issues, the physical setting of the environment, slow continuation of the procedure and the lack of an assistant teacher. As support to this finding, Çetin (2004) has indicated that teachers have difficulty in arranging the classroom according to the activity that will be done. The reason of teachers' problems regarding classroom arrangement can be the facts that there is no legislative regulation and the buildings that are used as special education centers, are not designed appropriately as special education institutes. In order to make regulations effectively, laws can be made urgently and buildings can be constructed

conveniently for children with special needs. These buildings must be designed according to students' characteristics with proper temperature, light and sound aspects.

In addition to this the problems teachers have related to classroom arrangement are linked to factors apart from themselves such as family and physical setting. This situation brings the question into mind that teachers attribute negativities to the facts apart from themselves.

The teachers who attended the study, indicated that they carried out activities focusing on the practical usage of the taught skills and concepts on a daily basis related to self-care and social skills. On the other hand, some of them have revealed that they have done activities based on daily life activities and skills whereas the rest have said that they worked in collaboration with parent-teacher association.

Teacher C: *"Yes. We try to do activities based self-care and daily life skills such as washing hands, using the loo, as much as possible".*

Teacher E: *"Yes. To give a short example, if we are working on doing shopping, we support the topic with a visual material and in the same week we go to a shop and observe the kids perform the skills in practice".*

In Kodal's (2006) study, in which it is focused on doing concept generalisation activities with the support of the family, doing activities related to the practical usage of the skills and concepts in daily life in different settings, with many repetitions and with different materials, support the findings of this study.

It is thought that making generalisation studies in collaboration with the parent-teacher association related to students' practical usage of learned skills and concepts on a daily basis will increase the permanence of learned skills and concepts.

Teachers have expressed that they have difficulties related to the activities focusing on the practical usage of learned skills and concepts on a daily basis. They have added that since the family's socio-economic level is low, their budget is insufficient, the physical facilities are inadequate, there is no parental support and that students with different levels in the same class have performed differently from each other.

Teacher E: *"We have some financial problems. It is difficult to receive financial support from the parents. The reason to this is the low socio-economic standards of the families".*

Teacher B: *"I have difficulties while doing skill teaching activities. Because the physical facilities of the school are not convenient".*

In the studies Berry, Petrin, Gravelle, and Farmer (2011) has made; in respect of the fact that teachers have emphasized that they needed theoretical and practical trainings on topics such as teaching drama and games, language and communication skills related to the practical use of skills; they differentiate from the findings above. The difference among the research outcome and the research findings in the body of literature may originate from the facilities of schools in countries. The cause of the problems teachers face related to the effective use of taught skills and concepts in daily life, can be the administration's not providing a separate financial resource for these activities, not having sufficient physical conditions and families' characteristics. Most of the teachers have revealed that the most important problems related to students' learning habits are forgetfulness, having short attention span and having different learning paces.

Teacher S: *"One of the problems I face is forgetfulness; meaning that long term memory does not do much so we have to repeat things".*

Teacher D: *"Having short attention span. Due to special conditions we have to move forward but we fall behind instead".*

Both Ergenekon's (2004) study, in which students' inability groups and performances in classes are different; and Güleç-Aslan, Özbey, Sola-Özgüç, and Cihan (2014)'s study's consequences which indicate that teachers have difficulties because of the various learning styles of the students; support the findings of this research. Forgetfulness as one of students' learning habits, having different attention spans, and different learning paces can be thought as alterable according to the inability type of the students. For that reason, it is found out that having students from different inability groups in the same class may cause problems in concept and skills teaching.

The teachers who have attended the research, have expressed that they could not finish the lectures at the arranged time, learning is not permanent and their lessons were interrupted due to students' learning characteristics which affect the process negatively.

Teacher C: *"These characteristics of the students affect our lessons. Of course, if this was not the case, a standard child would learn it in one day on the other hand we may teach this concept in a day but we have to repeat it over and over for a week or two so we can make it permanent"*

The outcome of the research of Güleç-Aslan, Özbey, Sola-Özgüç and Cihan (2004) supports this finding. It can be thought that students' capacity may influence the learning process in a negative way.

Problems teachers face related to the school staff and solution recommendations

In the second theme of the research, it is indicated by the teachers that they most work collaboratively with other teachers during social activities, teaching, teaching programme development, material development and sharing.

Teacher M: *"Yes, of course. For instance if I'm working on reading and writing, I share my opinions with another colleague related to literature search, books or notebooks or about the method we are using. If we are going to do something about physical education, music or dancing, we definitely do it together. We always do collaborative work".*

When the body of literature is examined about this finding, in one of the studies Ergenekon (2004) has stated that teachers have done collaborative work with each other related to the topics of classroom management, lesson plan development and student evaluation; however it is also mentioned that some teachers encounter difficulties. In their studies, Billingsley (2004), Bishop, Brownell, Klingner, Leko, and Galman (2010) have revealed that a cooperation based working environment improves teacher's efficiency. On the other hand Altınkurt's (2008) study which aimed at specifying the problems of special education and rehabilitation centers, have shown that there were problems related to the quality of the teachers. It can be connected to the facts that teachers do not work collaboratively, the school administration does not encourage cooperation and most of the teachers being graduates of other fields of education.

When the teachers are questioned about whether they have communication problems with other colleagues, some of them stated that they faced problems due to disinterest to special education and daily changeable psychological state of the person.

Teacher E: *"Partially. Since we are working with people, we can have difficulty in communication with the ones who have problems in considering people's psychological states on that day. But on another day, they can be open to communication. The reason is people's psychological state which change daily".*

Ergenekon (2004) has supported this outcome in his research and has stated that teachers have difficulty in communication with colleagues at school. This communication problem may be the result of the lack of teachers' cooperative work at school.

The problems related to the physical environment and their solutions

As the third theme of the research, the most significant problems related to the physical aspects of the school are the wideness of the schoolyard and the inappropriateness of the school's size. According to the outcomes of teacher interviews, regarding the physical aspects of the school, most teachers have said that because the school was a either a dormitory or a house before turning into a special education center, "the special education building is not assigned suitably".

Teacher D: *"Our schoolyard is big but it is not designed conveniently. Our building is big in fact but the classrooms are not settled properly. Empty spaces are dead spaces and there are a lot of them and they are not made ready for use".*

When the body of literature regarding this outcome, is examined, Güleç-Aslan, Özbey, and Cihan's (2014) studies support the findings in the way that classrooms physical aspects are not suitable for students' characteristics and that teachers face difficulties because of placing more students than the pre-determined number of students in each class. In their studies Başaran (2001), Brownell et al. (2002) have pointed out that there are problems related to the insufficient facilities in the working environment.

The most significant reason of the problems related to the physical aspects of the special education centers, is the fact that buildings were either a dormitory or a house before, thus they were not constructed suitable for special education institutes. Suitable buildings for special education can be re-constructed. Also, the classrooms can be re-arranged since the number of students is more and the classrooms are less.

Teachers have indicated that the most significant problem related to the physical aspects of the classroom is that classrooms are not convenient in the aspects of temperature, light, sound and visuality.

Teacher D: *"We have problems with heating. The sound is not proper. We confuse our break time with the school's break time downstairs. Students lose their attention because of this. Especially, if there are problems in the other school, screaming and crisis begin so everything is messed up".*

The outcomes of the research of Çetin (2004) in which it is stated that the classroom is not suitable for special education, and Ergenekon (2004) and Başaran's (2001) studies in which it is indicated that classrooms are not designed according to individuals with special needs in the aspects of temperature, light and sound and that teachers face problems related to these factors; have supported the findings of this research. The reason of the problems of the physical aspects of the classroom may stem from the fact that they are not constructed according to the needs of students with special needs. New arrangements can be made within the body of the Ministry of Education.

The problems of education programs and their solutions

In the fourth theme of the research, one of the most important finding is that even a little, teachers have difficulties in determining the aims while preparing IEP, determining weekly lesson durations and determining students' needs since their performances are not evaluated by the counseling and research center. Both the studies of Güleç-Aslan (2013) in which it is said that teachers have difficulty in planning lessons and Güleç-Aslan, Özbey, Sola-Özgüç, and Cihan's (2014) studies in which it is stated that there is not IEP team; support the views indicated above. In their studies, Avcıoğlu (2011), Bülbül (2010), and Vuran, Çolak and Gürgür (2003), and Kuyumcu (2011), have identified that teachers have insufficient information related to the topics of determining the criterion, measuring and evaluating whether the IEP targeted aims are accomplished. The results of one of Avcıoğlu's studies in which it is pointed out that teachers have problems in planning and applying IEP, and Çetin (2004), Ergenekon (2004), Kuyumcu (2011), Öztürk and Eratay's (2010) studies which revealed that teachers have problems in determining the aims and making plans support the findings mentioned above.

George, Gersten, and Grosenick (1995), and Mehrenberg's (2013) studies show consistency with the research findings in the way that teachers have indicated that they do know taking the performance in the IEP process, however not having an IEP team and having overcrowded classrooms cause problems and in order to solve this problem they feel the need of educational support and organizational arrangements. The improvement of the professional competency in the field of individualized educational programmes will enable a more qualitative special education (Zionts, Shellady & Zionts, 2006). Having teachers who are graduates of different fields or from the fields of teaching the hearing impaired or visually impaired be on duty and not giving enough importance to IEP planning during their trainings may cause these problems.

Teachers have revealed that they have great difficulty in "getting support from the parents" while they are gathering current information through evaluations related to the student's academic performance since parents do not spend time with their kids and since parents do not have information related to the studies.

Teacher E: *"Of course I am collecting. In fact special education is not only at school but we also have to go to the family's house. We have to go out with the kid in order to observe him/her in social environment. Since the parents are working, they do not have time for the teacher so we have problems in home visits".*

Reaching the same outcome in Vuran, Çolak and Gürgür's (2003) studies related to the problems of the teacher-parent cooperation, support the information above. The reason of teachers' difficulty in collecting current information through evaluations related to student's academic performance can be thought to stem from not having teacher-parent cooperation.

Problems related to materials and their solutions

One of the findings of the fifth theme of the study is among the materials need during their lectures are visual materials, special education books, materials for improving hand-eye coordination, technological materials, concept materials, three dimensional materials and visual and auditory materials. The reason of the necessity of various materials stems from providing materials according to the students' characteristics.

Teacher E: *"I need visual materials in my lessons".*

The teachers have said that the biggest problem in maintaining these materials is that their prices are high and there is no budget for that.

Teacher E: *"The materials I need are all technological since I keep up with the technology, so the prices are too high".*

This finding is supported in the studies of Altınkurt, 2008; Avcıoğlu, 2012; Ayhan 2005, Brownell et al., 2002; Çetin, 2004; Ergenekon 2004; Güleç-Aslan, Özbey, Sola-Özgüç, and Cihan, 2014; Werts, Carpenter and Fewell, 2014; in which they have stated that teachers have problems in material development and maintaining".

Since the Ministry of Education does not have enough budget for the materials, it can be accepted as the cause of the problem in maintaining materials. Materials can be maintained by having a separate budget for them.

In the study, the teachers have expressed that the biggest problem related to the storage and usage of the materials is not having proper places to keep the materials in and not having cabinet locks.

Teacher B: *"The product occupies a large space and the school does not have convenient equipments, it is also difficult to store the materials since it is single-floor".*

Teachers have difficulties in storing and using the materials as much as they do in the proper use of the materials.

Teacher C: *"Yes it happens from time to time. Sometimes we take some materials which are used commonly, they have missing parts. Half is there and the other half is not".*

Supporting this outcome, Çetin (2004) has revealed that there are problems in proper use and storage of the materials in his study. The reason to this can be accepted as the fact that buildings are not constructed suitable for special education schools. Necessary arrangements for the usage and storage of the materials can be made by the school administration.

As a consequence of the interviews with the teachers, it is evident that teachers have some difficulties with the students' behavioral and learning characteristics, with other school staff, with the physical aspects of the classrooms and school, education programmes and materials and it is indicated that these problems change from one teacher to another.

According to these outcomes, the following suggestions can be made: 1. This study is limited to the data collected from teachers who work at special education centers. The same study can be carried out with teachers who are on duty in general education classes which apply inclusive education and with special education teachers who work in source classes.

Moreover, it can be carried out with the special education teachers in state school and special education teachers in private schools, and the outcome can be compared. 2. This study is carried out with qualitative method and it can also be made with quantitative method. 3. By lowering the number of the students in the classroom and by maintaining parent-teacher-student cooperation, teachers can prevent inappropriate behavior and make efficient arrangements in the classroom 4. Arranging the duration of the lesson according to the attention span of the students and placing students in classes according to their inability type and level may help increasing their attention span. Moreover, teacher-parent cooperation may enable the permanence of learning. 5. Providing in-service trainings for the teachers in order to improve their professional knowledge may encourage collaborative work with other colleagues and improve the interaction among them. For doing collaborative work, meeting periodically and sharing things may encourage them to get help from each other. 6. Training the staff in assisted services about the characteristics of the students at school before beginning to work, may help the staff become more conscious. 7. Making proper physical arrangements according to the students with special needs in classrooms and schools that are available may enable them to receive a more qualitative education.

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