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Aims & Scope

Traditionally, it is seen that change and transformation in the field of social sciences takes a little more time compared to fields such as health, technology and engineering. However, this situation seems to have started to change with the Covid-19 epidemic disease. It is expected that changes will occur in human and social behavior during and after the Covid 19 epidemic disease. These changes have started to show themselves in many fields related to social sciences, especially education, psychology, sociology and economy. For this reason, **this conference focused on** the changes and innovations in the field of social sciences that started with Covid 19. However, the organizing committee also recognizes the value of traditional knowledge in the social sciences. For this reason, the conference is also open to traditional studies in the field of social sciences.

The **aim of the conference** is to bring together researchers and administrators from different countries, and to discuss theoretical and practical issues in all fields of social sciences. At the same time, it is aimed to enable the conference participants to share the changes and developments in the field of social sciences with their colleagues.

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The Effect of Digital Story-Supported Science Practices on the Scientific Attitudes of 7th-Grade Students

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Abstract: This study aims to examine the effect of supporting science applications courses with digital stories on the scientific attitudes of 7th-grade students. In this study, a quasi-experimental design was used. The study was carried out in the 2020-2021 academic year, during the 7th-grade Science Applications course of a state secondary school affiliated to the Eskisehir Provincial Directorate of National Education. The study sample consisted of 93 students from four branches, 53 male and 40 female, taking the Science Applications course. The lessons were supported by digital stories in the experimental group during the implementation process, whereas the control group followed the current curriculum. The data collection process was completed in six weeks. The scientific attitude scale was applied in the first week of this six-week process as the pre-test. 12 digital stories were used in the second, third, fourth, and fifth weeks. The scientific attitude scale was applied in the last week again as the post-test. Descriptive statistics and t-test for dependent and independent groups were used to analyze the quantitative data obtained from the Scientific Attitude Scale. A significant difference was found between the pre-test and post-test mean scores of experimental and control group students regarding their scientific attitudes, the pre-test-post-test related to the scientific attitudes of control group students, and the pre-test-post-test mean scores of experimental group students' scientific attitudes. As a result of the statistical analysis, it was concluded that digital storytelling positively improved students' scientific attitudes in the applied group.

Keywords: Digital storytelling, Scientific attitude, Science applications course

Introduction

In the 21st century, the importance of qualified human resources is increasing day by day. Technological and scientific developments, which are constantly changing, play a significant role. The countries leading in technology and science have reformed their education systems to raise qualified individuals who can adapt to the current age requirements. For this reason, education is changing in line with the needs of the 21st century and students' expectations. The skills expected from individuals in the 21st century include collaborative working, information-media & technology literacy, communication & technology use skills, creative and critical thinking, problem-solving, producing, and learning to learn (ATC21S, 2019; ISTE, 2019; P21, 2019; OECD, 2019). On the other hand, the digital storytelling process meets most of the skills students should have in the 21st century (Jakes, 2006, p. 1). Being creative, taking risks, using cutting-edge tools to communicate engagingly makes digital storytelling a process that genuinely reflects 21st-century learning (Jakes, 2006, p. 1). Digital storytelling is an innovative approach that combines creativity and technology, offering the opportunity to integrate teaching and learning into technology-rich environments (Smeda et. al., 2010. p. 6).

Digital Story

What is a Digital Story?

With their intercultural and international use from past to present, stories have been an effective tool in transmitting events that individuals have lived or designed. With the development of technology, stories that have shifted from oral transmission to written narrative have turned into digital story formats as digital technology is introduced into our lives. Digital storytelling is defined as follows: bringing together multimedia tools such as text, audio, and video of the determined subject (Robin, 2006, p. 709), presenting the subject aesthetically by including multimedia tools such as text, sound, image, and video through a computer (Chung, 2006, pp. 35-36), and combining written, verbal, visual and animated symbols into short videos of 3 to 5 minutes (Tatum, 2009, p. 7). To summarize, digital stories are short stories using visual, audio, audio-visual multimedia elements and created by combining text, images, voiceovers, video, and music around a specific theme, from a specific perspective.

The Emergence of Digital Storytelling

The starting point of digital storytelling is a series of workshops designed and conducted by Dana Atchley and Joe Lambert in the early 90s. In 1994, the San Francisco Digital Media Center was established with the participation of Nina Mullen. San Francisco Digital Media Center moved to Berkeley in 1998 and started to use the name Center for Digital Storytelling. Since 2015, the organization has continued to work under the name of StoryCenter (Story Center, 2018).

Types of Digital Storytelling

In digital storytelling, studies were initially carried out on personal storytelling, and with its widespread use, different genres emerged over time. Garrety (2008, p. 14) classified digital stories as traditional digital stories, didactic digital stories, project-based digital stories, social justice, and culture themed digital stories, and digital stories that reflect a person; Gregori-Signes and Pennock-Speck (2012, p. 3) divided them into two as social and educational digital stories; and Robin (2006, p. 710) classified them as personal, historical and instructive stories.

The Elements of a Digital Story

Seven elements that are accepted as a guide for starting digital story creation are expressed by Lambert (2010) as follows: A point of view, A dramatic question, Emotional content, The gift of your voice, The power of the soundtrack, Economy, Pacing.

Digital Story Making Process

The digital story preparation process must be planned correctly for the created story to reach its purpose and goal. Different researchers have expressed this process in different stages (Barrett, 2009; Jakes et. al., 2005; Kearney, 2011; Lambert, 2010; Lasica, 2006; Morra, 2013; Robin et. al., 2012; Robin, 2014; Tolisano, 2008). Robin (2014) described the digital story creation process as seven stages: writing a story script, creating a flowchart, researching images, sounding the story, preparing the digital story, evaluating the digital story, and publishing the digital story.

Various technological tools and software form an essential part of the story creation process in bringing the digital story to life. The transformation of stories into digital story formats and the design of how they will look and be heard is possible with technological tools and software.

Robin grouped technological tools & software that can add and combine elements such as text, picture, music, and sound in creating a digital story under three main categories (2016, pp. 25-26). These are; Software used in desktops and laptops (Microsoft Photo Story 3, OpenShot Video Editor, Imovie, Scratch), software used in the

web environment (Animoto, Wevideo, ToonDoo, StoryBird, GoAnimate), and software used in smartphones and tablets (iMovie for iPad, Story Creator, Kids Story Builder).

There are national (Büyükcengiz, 2017; Çiçek, 2018; Demirer, 2013; Kahraman, 2013; Karataş et. al., 2016; Kotluk et. al., 2015; Toprak, 2019; Torun, 2016; Ulum, 2017; Ulum et. al., 2018; Ulusoy, 2019) and international (Hung et. al., 2012; Kim, 2019; Robin, 2007; Titus, 2012) studies in the literature discussing different aspects of digital storytelling in science courses. Kim (2019) investigated the effects of digital storytelling on the motivation and scientific attitudes of 5th-grade students towards science courses and reported that digital storytelling had a statistically significant effect on their motivation and scientific attitudes towards science learning. In addition, the digital story had a positive effect on students' discovery of scientific principles. Büyükcengiz (2017) also stated that digital storytelling contributes positively to the achievement and attitudes of students in secondary school science courses and lets them develop positive attitudes towards the course.

The review of the studies showed no study addressing the effect of digital story applications on the scientific attitudes of 7th-grade students in the science applications course. The study is thought to be a source for future researches to be carried out in this field.

Scientific Attitude

Attitude is the behavior of individuals in the face of any situation (İnceoğlu, 2010. p. 7). It is a directive tendency that is the primary determinant of an individual's feelings, thoughts, and behaviors. They are the tendencies emerging with learning; they reveal behaviors that cannot be seen directly but can be observed and examined (Şimşek et. al. 2013, pp. 133-134).

On the other hand, scientific attitude is defined as the individual's ability to find solutions and interpret the problems they encounter by supporting them with logical data from an objective point of view. In short, scientific attitude is investigative thoughts and behaviors that facilitate transferring the competencies in research to experience (Başaran, 1978; Jayasree et. al., 1999). According to Başaran (1988, p. 300), individuals with a scientific attitude are willing to identify and solve the situation or problem they face; they design various ways to solve it, begin to question these ways, and evaluate the result. The scientific attitudes and behaviors that individuals should possess are, being open-minded, logical, and skeptical, being objective in thoughts and observations, making decisions based on evidence, and being patient in their studies (Karasar, 2014, p. 48).

Regarding the studies on scientific attitude in the literature, the ones in science teaching and learning were carried out with students at different education levels (Çanak, 2017; Demirbaş et. al., 2008; Demirbaş et. al., 2011; Gültekin, 2019; Kılıç, 2011; Moore et. al., 1997; Pearson, 1993; Pitafi et. al., 2012; Click, 2021). The studies addressing the subjects similar to this study are as follows: Demirbaş et. al. (2008) investigated the effect of social learning theory on the development of scientific attitudes. They showed that employing social learning theory-based activities in teaching the lesson increased students' scientific attitudes. Çanak (2017) investigated the effect of science applications courses on the scientific attitudes of secondary school students and reported a significant and strong difference in the scientific attitudes of the students at the end of eight weeks.

In our era where technology is developing rapidly, education methods are carried out with technical support. Along with the 2018 curriculum, eight key competencies are mentioned in the Turkish Qualifications Framework; competency in science/technology and digital competence are two of them. Digital competence means the critical use of information and communication technologies necessary in daily life and business life (MoNE, 2018, p. 6). Ferrari et. al. (2012, p. 84) defined digital competence as awareness in tasks such as solving problems, communicating, taking responsibility, and sharing information while using information and communication technologies. According to the constructivist teaching approach and the eight key competencies in the Turkish Qualifications Framework, using technology in teaching environments provides students with an enriched learning environment. The digital story is one of these methods contributing to it.

The literature review revealed that the studies on the use of the digital story in the science applications course (Valkanova et. al., 2007) and the studies investigating the effects on the scientific attitudes of the students (Kim, 2019) are insufficient. Funny and exciting stories can positively contribute to science learning (Rowcliffe, 2004). Scientific theories and concepts may become more meaningful with concrete examples and facilitate students' understanding (Abrahamson, 1998; Klassen, 2006; Weber, 1990). In addition, scientific stories cause students to develop positive attitudes towards science and science learning (Avraamidou et. al., 2009; Sadler,

2009). The digital stories included in this study tell real-life stories of scientists and scientific studies. In addition, the digital stories discussed in the study emphasized what science is, how scientific knowledge is produced, and how scientists work. These emphases are made through the characters used in the digital stories. Digital stories help today's youth, who was born and raised with technology, in learning. So, in this study, the effect of digital stories, which is a technological tool, on scientific attitude is discussed. The difference of the study is revealing the effect of science applications courses supported by digital stories on 7th-grade students' scientific attitudes. This study will show the necessity and benefits of digital stories for science applications courses and students, contributing to the literature on this subject.

Purpose of the study

This study aims to examine the effect of science applications courses supported by digital stories on the scientific attitudes of 7th-grade students and their views on the nature of science. For this purpose, the following questions were addressed:

- Is there a significant difference between pre-test scores of experimental and control group students?
- Is there a significant difference between pre-test and post-test scores of control group students?
- Is there a significant difference between pre-test and post-test scores of experimental group students?
- Is there a significant difference between post-test scores of experimental and control group students?

Method

Research Model

An experimental design was used in this study, in which the effect of digital story-supported science applications courses on the scientific attitudes of 7th-grade students was examined. Experimental designs aim to test the cause-effect relationship between variables (Fraenkel et. al., 2006, p. 261). In this study, a quasi-experimental design with a pre-test-post-test control group was used. The quasi-experimental design is preferred when it is impossible to control all variables (Cohen et. al., 2007, p. 275). Therefore, it is frequently preferred in the field of education.

Study Group

After obtaining the necessary permissions, this study was carried out in the 2020-2021 academic year, in the 7th-grade science applications course of a state secondary school affiliated to the Eskişehir Provincial Directorate of National Education. The determination of control and experimental groups was based on the guidance of the classroom teacher. Four branches with similar characteristics were selected from fourteen branches. The 2019-2020 science course grades of these four branches were equal, and their attitudes towards science applications were similar. Besides, the same teacher teaches the science applications course of the four branches. The data of 93 students, 53 boys and 40 girls, were evaluated in the study. The independent groups t-test results of the 6th-grade science passing grades, used to determine the experimental and control groups, are given in Table 1.

Table 1. Comparison of students' passing grades

Group	n	$\bar{X}$	SD	t	sd	p
Experimental	46	94.5435	5.76	0.002	91	0.998
Control	47	94.5460	4.75			

There is no statistically significant difference between the t-test results of 6th-grade science course passing grades of experimental and control group students ($t=0.002$; $p>.05$). There is no significant difference between the average scores of the students regarding the 6th-grade science course passing grades. Therefore, students' readiness levels in the experimental and control groups were similar before the experiment. 7/A and 7/I classes were randomly selected to form the control group, and 7/H and 7/M classes to form the experimental group.

Data Collection Tools

Scientific Attitude Scale (SAS)

In the study, the Scientific Attitude Scale developed by Moore et. al. (1997) and adapted into Turkish by Demirbaş et. al. (2006) was used to investigate the effect of digital stories on students' scientific attitudes. The scale's original consisted of 60 items, but it was reduced to 40 items while adapting to Turkish. The 40 items in the scale are structured to explain the nature of science, how scientists work, and how students feel about science. The scale consists of 40 items of 5-point Likert type (20 positive, 20 negative). In addition, it is divided into six subscales. Five subscales are about the nature of science and how scientists work; one subscale includes items about how students feel about science. The answers given by the students are scored as "Strongly Agree-5", "Agree-4", "Neither Agree, Nor Disagree-3", "Disagree-2", and "Strongly Disagree-1". Therefore, the highest and lowest score obtained from the scale varies between 200-40. The reliability coefficient of the scale was calculated as 0.76. In this study, the reliability coefficient was 0.54 for the pre-test and 0.69 for the post-test.

In addition, in line with the expert opinion, the researcher preferred to use the expression "Scientist" in the scale instead of "Man of Science"; "Neither Agree nor Disagree" was preferred instead of "I am undecided" in the agreement level to the items.

Data Collection

Digital stories to be used in the lessons and the link of the data collection tools were sent to the teacher by e-mail before implementation. At the beginning of the implementation process, the students were explained that this study was for research purposes. At the same time, they were also informed that this study would not affect their grades and their personal information would be kept confidential. Every stage of the implementation process was carried out in the online distance education process over the digital education platform. Pre-test and post-test were prepared electronically, and students were requested to fill them.

The study started in the fall semester of 2020-2021 academic year, with the 7th-grade students of a secondary school in Eskişehir. Experimental and control groups were randomly assigned from equivalent groups (determined regarding 6th-grade science course passing grades and the guidance received from the course teacher). After performing the pre-test in both experimental and control groups, the implementation was started. After the four-week application, the post-test was applied to both groups.

Implementation

The study was carried out with 7th-grade students of a secondary school located at the city center of Eskişehir in the fall semester of the 2020-2021 academic year. The classes with similar academic achievement levels in science courses were selected as the study group and randomly assigned as experimental and control groups. In the study, digital stories prepared by science teacher candidates within the scope of another scientific research project for the Special Teaching Methods II Course were used (Seckin Kapucu et. al., 2020). These stories were examined by field education experts (science education and educational technology experts) in terms of the characteristics of scientific knowledge and creating digital stories. The study was carried out by the teacher of the course with the participation of the researcher. Every implementation stage was carried out by the teacher, researcher, and students as online distance education over the digital education platform. Before starting the implementation, the students in the experimental and control groups were informed that the study would not affect their grades, their names would be kept confidential, and the study was conducted for research purposes. The implementation was completed in a total of eight course-hour in four weeks, covering two course hours each week. The application took two course hours (30+30=60 minutes) per week. Digital story applications were made in the first hour, and the activities related to the current course program were carried out in the second.

The implementation was carried out with 46 students, 28 boys, and 18 girls, in the experimental group. A total of 12 digital stories were used, as three digital stories each week. These digital stories talked about striking examples of the scientists' life stories who worked on the subjects included in the secondary school science curriculum (solar system and beyond, cell and divisions, force and energy, pure matter and mixtures, the interaction of light with matter and electrical circuits units). The data collection process was completed in six weeks. SAS was applied to the experimental group as a pre-test in the first week. Digital stories were used in the

second, third, fourth, and fifth weeks. SAS has been applied again as a post-test in the last week, and the study data were collected.

On the other hand, SAS was applied as a pre-test and post-test in the first and last week of the six-week period in the control group; no other action was taken. The science applications course was taught to 47 students, 25 boys and 22 girls, following the current curriculum. The same teacher carried out the lessons in the experimental and control groups. While using digital stories in the experimental group, control group students were informed about important scientists (Neil Armstrong, Ali Kuşçu, Yuri Gagarin, Hans Lippershey, Galileo, Robert Hook) mentioned in the units of space, cell, mitosis, meiosis, work, energy conservation, and friction and related questions were answered. Brief information is given about one of the 12 digital stories used in the experimental group below. A section from Edwin Powel Hubble's Digital Storyboard, the second digital story named "The Man who Expanded the Universe," is shown in Table 2.

Digital story 2: This digital story talks about the astronomer Edwin Hubble. It includes the topics of universe and galaxy, Hubble's work on the light spectrum, and the Hubble-Humason Law. In addition, the nebula and galaxy pictures displayed by Hubble are also included. The story lasts 03.31 minutes.

Table 2. Digital storyboard of "The man who expanded the universe."

Scene	Text
	Character 3: The man who expanded the universe
	Character 2: Ever since humankind began to contemplate the universe's structure, it has generated ideas about its dimensions. However, an American astronomer would solve the riddle of the possible limits of the universe.
	Character 3: The name of this American astronomer is Edwin Hubble. He was born in the USA in 1889. Hubble has had an affinity for the sky since he was young.
	Character 2: Hubble graduated from the University of Chicago with a Bachelor of Science.
	Character 3: He studied law at Oxford University in England. He worked as a lawyer for a while and then started studying on the sky.
	Character 2: At Hale Observatory in California, he tried to solve the mystery of the universe and proved many issues that scientists before him could not explain.
	Character 3: Most astronomers thought that the universe consisted of solely the Milky Way galaxy. Hubble saw a constellation and concluded that it was in another galaxy because it was so far away. He proved that the Andromeda Galaxy is another galaxy, so there are other galaxies besides ours.

	Character 2: With his friend Humason, they explained the speed of galaxies, and they introduced the famous Hubble-Humason Law. They came up with the theory that the universe is expanding.
	Character 3: Hubble has also worked on the light spectrum. He realized that for a redshift to occur, the stars should be moving away from us.

Data Analysis

In the study, SAS was applied as a pre-test and post-test to determine the effect of supporting science applications courses with digital stories on the scientific attitudes of the students. SPSS 20 was used in the analysis of the data obtained from SAS. Descriptive analysis was used to calculate the frequency, arithmetic mean, minimum and maximum, standard deviation, skewness and kurtosis, and Kolmogorov-Smirnov normality values of the data obtained from the experimental and control groups.

First of all, the normality of the data was checked. Usually, the Shapiro Wilk test is used in groups with less than 29 students, and the Kolmogorov-Smirnov test is used in groups with more participants (Kalaycı, 2008, p. 13). Since the number of students in the study group was over 29, the Kolmogorov-Smirnov normality test was employed in this study. As the data showed normal distribution, dependent groups' t-test and independent groups' t-test were used to determine whether the difference between the pre-test and post-test results is significant or not. For significant differences, eta squared (η2) was calculated to determine the effect of the independent variable on the dependent variable. The coefficients were interpreted as follows; 0.01 - small effect size, 0.06 - medium effect size, and 0.14 - large effect size (Cohen, 1988, p. 25).

Internal and External Validity of the Study

The factors that affect internal and external validity and the measures taken are explained below. Regarding internal validity, pre-experimental measurement factors were minimized with the following measures: selecting the students who form the study group among those who take 7th-grade science applications course, selection of students of the same age and grade level, the maturation of the participants after six-week study, the use of the same measurement tool in both groups, the performance of the implementation by the course teacher, leaving four weeks between pre-test and post-test applications, which is considered to be sufficient to prevent the recall of pre-test items.

Regarding the factors affecting external validity, the effect of variable interaction is minimized with the following measures: the sample of the study consists of 93 participants (sampling effect), no information (tests to be applied and experimental conditions) was given to the participants about the experimental process (expectation effect), and the same measurement tool was applied as pre-test and post-test to the experimental and control groups (pre-test experimental variable interaction effect).

Findings

Descriptive Statistics

The mean score, standard deviation, Skewness&Kurtosis values, and Kolmogorov-Smirnow normality test results obtained from the experimental and control group students by applying SAS as pre-test and post-test are given in Table 3. Experimental and control groups' pre-test and post-test scores show normal distribution regarding skewness, kurtosis, and Kolmogorov-Smirnov values ($p>.05$). It can be said that the mean score of experimental group students ($\bar{X}$ = 148,934) and control group students ($\bar{X}$ = 147,234) were similar before the implementation (Table 3).

Table 3. Descriptive statistics obtained from SAS

Tests	Groups	N	X̄	SD	Skewness	Kurtosis	Kolmogorov-Smirnow
Pre	Experimental	46	148.934	10.339	-.240	-.226	.200
	Control	47	147.234	8.369	-.390	-.278	.193
Post	Experimental	46	151.021	9.212	.580	-.236	.200
	Control	47	144.702	12.529	-.510	-.365	.200

Findings of the First Sub-Problem of the Study

Pre-test scores of the students in the experimental and control groups were examined to answer the sub-problem "Is there a significant difference between pre-test scores of experimental and control group students?" Since pre-test scores showed normal distribution, independent groups t-test was applied to determine whether the mean scores differed. The results are given in Table 4.

Table 4. Analysis results of experimental and control groups' pre-test scores

Group	X̄	SD	t	sd	p
Experiemntal	148.934	10.339	-.873	91	.385
Control	147.234	8.369			

Regarding Table 4, there is no statistically significant difference between experimental and control group students' pre-test scores (t=-.873; p>.05). As there is no significant difference between SAS pre-test scores, it was concluded that the control and experimental groups were similar. Accordingly, it can be said that the sample was divided into two equivalent groups before the implementation. The lack of difference between experimental and control groups' pre-test scores is an expected positive finding since the study groups were divided into similar groups.

Findings of the Second Sub-Problem of the Study

Pre-test and post-test scores of the students in the control group were examined to answer the sub-problem "Is there a significant difference between pre-test and post-test scores of control group students." Since the scores of both tests showed normal distribution, dependent groups t-test was applied to determine whether the mean scores differed. The results are given in Table 5.

Table 5. Analysis results of control groups' pre-test and post-test scores

Test	X̄	SD	t	sd	p
Pre-test	147.234	8.369	1.564	46	.125
Post-test	144.702	12.529			

There is a slight decrease in the post-test scores of control group students. However, test results show that this decrease is not statistically significant (t=1.564; p>.05) (Table 5).

Findings of the Third Sub-Problem of the Study

Pre-test and post-test scores of the students in the experimental group were examined to answer the sub-problem "Is there a significant difference between pre-test and post-test scores of experimental group students." Since the scores of both tests showed normal distribution, dependent groups t-test was applied to determine whether the mean scores differed. The results are given in Table 6.

Table 6. Analysis results of experimental groups' pre-test and post-test scores

Test	X̄	SD	t	sd	p
Pre-test	148.934	10.339	-1.572	45	.123
Post-test	151.021	9.212			

Although there is no statistically significant difference between the pre-test and post-test scores of experimental group students (t=-1.572; p>.05), there is an increase in the post-test score (Table 6).

Findings of the Fourth Sub-Problem of the Study

Post-test scores of the students in the experimental and control groups were examined to answer the sub-problem "Is there a significant difference between post-test scores of experimental and control group students?" Since post-test scores showed normal distribution, independent groups t-test was applied to determine whether the mean scores differed. The results are given in Table 7.

Table 7. Analysis results of experimental and control groups' post-test scores

Group	$\bar{X}$	SD	t	sd	p	η2
Experiemntal	151.021	9.212	-2.766	91	.007	.077
Control	144.702	12.529				

Table 7 shows that the post-test score of the experimental group is higher than the control group. There is a statistically significant difference between experimental and control group students' post-test scores ($t=-2.766$; $p<.05$). The effect size of the difference is 0.077, implying a moderate effect (Cohen, 1988, p. 25). As a result, a significant difference with a moderate effect size was found.

Results

Regarding the results of the sub-problems, there is no significant difference between SAS pre-test scores of experimental and control group students in the first sub-problem. This finding shows that the experimental and control group students' scientific attitudes were similar at the beginning of the study.

In the second sub-problem, a decrease was observed in the control group's post-test scores compared to the pre-test. However, the difference between the scores was not significant. This finding shows that the instruction of the subjects according to the current curriculum did not cause a change in students' scientific attitudes.

In the third sub-problem, there was an increase between pre-test (148.934) and post-test (151.021) scores of experimental group students, but this difference was not statistically significant. According to this result, digital story-supported science application courses affected students' scientific attitudes positively. However, pre-test and post-test scores of the experimental group students did not differ significantly, showing that digital story applications do not have a statistically significant positive or negative effect on scientific attitude levels.

In the fourth sub-problem, a significant difference was observed between experimental and control group students' post-test scores in favor of the experimental group. This significant difference shows that digital story applications in science applications course significantly affect students' scientific attitudes. In addition, supporting science applications courses with digital storytelling was more effective on scientific attitude than instructing it by adhering to the current curriculum. According to the calculated eta square effect sizes, approximately 8% of the observed variance of students' scientific attitude scores was related to digital storytelling.

Conclusion

The role of digital technology applications and tools in our daily life has become increasingly important day by day. Digital technologies can be defined as all kinds of hardware and software devices that facilitate communication, access, transmission, and storage of information in the digital environment (Mercader et. al., 2020, p.1). Digital technologies are of vital importance in our lives and many organizations, such as educational institutions. Digital technology provides flexible, ubiquitous, on-demand, and online access in education, especially in this challenging period. The pandemic has re-emphasized the importance of digital technologies in our lives, increasing the use of technology-mediated environments. This situation requires us to make radical changes in our education and training systems. The transition to online and digital education formats, distance education, and learning processes became critical. The competencies and skills expected from the learners and teachers have changed due to the developments in technology. Digital storytelling is thought to be one of the methods that will enrich the learning environments of 21st-century students and contribute to the development of the educational process with digital technology.

In the current study, post-test scores of the control group students showed a slight decrease compared to the pre-test scores, but this decrease was not significant. It was concluded that the instruction of the science applications course according to the current curriculum and with the traditional method did not affect students' scientific attitudes. Similarly, Baran (2013), Emren et. al. (2019), and Mutlu (2012) concluded that traditional methods did not cause any change in students' scientific attitudes.

Considering that both environmental and individual factors are influential in the development of scientific attitude, the use of the existing potential of people, institutions, and opportunities that constitute an individual's environment will encourage them to do science and help them to look at what is happening around them from the lenses of science (Şan et. al., 2013, p. 438). The change in students' environmental factors that occurred with the pandemic may have prevented control group students' scientific attitudes from increasing. Regarding the difference between experimental group students' pre-test and post-test scores, it can be said that supporting science applications courses with digital storytelling positively affected students' scientific attitudes. However, it did not cause a statistical difference. It is thought that total score analyzes were insufficient to explain the reasons underlying this result, and a more detailed analysis of the sub-dimensions may be more meaningful.

Finally, the review of post-test total scores of experimental and control group students showed a significant difference in favor of the experimental group. This difference arose from the decrease in the post-test scores of control group students and the increase in the post-test scores of experimental group students. Similarly, Kim (2019) found that digital storytelling had a statistically significant effect on students' scientific attitudes. This study's conclusion that digital storytelling positively affects students' scientific attitudes overlaps with the literature.

In this study, the implemented digital stories had a positive effect on the scientific attitudes of the students. Regarding the studies in the related literature, many studies concluded that digital storytelling affects students' attitudes positively (Bilen et. al., 2019; Demirer, 2013; Dinçer, 2019; Hung et. al., 2012; Yang et. al. 2012; Yoon, 2013). However, the number of studies in the literature investigating the relationship between digital stories and scientific attitude is very deficient (Kim, 2019). The literature includes some studies concluding that STEM applications (Admawati et. al., 2018; Setiawaty et al., 2018) and science applications courses (Çanak, 2017; Öner, 2015) improve students' scientific attitudes. In line with the findings obtained from the current study, digital story application is thought to improve the scientific attitude.

The study's limitations can be outlined as follows: it is limited to the science applications course opened in the fall semester of the 2020-2021 academic year, with experimental and control groups from 7th-grade students of a state secondary school in Eskişehir province Odunpazarı district. It is limited to the Scientific Attitude Scale (SAS) and digital stories used in the study.

Recommendations

Based on the results obtained from the study and the researcher's experiences, the following suggestions are submitted to be beneficial for the researchers in future studies on digital storytelling.

- There was no significant difference between the pre-test and post-test scientific attitudes scores of control group students. It is recommended to review existing programs for improving scientific attitude.
- There was a significant difference between the post-test scores of experimental and control group students. In this study, the digital story application process was carried out in a total of eight lesson hours in four weeks, using two lesson hours a week. The effect of the application may further be analyzed by extending this process.
- In this study, twelve digital stories involving the units of the solar system and beyond, cell and divisions, force and energy, pure matter and mixtures, the interaction of light with matter, and electrical circuits were prepared and used on 7th-grade students. Different digital stories can be prepared for different units and applied at different grade levels. Studies examining the effects of digital stories in different courses, at different grades, and with different variables can be conducted.

Acknowledgments or Notes

This study, named "The Effect of Digital Story-Supported Science Practices on the Scientific Attitudes of 7th-Grade Students," was produced from a part of the thesis written by the first author under the supervision of the second author.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

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Social and Individual in the Education Vision of 20th Century - An Analyse of the History Textbooks

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Abstract: Our paper proposes a theoretic approach of the education in Romanian society, especially of the study of history, from the communist regime until nowadays. For this issue, we analyzed the history school textbooks which were edited in 20th century to be used in the secondary and higher schools. The schoolbook is an education tool which has in general a bigger impact to students' consciousness and behavior. Our study starts from the premise that the schoolbooks have been also an important ideological tool, used by the politic regime to influence the social attitude. As a consequence, the schoolbooks need to be analyzed from the political intentions. The paper proposes some notices focused on the understanding of the vulnerability concept from the political ideology perspective, the evolution of it, as it is reflected by the history schoolbooks speaking about society and individual. For this reason, we think our paper is a real support of the actual theoretical and practical concerns about the modern and equitable social principles. Our notices can contribute to increase the quality of human interactions, to social responsibility and to promote a correct connection between vulnerability and social attitude in actual human society.

Keywords: Ideology, Individuality, Social attitude, History schoolbooks

Introduction

The relationship between society and individual represents one of the most frequent issues of social and human sciences. Certainly, it is not frm the same perspective of analyzing. History, for example, approaches this issue from two perspectives, the events perspective, conditions and implications (1) and the political objectives and decisions (3). But the diversity of social, cultural and interpersonal relations is still a challenge for the actual historical researching. As the research on the tools which express indirect the political willingness of central government; studying these tools is a perfect opportunity to find out the unofficial and indirect modalities of the central government to act from its political ideology.

In general, the relation between political ideology and education is not so clear expressed in the official political documents (Momanu, 2005; Croghan, 1980; Doncheva, 2016). Apparently, education is not a practical tool of political ideology, but the mission and ideal of education depend by the political decisions, intentions and acts. This situation should be more obvious during totalitarian politic regime (Arendt, 2017). There is, nonetheless, an affirmed connection between the governing political party and young generation: the first one has the duty to guide youth to become able to defend the good of the people". For that, the central government could justify its "covered" action over education process, using three control ways: over the scientific contents, selecting the favourite facts, events and reinterpreting them from an advantageous perspective (1); over the emotions, values and attitudes for ensuring the people patriotic consciousness and behaviour (2); over scholar publishing (3). For better understanding of that, it is requested o short presentation of the communist aspects which were specific to Romania.

In the Romanian space the communist regime was gradually instituted starting in 1945, firstly as a political and military pressure from the Soviet Union and later as an action of Romanians communist leaders and sympathizers (Scurtu et al., 1999; Cernat, 2004). From 1965 to 1974 was a brief relaxing of internal repression and an opening relationship with western countries and more independent towards the Soviet Union. Following this episode of liberalization, until December 1989, year of Romanian Revolution for freedom and democracy, the communist regime became more repressive, a totalitarian governance. It was what's called the ”Ceausescu dictatorship”. From the year of 1965 Nicolae Ceausescu assumed political powers, becoming both the President of Romania and the General Secretary of the Communist Party. His wife, Elena, became the First Vice-Prime Minister and Chair for the National Council on Science and Education. During Ceausescu dictatorship (Almond, 1992) Romania became a heavily centralized and tightly controlled political and socio-economic system. It means that all decisions, including educational policy, were made at the highest levels of government. In addition, the human fundamental rights and freedoms were annulated and exchanged with ideological norms, values and principles. As a left extreme ideology, the communism in Romania was conducted by the social equality principles which act for uniformization, obedience, class fight (irreconcilable division between the „bourgeois‟ and the „labours people”), giving glory to political leader, Communist Party, country and people.

Certainly, the communist regime used different modalities to grow-up, to develop and mention its power, to have and keep completely the people obedience (Radu, et. al., 2016) which can be structured on two models: terror, manipulation, physical repression, detention, assassinate (1), propaganda, persuasion and manipulation (2).

Regarding on the education, communist principles were focused on the construction of the „multilaterally developed socialist society”, expressing more fully the human personality, a harmonious combination of personal interests with the general aspirations of the whole society”. For that, the communist regime was interested to create a centralized system of education that would link higher education to the needs of the centrally planned economy.

In Romanian educational process, the communist regime used different strategies (Radu et. al., 2016) which can be organized in 3 categories. The first of them is focused on the teachers who must be a moral and multilateral developed model for students and society, a perfect example of the ”good behaviour, attitude, feelings and convictions”. The second one is focused on the teaching/learning activities and process: the teachers' mission is to oversee the educational process in school and afterschool for communist principles triumph in people life. The third one is focused on all teaching and learning tools and material supports used in the school and after it; all of them must sustain the communist ideology. A good example is the schoolbooks, understood both as a student learning tool and a training tool. The last one, in our opinion, is extremely important for any communism analyses because, the schoolbook can substitute or correct the teacher discourse; it has many affirmations, images and historical examples which underline how it is good to act or not, to think and feel, even if the teacher does not intend to focus on them. This is a direct and indirect path to promote a certain lifestyle and thinking in society.

As can be expected, the schoolbooks, in particular the history schoolbook became one of the most effective ideological instruments of both the communist propaganda and political actions. They were associated with the politic regime and actions, and, as a consequence, they became very unpopular for the most of Romanian people. This can be a good explanation for the people negative reactions after December 1989, toward the value of those schoolbooks: the most of them were destroyed. Maybe, it is because the dictator's imagine was very unpopular and, on the first page of all schoolbooks the Ceausescu's picture was not ever missing. Certainly, it can be caused by a political decision (166 Article of *Penal Codes* from 1992 to 2009), that prohibited all the textbooks and books which develop in its communist ideology. That was the destiny of the history schoolbooks edited from the middle to the end of 20th century in the Socialist Romanian Republic.

It is known that history, like a past and future science offers to any interested ideology and politic movement enough argues, examples and human models for justify actions, gestures, decisions. Certainly, history can be a perfect modality for cultivating social and human relationship, proposing models of actions, of thinking, personalities and social and individual attitudes. In consequence, it is expected that the communist ideology had been interested by contents of textbook, especially what and how it is presented to young people, what feelings, perceptions, values they need to have. On the other side, central government and others supporters of regime have found those events, examples and models which must sustain the ideological perspectives, from a undesirable one.

Despite of it, the history schoolbook as a tool of communist ideology used in the schools is not a frequently issue on the scientific debates and studies. Generally, the studies are focused on the cultural action ways of communist ideology, including education principles, but not on the schoolbooks as a useful source for studying the manifestation of ideological politic, adaptation of its tools and subjects to the learner's particularities. Maybe, the explanation of why there are so few studies which have analyzed the schoolbooks is about the fact that all of them reflect the vision of the political government and the mission of the national education as every book, without specific modalities to adapt its. In our opinion, the history schoolbooks offer many interesting things about modalities of ideological politics acts and stages of their evolution, some didactical strategies for ideological propaganda, and techniques for adaptation of ideology to the learner's particularities, and so on. In order to capture these influences, we analyse the history schoolbooks edited during the Romanian totalitarian communist.

Method

This paper is based on the premise that the schoolbooks edited from 1971 to 1989 reflect the communist ideology, principles, values and feelings which have to orient the education of young people. Analyzing them should contribute to better knowing of communist educational intentions and their results. This is why we propose a theoretical research using the history textbooks which were edited during Romanian communist regime. The following approach directions were included in the paper:

- analysing the history schoolbooks edited in the communist regime from 1971 to 1989, comparing them and highlighting similar and particular aspects of them from the leading political principles;
- identifying norms, values, attitudes, thinking and feeling which the communist regime had intended to develop in Romanian school;
- identifying the communist perspective toward the relationship between social (collective) and individual and presenting how it is reflected in the history textbooks; also, highlighting a few strategies which were used for promote these models and values;
- highlighting the contribution of history textbooks which are edited during Romanian communist regime to the students' consciousness and behavior;
- identifying some educational aspects which were presented in the history schoolbooks for promote an attitude toward society and individual.

Intending to develop the abovementioned research problems we used the history schoolbooks edited in Romania from 1971 to 1989.

The paper proposes a presentation of Romanian history schoolbooks as a tool and strategy of the communist regime. The communism is an extreme leftist ideology and, in consequence it promotes the social equality even that meant to encourage the „classes fight", and the adhesion of people, solidarity, social and political responsibility. This is why the „individuality", „personal initiative" and „creative thinking" were not encouraged and appreciated.

Results and Discussion

The Schoolbooks as a "Mirror" of the Central Government

During the Romanian communist regime, the young people used a "unique" schoolbook; it was the same for each level of study, without complying with the individual potential and particularities of professional issues of secondary and tertiary levels of education system. In addition, this schoolbook was directly edited by the National Education Minister a national institute directly subordinated to central government.at own publishing house and, only in a few schoolbooks is mentioned the author name (or group of authors) of them.

On the other hand, the textbooks from Romanian communist regime had not evident changes from an edition to other. Maybe it is a consequence of censorship action that is interested by keeping the accepted scientific contents, or, very possible, the authors fearing by censorship keep themselves these similar interpretations or scientific contents. It is well known that the totalitarian censorship was really active in the education and cultural production: if an author did not respect the communist principles and values or written about what he wished, the communist censorship stopped publishing process and this author could be chased by the political police and punished. Keeping some ideas, theories, points of view the authors could not fail.

On other side, the schoolbook like a "trusted educator" could have substituted the teacher intervention regarding on the communist principles, attitudes and values. Having many examples of correct thinking, what the students need to know, feel and act, the textbook can be itself a "good teacher" for younger people.

It is interesting that at the beginner of liberal govern, after the fall of communist regime in Romania, the history textbooks edited in 1990-1998 still kept the most part of contents from textbooks edited before them, as we can have noticed in the next sections of this paper. For better understanding of schoolbooks as an education tool of leading political regime, we propose a comparison (Table1) between history schoolbook edited during totalitarian regime (communist ideology) and those which are edited after this period (democracy regime).

Table 1. Unique schoolbook vs alternative schoolbook

Criteria description	Unique Schoolbook	Alternative Schoolbooks
Editing	• one handbooks publishing house which belong to central government; • one curricula for each educational level; • one school syllabus for each educational; level, regardless of the professional domain of school	• more publishing house have permission to publish schoolbooks; • any of specialists (teachers or researchers) can propose a schoolbook for publishing; • curricula is adapted for each educational level and professional domain of school; • curricula allows to be developed, according on the students option, their preferences and own potential; • there are school syllabus adapted for each educational level, having a dynamic and open character
Scientific contents	• military and political events, facts with European and international impacts, collective acts and decision: • generalized affirmations; • cult of personality (of political lieder)	• historical contents with national, European and international impacts; • collective and individual acts and decision; • some researchers opinions, interpretations, analysing directions; • individual and collective models
Pedagogical aspects and impacts	• phrases which have emotions in words (writing what emotions the students have to feel); • applications which develop to students ability to remember the historical events and facts; • contents and application which are focused on the consolidation of information; • communist symbols as national ones on the first pages; the picture of communist leader or one of the patriotically poems written by him, or a short speech of the one of Official (”solemn” and „grandiose”) discourses of him	• phrases which have the emotional impacts; students are encouraged to reflect about it; • applications which are focused on the research capacities that develop to students ability to work with information, to construct a discourse, to interpret and use the information in new contexts national symbols on the first page

As can be noticed, the both schoolbooks categories are focused on the collective responsibility, but each of them from two different perspectives: the first one, relating to the sacrifice, duty, loyalty and obedience towards politic party and its leader; the second one relating to civic responsibility of each individual. Besides, the schoolbooks from communist regime have intended to sustain the collectivism not individualism, like it is in a democratic regime.

Even if it was not efficient for develop students' competences, the unique history schoolbook was very useful for ideological propaganda and political survey of learning process. For example, using this schoolbook the students could notice if there is any difference between the notions transmitted by teacher and learning contents and, in consequence they could learn „correctly" or inform about any unconcordance other persons, especially the head of school.

Having many "good models" of what the students need to know, feel and act, the history schoolbook is both a "silent teacher" and "a filtering mechanism" that protects the correct knowledge. In fact, in many cases, the introduction of schoolbook mentions about the role of history, in general, and of history textbook in special. For example, starting to the theory of Marxism-Leninism, the history textbook has the role of "educator for people", he needs to teach younger generation the patriotism, national solidarity; he is a tool of patriotic education, of materialism principles. The discourse of history "is based on the documents", but they are not described or explicated how they are used relating about events and personas. In this way, the reality can be falsified easier.

Table 2. Collective and individual as notions

The structured elements of communist ideology	Scientific and pedagogic contents
• History - a "Judge" of human action and a Correct collective memory • History is "a perfect teacher for people"	• history is the judge who punishes all actions that are against the Romanian people evolution (Almaş, 1986, 5, 47-48, 94) even if it is about the kings or humble people; the judgement of history acts upon individual or collective decisions and actions; the people must be themselves irreconcilable with injustice, parasitism, dishonesty, cowardice and weakness. Undoubtable, the judgement of history is the judgement of people; • „the history schoolbook is a book which needs to be loved and learned by each human being";
• History is a social regulator: it decides if an action was good or bad, it judges and punishes or rewards	• history is a teacher of people; it educates young people in the communist spirit: patriotism, social and international solidarity (Daicoviciu, Teodor, Cimpeanu, 1982, 8), equality and liberty between nations, labour and fight as a people duty (Georgian, Neagu, Nutu, 1978, 70,74,78; Almas, Nicoara, Vianu, 1985, 7); • history seems to be the best way of knowing, thinking, feeling and acting; the history is loved by the people, so students have to do it, too; • history is the collective memory that keep and teach about the people life and actions (Almaş, 1997, 3; Daicoviciu, Teodor, Cimpeanu, 1984, 126); it glorifies the individual actions for "gold future of country", "the offering and labour" (Almaş, Fotescu, 1971, 64)
The Romanian individual initiatives are included in the European and international movement and actions	• Romanian medieval culture is mentioned in connection with European culture (Daicoviciu, Teodor, Cimpeanu, 1984, 160,146; Pascu, Bodor, Boşcăneanu, 1989, 82); • particular actions are included in the national ideals: unity and independency (Almaş, 1994, 30); • political leader actions are understood in connection with political actions and intentions of the great European powers; • the Romanian greatest cultural creations are mentioned as the greatest cultural creations of humanity, but there is not any explanation, argues or details (Bichman, Vasilica, Lucia, Constantin, 1991, 73,77); • the communists from Romania was presented in connection with presence of the workers from Europe (Hurezeanu, Smarandache, Totu, 1988, 191-193; Petric, Ionita, 1983; ME, 1980)

Human rights and liberties are manifested by the collective perspective	• the universal suffrage and agrarian reform were given to the people because the king was afraid by a popular revolution (there is not any references to the individual advantages and impacts (Almaș, Fotescu, 1971, 219); • individual economic initiatives generate the inequality, abuses that encourage the fight for justice of communists (Almaș, Fotescu, 1971, 224-228, 247); • Romanian royalty and capitalists were those persons who were responsible for mention of old ordinances (feudal norms) and deceleration of the society progress (Almaș, 1986, 244; Daicoviciu, Teodor, Cimpeanu, 1987, 73, 77, 82, 79); these ideas were reinforced by the Enlightenment in France as the famous philosophers Voltaire and Rousseau who accused the royalty and feudality and proposed as correct solutions the good rules or revolution; • "the heroes" are those persons who were fighting for liberty and justice (but it is not specify what means that) (Daicoviciu, Teodor, Cimpeanu, 1987, 27); • the proletariat is the most dynamic social force that have power to change the society for it good; instead, the landowners constitute the most reactionary social category; • the capitalism exploits the humanity and violate the natural rights of every citizen; • the Church is presented as a force based on the people superstitions that follows to dominate the society and even to commit abuse (Georgian, Neagu, Nutu, 1978, 78,83)
There is predominantly the collective character; the individuals are mentions as a representative of the collectivity	• ideas of creators of art and culture subordinated to the consciousness of the unity of nation (IX 89/82, to the glorify the people sacrifice and bravery (Hurezeanu, Smarandache, Totu, 1989, 82, 103); • revolution leaders from 1848 (as individualities) had the people support (as a condition of their success (Hurezeanu, Smarandache, Totu, 1989, 54); it is also the political leaders case (Hurezeanu, Smarandache, Totu, 1988, 68, 71); • socialists people were present at all important historical events, even at the Revolution of 1848 (Hurezeanu, Smarandache, Totu, 1988, 93,94); • the qualities of each Romanian medieval politic leader are mentioned from the same perspective: fighter, organizer, diplomat, society defender (Daicoviciu, Teodor, Cimpeanu, 1984; 73, 77, 82; Petric, Ionita, 1983, 26, 79); • there is underlined the family solidarity, the common habitudes and desires, not the individual needed (Hurezeanu, Smarandache, Totu, 1989, 38); • sometimes, to justify the people antipathy for the royalty it is underlined the hard life conditions of people (Hurezeanu, Smarandache, Totu, 1989, 160, 167); • a permanent model of Romanian heroism is the solder; he is glorified and decorated for him qualities: courage, sacrifice, bravery (Daicoviciu, Teodor, Cimpeanu, 1982, 102);

Collective and Individual – Reflecting the Communist Ideology

Regarding of the people, the most frequently notions used in the unique history schoolbooks are those which reflect "the crowd", "society", "nation", so the "collective" notions, not the "individual" ones; the references to „individual" are very limited and it is made from the collectivism perspective. For this reason, we think is better to use the notion of "collective character" for all "individuals" who were mentioned on the schoolbooks contents. An analyze of what and why are mentioned all of these notions should be relevant for understanding

the education communist perspective about the relationship between society and individual. In the following Table, we noticed a few of these mentions.

From Table2 we notice the prevalence of common dimension of every action, initiatives and impacts. More that, there is not any individual character; all characters are presented as a collective character. For example, there are "intellectualities", "bourgeoisies", "workers", "peasants", not individuals from those social and professional categories. On the other side, the manifestation of the cultural specific is presented from European cultural perspective, as a European component, not as a specific one.

Society and Individual as a Relationship

Intending to identify the relationship between the individual and society, we notice some particular aspects that we are included in the following Table 3. As can be noticed, the history schoolbooks encourage students making a connection between the own conscience (ideas, representations, feelings, attitudes) and the social existence (relationships, the conditions in which people live and act). As it is known, one principle of the communist ideology was the collectivism comprehended as a comradely mutual aid („one for all, all for one"). For that, it was used some techniques to influence the students learning respecting the communist ideology. The most frequently of them are the following:

Table 3. Collective and individual relationship

Centred Ideas	Specific references
Individual duties are common ones	• the duties of all of people are to be bursting with pride and affection for ancestors sacrifice and great actions; • the students duties are the following: working, learning, keeping the pride for ancestors (Almaş, 1994, 11-18; Almaş, 1997, 5); • generally, historical Romanian individuals were „good soldier", a „fearless", „freedom-loving" and "brave". After 1989, in the history schoolbooks were used the same expressions, especially in the examples of Romanian Voivodes and Lords. For example, after 2003 year, the Romanian medieval leaders imagine were more simplified; it is mentioned their facts and events and only a few leader qualities; • working is a duty of people and a national proud; love working means develop solution for progress of society (Georgian, Neagu, Nutu, 1978, 7); • „a good citizen works and learns in the school and in life" (Almaş, 1986, 5); • the people role is to assure the progress and national liberation; • the greatest historical actions are focused on the people rights and freedom, meaning the independence and unity (Hurezeanu, Smarandache, Totu, 1989, 85)
Individual responsibility means community responsibility	• the famous political or revolutionary leaders actioned only thinking to the need's people and county; they're responsible to the people and country (Almaş, 1997, 57); • all textbooks relate on the death of Romanian voivodes like a sacrifice for people and country; • the each social category had the own responsibility: the peasants work in the fields, guarded the domestic animals, cared for the public roads, aided to construct the fortresses, become soldiers and were fighting for freedom and right (Almaş, 1994);

Requested attitudes and values, behaviour models and antimodels	• political leaders have to oversee the well-development of society (Almaş, 1994, 22; Daicoviciu, Teodor, Cimpeanu, 1984, 131); • regarding on the individual acts or social category unpleasant by the communist regime, it is used the phrases with negative connotation; the boyars were living in the luxury and waste (Hurezeanu, Smarandache, Totu, 1989, 29); • bourgeois and king are the bad people, they lived careless and had a life of luxury. Besides, proletariat people were presented as a creator of modernism in Romania. As a consequence, people need to have an irreconcilable struggle against bourgeois ideology, more egoist than social one. Very often the social revolts were presented as a fight against to the rich and powerful; • the positive attitudes are linked by the solidarity, good of community, people membership in the social life and community (Hurezeanu, Smarandache, Totu, 1989, 32, 79, 85); • history is about how the people were living: fighting, working and learning (Almaş, Fotescu, 1971, 3); • the people must be proud with their ancestors, language, beauty and rich of their country, popular costumes, traditions and to defend them, to worship, graced them, to work for develop them; • heroism is a quality of simple men, not only for leaders; the supplementary texts put accent on their sacrifice and their abroad appreciation; • unity is a logical necessity, one of the history objectives; for progress of society and a good life of people, a solution is solidarity between people (Hurezeanu, Smarandache, Totu, 1988, 19); • unity makes possible the develop of the production forces (Petric, Ionita, 1983); • be proud with beauties of country, riches of its, with language, ancestors, national costumes; all of them must be defended, it was a national duty to fight for them with others (Almaş, Fotescu, 1971, 14, 65)

- the cliché eulogies and insincere expressions of politic affection written as a result of scientifically thinking and a right judgement;
- the recapitulative questions which encourage the learning of words and phrases for express patriotic feelings, not to express them;
- all examples relating to the individual initiatives are correlated with the central and collective decisions, feelings and actions;
- the phrases which repeat obsessive the communist desiderates: labouring is a duty of people and a national proud because in this way it is possible to build the correct attitude toward society;
- contents of schoolbooks mention clearly that the individuality is appreciated only from collective perspective;
- the specific symbols, phrases and models used and repeated obsessive in the schoolbooks are a method of the communist education to construct a political culture in support of its authority;
- contents of history schoolbooks (historical examples, facts and models, generalized phrases) mention about the New Human qualities which can be resumed to the social and politic integration (hard-worker for society, brave, wiser, strong, honesty and truthfulness for collectivity, simplicity, and modesty in public and personal life, freed by any religious ideas and superstitions);
- the information is written according to the level of understanding of students: for the first four classes, the content, seems to be ”a dialog with an authorized person”, was accompanied by many pictures and drawings, if ever a few of them are confused; for universal history schoolbooks from the rest of classes the content is more scientifically, without so many metaphor, figures of speech and plastic expressions; important was memorising of information not understanding why they must be known;
- mentioning as arguments the „sources of documentation” (without any details about them or arguments) and „experience of past”, the students understand history as the correct way of knowing, thinking, feeling and act; writing about the fact that ”history is loved by the people”, the students understand that they have to do it, too. Some information are presented as conclusions which do not have to be checked, the students have to learn it by heart, not in a critical way, not questioning. Very often, using the quotes from Nicolae Ceasescu speeches is enough to guarantee the historical trues and correct thinking, feeling and act;

- the most of supplementary texts (”Lecturi”) tells about the social / collective actions, famous fights of people, courage and active spirit of the industrial workers, braved soldiers, individual sacrifice for good of people, country and politic party;
- content of history schoolbooks emphases the collective hero model (intellectuals, villagers, industrial workers) who scarified himself for national right, prosperity and progress.

Conclusion

History schoolbooks are a veritable tool used by communist regime as an education and informational support for the communist principles. The information, illustrates, examples and pictures, the applications and supplementary lectures, the structure and contents of history schoolbooks have the communist „signature”. In this way, using them the students generally did not able to make any distinction between education and propaganda or indoctrination.

Analyzing the schoolbooks contents it can be noticed that the communist ideology was interested to guide the people education for realizing two essential objectives: having the people obedience to the Communist Party and political leader (1) and having the control of society and individuals, to influence the people life, thinking, feeling, attitudes and behavior (2). As a consequence, the history schoolbooks became a tool and technique to encourage the people reaction to sustain the communist regime. On the other side, as was highlighted during this paper, the main strategy used by the regime communist in the education process was the students persuading and manipulating to be integrated into communist structures. For that, it was used different convincing techniques, which had been already abovementioned. But, we need to underline one more, the interest to link the communist realities to the people past, as a condition of continuity. In this way, it was used three modalities: the past glorious acts of people are evidenced by contemporary regime as acknowledge of them (1); people contemporary duties (means communist ones) are to fight against to all things which threaten the politic regime (communist), like the ancestors facts (2); „past proves” for understanding of communists as a continuator of great past people (3). Certainly, it is essential to mention all of these aspects not to argue or explain them.

All notices conduct to the conclusion that the communist education is well reflected on the history schoolbooks.

Scientific Ethics Declaration

The author declares that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the author.

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Tales From the Dead: Women and Health in a Kurdish Women's Prison

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Abstract: We conducted interviews with nine women incarcerated in the Sulaimani prison for women. We asked them about their past and present lives, and about their physical and mental health. Neither the prison itself nor the women's lives bear any resemblance to the way in which prisons, especially Middle Eastern prisons, are portrayed in popular culture and in the media: the inmates had only praise for the prison food, housing, grounds, staff, and policies, they suffered deeply from their severance from kinship; many expressed their suffering somatically. The importance of one's family role and family identity in Kurdish tradition cannot be overstated, and stripped this identity, the women live in a state of resigned limbo. Relationships between inmates were civil but shallow, and no interviewee revealed any sense of individualism or self-determination that would allow her to start over, remake herself, or build a new life.

Keywords: Gender, Family, Mental health, Prison

Introduction

The prison for women and children in Sulaimani (Barewbarayty chaksazy zhnan w mndalan, literally the Directorate of Women's and Children's Reform) is a clean, well-managed, attractive, humane, and even kind place, complete with the mechanism for true rehabilitation, i.e., education. Despite the positive atmosphere, we were also struck by the liminal existence of all nine women we interviewed. Whether incarcerated for a few weeks or for years, and whether scheduled to be released within the year or sentenced to death, all of the inmates were isolated in body and spirit from their home community and at the same time unable to form any deep community in prison. They had lost the close kinship of their families, and kinship was replicated only in very superficial ways in prison. One of the long-term inmates, Ms. Roonak, considers herself as dead. She is like a bird in a cage, she tells us, at first tying to escape the cage, and now used to it. "How can I have hope?," she asks us. "I am telling tales from the dead."

Indeed, despite the prison's pleasant touches—the cheerful murals, the helpful guards—the inmates have condemned themselves to social death. The cultural contexts of female shame, of suspicion of outsiders, and a lack of being able to make oneself over—that is, of the inability to escape the identity into which one was born—result in living life as ghosts: invisible, inconsequential, and isolated. Their deep regrets, their resignation, and their crushed dreams manifest in a wide array of psychosomatic issues—psychosomatic in the sense of the interrelation between mind and body. This prison setting would never transfer into a good drama, nor is it fodder for a journalistic expose. Only the ordinariness of the women's lives, even in their deep withdrawal from society, is notable. They exemplify and affirm the constraints of their society in every way. At the same time it is these constraints that form their resignation and self-imposed exile.

Project Overview

We visited the prison each time as a trio: Ms. Goshan Mohammed, who is fluent in Kurdish, conducted the interview, and later carried out additional interviews of the prison staff and administration. Bilingual speakers translated for Dr. Lynn Rose, who took and transcribed the notes. (We thank Ms. Roza Aziz Abdullah, Mr. Davar Mohammed Abdullah, and Mr. Shko Shwan Fuad for their translations.) Interviews were strictly voluntary. All names of the prisoners are pseudonyms; this is the only element that has been altered.

Timeline

We began this project in the summer of 2018, submitting and receiving Institutional Review Board approval in July. We began the interviews in early October 2018 after receiving permission from the prison management and after an introductory session with all the prisoners, explaining our project to them and fielding their several questions. Six interviews took place between October 2018 and February 2019. Because of tightened regulations from the Ministry of Social Affairs, the final three interviews, between March and May 2019, were monitored. After May 2019, regulations tightened even more, and we would have had to seek permission in person from the Ministry of Social Affairs in Erbil before we would be admitted again. At this point we decided to work with the nine interviews we had completed.

Limitations and Constraints

There were, of course, limitations and constraints to this project. While the prison directors and staff were always welcoming and accommodating (and we thank Ms. Umeda Abdulrahman, the director, Mr. Fuad Jaza, the deputy director, and Ms. Kwestan Anwar, Mr. Akeel Ali, and Ms. Rozh Jamal, social workers) this was, in the end, a prison. While we were allowed to take in our own paper and pens, we were not allowed to use a laptop, or to take photos, nor were we allowed to record audio or video. As a result, we have only short direct quotations from the interviewees. We were forbidden to ask the inmates about their crimes, though they were free to volunteer the information. After completing the required paperwork and starting the interviews, the regulations tightened, and we had to interrupt our work while more paperwork went through the Ministry of Social Affairs. After this, a member of the prison staff was required to be present during our interviews; in our case, this was a young, quiet, and polite art teacher. Although not intrusive, and while we do not believe that her presence swayed our three interviewees, we would have preferred not to be monitored. Finally, this is a small number of interviewees. This essay is a narrative overview, not a statistically representative report. Ours was a pilot project out of which more thorough investigations should, and we hope will, be conducted, both in this prison and beyond. A 2018 account of female prisoners in Erbil, Iraqi Kurdistan's capital just three hours north of our home, the city of Sulaimani, painted a similar dreary picture. "These women have lost all hope in life, in their families, in the food they eat and the things they see," report the Wadi Erbil Team members Kurdistan Rasul, a social worker, and Payam Ahmed, a lawyer ("Lost all hope," para. 6).

The Prison

The prison has a capacity to hold fewer than 100 women. A few are condemned to die by hanging, though the sentence is rarely carried out, and is understood to mean life without parole. About a quarter of the population at any given time falls into each of the four main criminal categories: white-collar crime such as embezzlement; drugs; prostitution; and murder. Of the first two, the crimes are usually committed under the direction of someone else, ordinarily a man, as a small part of a larger scheme. Drug transport, not use or sales, is the most common of drug charges. When the economy is bad, as it often is, the incidence of prostitution rises. Women rarely work as prostitutes in their own village or city, but are caught and convicted in neighboring cities. Most of the women who were sentenced to hanging and life sentences without parole had been convicted of murder. The most common murder victim is the husband.

Administration Background

Previously under the direction of the Kurdish Regional Government's Ministry of Interior Affairs, the prison was renamed the Office of Community Development in 1999-2000 and placed under the Ministry of Health and Social Affairs. When this ministry was divided in 2002, the prison remained under control of the Ministry of

Social Affairs. The prison serves Halabja Province and the Sulaimani Governorate, including the Raparin and Garmian regions. The regions of Erbil and Duhok, both under a political party that is different from that of Sulaimani and Halabja, have their own Community Development Offices.

Physical Surroundings

The prison is a small facility located approximately 30 minutes from the city of Sulaimani. It is located within a military province, surrounded by military institutes, training grounds, and official departments. In fact, the prison is a repurposed military building that was used in the time of the Ba'ath regime of the 1970s and 80s. The women's prison compound is directly adjacent to the men's prison, which by comparison is significantly larger and more fortified than the women's prison. The women's prison compound consists of a collection of four small buildings, one of which is allocated for the incarcerated women. Adolescent offenders are also held within this compound. The size of the compound is a stark reflection of the number of female and young offenders, as compared to male.

The women's prison consists of a single-floor elongated building and a small garden surrounded by a fence, with an iron framed door. The building housing the inmates is notably worn; the prison administration names the actual structure of the building as the feature most in need of improvement. Not only is it old, the administration tells us, but also it was not built with community development in mind. When entering through this iron door, there are small cubbies to the right for bread making, where the incarcerated women can bake bread as a means of income generation. In the middle of the buildings is a small lawn with a statue of a woman situated in the middle, and two locked rooms located at the far end of the garden, which we were told were once offices, but were now being used as storage rooms, and were crowded with furniture, papers, and boxes. We utilized one of these rooms for some of our interviews. When entering the main building, immediately to the left is the office of one of the social workers, Ms. Kwestan Anwar, a woman of considerable presence. The room is furnished with worn, comfortable chairs and sofas, and supplied with tissues and sweets for guests. We conducted some interviews in this room. When walking beyond this room through the small corridor, one is met with a desk where two female officers sit, who take visitors' names and escort them into the main part of the building. Through the large rectangular lobby, with iron doors on each side, is a light, open space, with colorful murals painted on the walls of gardens, plants, and a large portrait of the beloved Kurdish teacher and benefactor Hafsa Xani Naqeeb. There are phones attached to the right wall, and a few portable plastic chairs scattered here and there. Often we would observe the women congregating in this lobby, or sitting in small groups at the building's entrance. Indeed, there was a great deal of freedom of movement. When we toured the prison, for example, small groups of women would wander with us for a while, and then break away and go about their business.

There is a carpeted library at the end of the corridor, with plastic chairs, a large wooden round table, and three small desks with computers that appear antiquated but in use. The room is large enough to hold all of the inmates, and it was here that we spoke to the entire population of women to explain our project and recruit interviewees.

Directly through the entrance's iron doors are the cells. Each cell has six to eight bunk beds, many of which had neatly folded, colorful quilts and blankets at their foot. None of the cells was occupied at full capacity during the months of our research. Each cell has a shared bathroom space, consisting of some toilets and two to three shower rooms, all cleaned to a gleaming polish. We noticed that some of the bathrooms had been converted into kitchenettes. The cells were extremely clean and tidy, and minimalistic in terms of furniture and decoration. The walls, as in the corridor, were light pink, and the floors were tiled. The extreme cleanliness and the absence of personal touches gave the cells a clinical, temporary feel rather than a sense that this was home for the women.

The Interviewees

Of the nine women we interviewed, eight were Kurdish; one was of mixed Arab and Turkmen descent. All spoke Kurdish. The youngest was born in 1999, the oldest, in 1944. Five were born in cities and four in villages, but only two grew up and remained in their village before incarceration. Their amount of time incarcerated at the time of the interviews ranged from six months to 14.5 years, and their time remaining ranged from three months to 15 years, along with three who were condemned to life sentences, of which two including the theoretical hanging. Most interviewees volunteered their crimes: one was serving time for a white-collar crime,

and six had been found guilty of murder. One was probably in for prostitution though she did not choose to make that clear, and one, with a sentence of less than a year, did not reveal her crime. All of the women had had children, from as few as one (who was removed upon birth from her unmarried mother) to as many as nine. This is not atypical of the general population. The 2018 demographic survey found that "childbearing is universal among women. Among the ever-married females, less than 5% have remained childless" (Kurdistan Regional Statistics Office 27). As for marital status, one was unmarried, one married, four widowed, one divorced, and two remarried (one after divorcing her first husband and the other after the death of her first husband). This, too is typical; the same report tells us that "53% of females and males aged over 12 years are married" (Kurdistan Regional Statistics Office 24).

Professions before incarceration ranged widely, from tending chickens to nursing, from cooking and cleaning to office work as a government employee, from salon work to working at an NGO for child protection, and from being employed at a small shop to working in labor and delivery at a hospital. Without exception, the women said that all of their personal necessities were provided by the prison, and that the physical conditions of the prison were very good; for example, there was always enough water for bathing and cleaning. There were, it bears repeating, absolutely no complaints, even small ones, about any aspect of the prison.

The inmates ranged from circumspect to open about their lives. Even the most reticent, Ms. Solin, was willing to offer some information about her background and life before prison. While there are gaps and question marks in all the women's life stories, and while the stories were never presented in chronological order, we were able to weave together brief narratives, at least, of each, as follows.

Ms. Kazhal

Ms. Kazhal was polite and brisk, and did not volunteer many details, though she answered our questions willingly enough. Born in 1978 in Rania, she worked as a hospital nurse, for which she studied three years after high school. She married at 15 years old, at which time she moved to Erbil. While 15 is younger than average, it is not uncommon. A 2018 demographic survey finds that "the mean age at marriage for KRI females is 20.7 versus 24.5 for KRI males. There is also a difference of age at marriage between urban and rural locations, 24.7 versus 23.5 for males and 20.8 versus 20.1 for females" (Kurdistan Regional Statistics Office 26). Her husband, a member of the Peshmerga (the Kurdish military force) and three years older than she, died in February, 2014. "I loved him very much," she adds. She has six children, all boys, all of whom live in Erbil. Four are older and two are twins, born in 2013. She has been incarcerated since 2014. She did not volunteer the crime for which she was sentenced, but hinted that it stemmed from a family altercation. "A dirty man," she says, "ruins the environment. One bad person in the family is like having trash in the family. One trouble is everyone's trouble." She is scheduled to be released in 2022.

Ms. Pakiza

Ms. Pakiza's interview was monitored, but she did not seem to be bothered by the presence of the monitor or at all stifled in her responses to us, all of which seemed thoughtful and transparent. She was born in 1974 in Erbil, where she lived up until the time of her first marriage, at which point she moved to Kalar. Of her three siblings, her brother died in a car accident, and her two sisters remain in Erbil. Her father died in 1991; her mother is also dead. She was married when she was 12 years old, in an "exchange" marriage. These are marriages of reciprocity between two parties or families. Most often this means that one family agrees to give their daughter in marriage to another family in exchange for a woman from that family to marry the brother or cousin of the daughter they have relinquished. This tradition is framed as a protective measure for women in societies where women have subordinate status, because it strengthens socioeconomic interests, and provides social (and in some cases political) alliances. Exchange marriage is called "zhn ba zhn," which translates as "woman for woman," or "wife for wife." The practice has declined over the decades within areas of the Kurdish Regional Government, and social attitudes have become more intolerant of the practice, as the law reflects. The practice is now illegal and is categorized as a form of domestic violence, but, like other traditional practices, persists (*The Act of Combating Domestic Violence in Kurdistan Region-Iraq 2011*). Ms. Pakiza's exchange marriage resulted in three children; her husband then died, and his mother took all three children.

She described her second marriage, in 2002, as a "marriage of love," and she remains close to her husband. She is older than he is, "but he is fat, so people think he is older." (She appears startlingly young.) When they first

married they were so poor, she says, that he only had one set of clothes, which she washed every night. They had six children together, all of whom have stayed in Kalar.

When a friend of her second husband sexually assaulted her, she killed him. It was self defense, she claims, and she adds that she knew that her husband would kill him anyway. She regrets the murder. "Nothing is as bad as a murder. But the devil gets control of you and you get mad. Nothing is solved." The cousins of her attacker had connections with both the judicial system and Asaish, which translates directly as "security" and serves as the region's general domestic security agency and primary intelligence force. Because of these connections, she believes, she was at first sentenced to hanging, even though she claimed self defense in court. Her sentence was later reduced to nine years, of which she had served three years and seven months at the time of the interview. Her sisters now tell her husband that he should marry again, but "he has never thought about it."

In spite of her circumstances, Ms. Pakiza appeared to be centered and calm. She believes that all humans were created by God, but even so, "everyone has things in their life that they don't like. They ask, 'why did that happen? Is it something within me?' But no one is perfect." She suggests that people should look within themselves for the answers rather than blaming God. "She should ask: 'what do I lack?' 'Do I follow too much?' 'Is my thinking bad?'"

Ms. Solin

Ms. Solin was by far the most reticent of our interviewees. This interview too was monitored, and when our monitor left the room for a few moments, Ms. Solin refused to speak even a word until she returned. Her affect was wooden; her expression rarely changed. She answered our questions in the briefest way possible and offered nothing more. Ms. Solin was born in 1997 in Erbil. She worked at a beauty salon at some point. She divorced after being married for two years and giving birth to one son, who was one year old at the time of the interview. Of the nine women, she was the only to have divorced. A 2018 demographic survey finds that "marital dissolution is very rare among couples: only 1% of females and 0.2% of males is divorced or separated" (The Kurdistan Regional Statistics Office p. 24). She did not volunteer her crime, but told us that she has been in prison six months with six to go, and that she is serving this time in lieu of paying a fine. The son is with her ex-husband's parents. They don't bring him to the prison because they think it would affect him negatively. Her mother is dead, and her father is alive but doesn't want to see her, nor do her four brothers or four sisters. Ms. Solin only volunteered one piece of advice: "don't make mistakes, but if you do, don't try to get out of them."

Ms. Lana

Ms. Lana is the only never-married woman in this group. Her family put her asunder very harshly. A young woman (born in 1996), she wept through the interview, occasionally breaking down and being unable to speak. She had completed high school, scoring a 72 on the baccalaureate exam. This average score was high enough for her to have attended university, but then she became pregnant while unmarried. She gave birth to a daughter, who was taken from her moments after birth on her father's instruction, and placed in an orphanage; Ms. Lana was incarcerated immediately thereafter, and had served just under seven months of a 15 year sentence at the time of our interview.

As commonplace as it is in the west, it is unacceptable for a Kurdish woman to become pregnant while unmarried; sex before marriage is actually illegal. It is, however, unlikely that she would have received a sentence of so many years for it, though she did not volunteer the nature of whatever her crime was. It is possible that the crime was prostitution, which would have added institutional shame onto domestic shame. She will likely now be unmarried for the rest of her life, which is also unacceptable in traditional Kurdish society. The Kurdistan Regional Statistics Office reports that "at the end of their reproductive ages (15–49), less than 5% of females have remained single" (p. 26).

Her seven brothers and one sister want nothing to do with her and do not call or visit her. Her father will not let her see her mother, whom she misses desperately and sees only in her dreams. When people, meaning well, tell her that she should be happy that her mother is alive, she feels even worse. Ms. Lana gave no hint of being angry or embittered by the abandonment by her father or by any of her family. Asked if she had any advice for young women, Ms. Lana said: "Obey your parents. I didn't listen to my father."

Ms. Gashaw

Ms. Gashaw was friendly but reticent, and very matter-of-fact. Born in 1977 in Koya, she finished high school and earned a diploma in a technical field. She had been married for 17 years at the time of the interview, quite happily so: her husband gives her his full support, she says, and visits weekly. She has two sons, two and 16 years old, and a daughter, three years old. All of the children are living with their father, and they all have problems: the eldest son is not doing well at school because she is in prison, and none of her children visit her. She blames herself entirely for her prison sentence of one and a half years: "I made a mistake." It seems that she had an altercation at work—she was a government employee—with a colleague. She had served four months of her sentence at the time of our interview.

Ms. Amina

Ms. Amina was 21 years old at the time of our interview, and had been in this prison for only one month, having served almost a year in the detention jail. She was born in Kirkuk to an Arab mother and Turkmen father. She completed fifth grade at an Arabic school, and was married at 14 years old to a relative. It was not a forced marriage, for at 14, she had an image of marriage, from observing married couples on TV, as "make-up and dresses and being a lady." She bore two daughters, five and six years old at the time of the interview. Her husband was abusive, both verbally and physically, hitting her with a belt. Domestic violence is common; the General Directorate of Combating Violence Against Women recorded 375 cases over a nine-month period in 2019, but "like in the rest of the world, most domestic abuse and gender-based violence goes unreported to the authorities, so the extent of the issue is likely much greater than the date suggests" (375 Cases of violence, para. 3).

Her husband died when he was 27 years old. She also had a boyfriend, who murdered the husband, and who was murdered in turn. While Ms. Amina does not directly say the she killed her husband, she does say that she was "present at the murder," which led to her sentence of hanging under the charge of murder. She has many regrets, she told, us, crying and looking down most of the time, including telling her boyfriend that her husband was abusive. She is not proud that she had a boyfriend, but stated —breaking down as she did so—that she loved him very much. Her family accuses her of ruining the family, and while her parents bring her daughters to visit her once every five months, she misses them desperately. "When I think about them, I think it is better to be tortured by my husband than being here, without my daughters." Her advice to all women who are in abusive marriages, in fact, is that "nothing is worth getting a sentence of execution."

Ms. Roonak

Ms. Roonak was born in 1953 in Sulaimani. Her husband is dead. She has a certificate from primary school, and worked at Save the Children for five years, specializing in early marriage prevention. "I was a social woman. I enjoyed life." She had nine children and lost two daughters: one died from heart disease, and the other by self-immolation. Immolation, including self-immolation (cases of which may be only allegedly self-inflicted) is quite common in this area. In a period of only nine months during 2019, the General-Directorate of Combating Violence Against Women reported that 125 women were burned and that in addition, 81 burned themselves ("375 Cases of violence," para. 2).

After her daughter killed herself, Mr. Roonak told us, her life changed. "I felt like I was drowning and no one to rescue me, no way to escape." She committed the crime that led to her life sentence; though she did not go into the details of the crime, it was somehow closely connected to her daughter's death. Despite the tragedies of her life, she was calm and pleasant, perhaps because she had been incarcerated for 12 years at the time of our interview and was resigned to spending the rest of her life there. Still, she allowed herself some sadness during our interview, and cried when remembering her daughter. "I still feel her. She is part of my blood. I can't forget her. Here in prison, there is no mourning." She takes a lot of pride and comfort in her sons, one of whom is a doctor, the other a lawyer.

Ms. Rezan

Ms. Rezan, born in 1975 in Erbil, where she lived most of her life before moving to Sulaimani, wanted to marry her cousin (a common arrangement in Kurdistan) but her parents refused; they and her brother forced her to

marry someone she didn't love, or even like. She had served five years of a life sentence at the time of the interview. The circumstances, as she put it, were that "my husband was killed and the case led to me." When she was first married she couldn't get pregnant, but then bore two children. The girl, about 12 years old, lived with her deceased husband's family. They mistreated the girl, but when she tried to go to a shelter, she was not accepted. The boy is living with a step-brother of the in-laws. Ms. Rezan appeared to be quite closed to her emotions except when speaking of her children, at which point she cried, but stated that as long as her daughter continues to get good grades, she accepts the situation. Her advice to young women: "don't get married."

Ms. Xuncha

Ms. Xuncha, born in 1944 in Erbil, had served 14 years and two months of her sentence at the time of our interview. Because of her advanced age, she will be released prior to fulfilling her sentence of life in prison. She had two years and ten months left to go. She was 12 years old when she married. "Women above 55 appear to have married at earlier ages compared to their younger counterparts whereas no significant difference was assessed between older and younger men" (Kurdistan Regional Statistics Office 26).

She bore five children, of whom only two remain, one daughter and one son. Of her three daughters, one died of heart disease at age 13 or 14. He second was married at 14 to man who was 35 years old; she died by self-immolation at 17. The remaining daughter left "with a bad man" and now prostitutes herself. She returned to her family once but this man took her again; five months after that, Ms. Xuncha's husband died. Of her two sons, one ran away, and she learned that he had died while she was in prison. The remaining son, who has a "beautiful singing voice," is mentally ill. He sleeps in parks and spends time at mosques, where people feed him. Sometimes he visits the prison, where the guards also give him food. She was in prison, she told us, "because of my daughter's case," but did not go into details.

Daily Life

In contrast to the horrors of daily life in prison as portrayed in popular media but with some base in reality, the daily routines of the women, including the social environment and food, were free of horror to say the least. As noted above, all parts of the prison were notably clean. The prison administration believes that the cleanliness of the prison is because women, by nature, pay more attention to cleanliness. The administration provides the inmates with all the necessities of sanitation, including soap, shampoo, sanitary pads, all-purpose cleaner, bleach, washing liquid, hairbrushes, toothbrushes, and toothpaste. Washing machines and vacuum cleaners are also provided. The women receive new blankets each year, and new sheets every two months. Each year in winter and summer they receive a new set of clothing and underwear. Despite the pleasant surroundings and adequate supplies, however, there was little joy expressed around the routines, and relationships, though cordial for the most part, were shallow.

Social Environment

Michael Santos, in his accounts of his 45-year prison term in the U.S. *Inside* (2006) and *Earning freedom* (2012), details not only the harshness and violence of the U.S. prison system, but also the contrariness, ignorance, and corruption of the prison guards and prison administration. In my own (Lynn Rose) visits to prison in the U.S., I was routinely demeaned, delayed for hours, treated rudely, and, with fellow visitors, handled like cattle. By contrast, we found the guards at this prison to be brusque but polite, never insulting or cruel. Although it was not a specific interview question, most of the interviewees volunteered that the staff were very good. Ms. Solin commented that they are all "very helpful"; Ms. Rezan describes a good relationship with all of the prison employees; and Ms. Gashaw adds that "the employees behave well and are nice." Ms. Lana says that "no one should complain" about the staff or the conditions, and Ms. Roonak goes so far as to say, of one of the social workers, "I would give Mr. Akeel my heart." The administration treats her like a friend and a relative, she says, asking after her. Guards supply them with gum and cigarettes; Ms. Xuncha tells us that one of the guards helped her to buy medicine that she could not afford. The women who leave prison and return to their community do not maintain communication with the prison staff, although if they have issues reintegrating back into society, prison social workers will be in contact with them until their issue is solved.

In *A world apart: Women, prison, and life behind bars*, Cristina Rathbone (2007), drawing on extensive, in-depth interviews, shows us a dangerous and tense life inside two women's prisons, replete with fragile alliances

and frequent betrayals, deep friendships and romances, and danger and intrigue among the women. By contrast, the relationships among the incarcerated women we interviewed were remarkably free of drama, though also notably free of closeness and trust. The longer the woman had been incarcerated, the more guarded she was in her relationship with the inmates. Ms. Solin, having served six months with six months to go, had the most cheerful summary of her interactions with the inmates, whom she describes as friendly. "We are all sisters." (This is not a western-style statement of political sisterhood, but a cultural sentiment that reflects extended kinship, and is more formal than sentimental.) Ms. Gashaw, too, spoke quite positively of the relationships among inmates. She had been there for four months and was to be released in about a year at the time of our interview, in which she told us that all of the women have breakfast together and then sit in the garden and talk. Prison has been good for her, she says, because she has been exposed to a lot of different kinds of women, including condemned women. Ms. Lana, having served seven months with 16 years to go, spends time with the other inmates and reports that she feels less like a prisoner when she does so. Ms. Amina had been incarcerated for one year, with less than one month left. She reports no problems, claims good relationships with everyone, and says that the women sit, eat, and work together, and have labor divisions. Because she is young, everyone calls her "daughter" (a formal pleasantry). Everyone is respectful, she says, and there is mutual respect.

The longer the time the women had served, however, the more guarded they became. Ms. Pakiza, who had served three years and seven months of her time, told us that all of the inmates clean the prison together, and that teamwork is important. She has some friendships among the inmates, she says, but none very close. If she told them everything, she says, "they would talk." She adds that she is accused sometimes of being aloof because she doesn't want to get close to anyone, but she does not keep herself apart because of any sense of superiority: "I am the lowest, not the highest." If there is a conflict, she stays away from the person "for two hours or two days" and then she approaches and hugs them. She prays for everyone, especially those who don't know how to pray. "God is great," she says. She advises all women to "have a big heart. Everything can be solved by negotiation."

Ms. Rezan reported no trouble with any of the inmates during the five years she had served of her life sentence. Still, she is not engaged in any friendships, because there is an absence of trust, and she prefers to stay quiet. The only fights are verbal, and there are not many. She is comfortable in general, "but I AM living with prisoners." "If another prisoner hates you," she adds, "they will file complaints." Ms. Kazhal, who had been incarcerated for six years at the time of the interview, was extremely reticent about everything, and this reticence extended to the inmates, about whom she had nothing to say.

Between the two oldest women, who had been in prison the longest, there is a striking difference in their relationship to the other inmates. Ms. Roonak, who had been there for 12 years of a life sentence, stated that "some prisoners deserve to be prisoners." But she has no problem with anyone, because she stays busy, and because she chooses not to interact with anyone for fear of problems and fights. She has witnessed other prisoners fighting, crying, and making up; the one time she had a problem with an inmate, she requested and was granted a transfer to another room. The women gossip and make problems, she reports, and she observes this and tries to learn from the miserable ones.

In contrast, Ms. Xuncha, who has lived in the prison for over 14 years, reports that it feels like family. The women talk to each other about their problems. When a new inmate comes, they instruct her. Some want to be friendly but they don't know how, and she tries to teach them. She also teaches Kurdish to the inmates who do not know it. Even so, Ms. Xuncha distances herself from the other prisoners, cooking her own food and not sharing it with them, storing her own plates and utensils, and washing her own clothes by hand, separately.

Visitors

Especially because the inmates form few genuine close ties with each other, visits from their families are very important. Ms. Roonak has observed during her twelve years in prison that the prisoners who have visitors are easy to get along with, but those who are abandoned by their relatives are also abandoned by the other prisoners. As noted, visiting the prison was very easy, compared to any prison in the U.S. The prison is on the edge of town, but only a few minutes from the city. The guards at the checkpoints to enter the military compound, as well as those stationed at the entrance to the prison itself, are serious but not intimidating. The gender-segregated pat-down is carried out in private, and rarely; there are only hand-held metal detectors. No bags or phones are allowed inside, but the small gifts that we brought for the women (sweets, nuts, yoghurt) were usually accepted and distributed after being inspected. While not especially friendly, the prison guards are professional and polite. Still, few of the women had many regular visitors.

Ms. Kazhal's children visit from Erbil, about three hours away, coming once every two months. Ms. Pakiza's husband visits her from time to time, and she talks on the phone occasionally to her sisters, and every day to her children. Her children do not come to visit because their home in Kalar is too far away (about three hours), and she says that she fears that they might be in an accident—a real fear, given the state of the roads between Kalar and Sulaimani.

Ms. Solin's son does not visit her, because her parents in law, with whom he lives, believes that it would affect him negatively. In fact, no one in her family wants to see her. Ms. Lana, also, has no visitors. Ms. Gashaw's supportive husband visits weekly, but her children never visit. Ms. Amina sees her parents once every five months, at which time they remind her that she "ruined the family." Ms. Roonak has visits from her sons, but her other relatives don't come anymore. Ms. Rezan's daughter visits, rarely, but her son never visits. Ms. Xuncha's mentally ill son "finds his way" sometimes. He has memorized her phone number, and calls her when he can.

Food

Much of of the daily routine revolves around meals. The women eat together, for the most part, and Ms. Amina always does the dishes after breakfast. Not all the inmates enjoy this communal aspect, though. Ms. Roonak makes traditional Kurdish food for herself with the ingredients purchased by her family. Ms. Xuncha maintains even more distance between herself and the other inmates, as noted above. She buys her own rice, cooking it like a soup to make it last. She also washes her own plates and silverware herself, storing it all in a can underneath her bed.

Except for Ms. Rezan, who had no interest in any sort of food, all of the women preferred traditional Kurdish food, often naming a specialty: Ms. Pakiza is partial to dolma and kofta; Ms. Xuncha enjoys staples such as soup, bread with tomatoes, yoghurt, and tea. Ms. Solin likes everything but especially enjoys fried food. The comments about the prison fare did not vary much from one woman to the other. They were all satisfied with the quality and quantity of the food.

Perhaps the routine of prison dulls the sense of possibility. Ty Treadwell, who served time as a prison cook, wrote an account (with M. Vernon) of the requests for final meals of death-row prisoners (2011). The blurb for the book on the amazon.com page tried to make the contents sound spectacular—"One condemned man requested 24 tacos, 6 enchiladas, and 6 tostadas. Another wanted wild rabbit, biscuits, and blackberry pie," but in fact the requested meals were strikingly ordinary, perhaps because the ingredients had to be within the prison kitchen. Still, there were no requests with much imagination—nothing exotic by US standards, terribly specific, or even sarcastic.

The only suggestion of criticism of the food, from Ms. Kazhal, was that "it is based on the budget," and the only instances of women declining to eat any particular offering was not because of the quality of the food itself. Ms Lana eats anything, she says, but because of her emotional state doesn't have much of an appetite. Meat is served every evening, which is appreciated by everyone; only Ms. Kazhal does not eat much meat, she told us, for health reasons. Ms. Gashaw comments on the the variety of food, as did Ms. Amina, though for her it is a temptation to give in to overeating when she is depressed. At the other extreme, Ms Rezan is not interested in food, and lacks any appetite because of deep depression. Because of her heart problems and diabetes, eats only rice and fruit, and not much of that.

Pastimes

Here, too, there was very little by way of imagination or creativity. In general, in prison or not, Kurdish women are not encouraged to be creative or to think critically. In large part, women are part of the domestic sphere, and rely on repetition rather than innovation. The women's pastimes and hobbies were modest: they mentioned listening to the radio, watching television and movies, reading books including the Quran (those who were literate), praying, and baking bread. Bread making is very much a traditional Kurdish female activity. Ms. Roonak bakes bread just to stay busy, she says, even though her son doesn't want her to work in her old age (she was 67 when we spoke with her). Although in 2017 the Organization of National Centre for Human Rights sponsored a crafts fair in Sulaimani to sell jewelry made by female prisoners, none of the women we interviewed mentioned any such interest; the crafts fair may have been a one-time event (Handicrafts 2017).

Health

Everyone we interviewed had health issues of body and mind, ranging from mild and sporadic to chronic and severe. Sickness and health, just like food, is very much a family issue in Kurdistan. Health care is much more a communal activity than in the west. In the public clinics, for example, several women might have their gynecological exams at the same time, in the same room. During a hospital stay, the family is expected to be with the patient: one's quality of daily care depends upon it. So, while the women we interviewed had access to medical care, not many of them sought it out. They would have to go to the men's prison, next door, but that in itself did not seem to be the reason for avoiding the visit. Ms. Kazhal, 42 years old, tells us that her menstrual cycle has always been off, and she sees a gynecologist at the male prison with female guards inside the room and male guards outside. Still, even though she worked in nursing before incarceration, she has seen a doctor only three times in six years. For her blood pressure problems, she eats garlic, which, she believes, helps. She uses poppyseeds and oregano for her headaches. She had thyroid problems, but she did not seek further medical help after she had surgery for it. Like almost everything about herself, Ms. Kazhal did not offer much about her mental health, telling us only that she prays regularly and takes responsibility for what she says.

Ms. Pakiza, 46, had her six children by cesarean and has complications from that, but does not see a doctor. She takes painkillers at night, and she also uses sleeping pills, both of which are dispensed free of cost (and neither of which is narcotic). She also complains of problems with her blood pressure, but does not seek medical help for that, either. Ms. Pakiza says that her mental health is much better since her sentence was reduced from hanging; when she was condemned to die, she used some psychiatric medication. Now, even with her sentence reduced, she is sad. "When I miss my kids, I cry." During hard times, when she is annoyed and sad, she helps herself, as there is no one to help her, she says. She prefers to be alone and think, and she prays.

Ms. Solin has "very good health." The doctor visits the women's prison once a week, she tells us, and she only has to go to the men's prison to see a doctor if there is something critically wrong. Although not at all forthcoming with us, she did suggest that she thinks a lot at night, especially about her divorce, and cries. She can't sleep and is never happy. She has sleeping pills at night, and during the day, she deals with her thoughts by activities such as cleaning.

Ms. Lana has throat issues but not severe enough to merit a doctor. She saw a doctor once for her allergies, but she doesn't want to see any doctor again. Ms. Lana appeared profoundly depressed, crying throughout the interview. She has sleep problems, sleeping either too much or not enough, and takes medicine to sleep. Her sleep problems are from depression, she tells us, and she also overthinks. She blames herself for her fate, and has no friends to talk to although she says that she would like to talk to someone. She misses her mother, but her father won't let mother and daughter see each other, so she sees her mother only when she dreams. People say that she should be happy because her mother is alive, she tells us, and that she does get to see her in her dreams, but this only makes her feel worse. Because she gave birth only days before entering prison, and it had been only a few months at the time of the interview, it is quite possible that postpartum depression was compounding her grief, which was palpable.

Ms. Gashaw has high blood pressure and allergies. She could request an allergist but she does not want to. She could go to the male prison to see a doctor but she doesn't want to because she is shy and waiting to see the doctor (where she might be observed by men) would be too difficult. Ms. Gashaw says her mental health is stable, although she is sad because of her children and worried about the health of her husband, who has high blood pressure. She appears to be very matter-of-fact. "Prison has been good for me."

Ms. Amina has stomach pain and takes painkillers for it. She saw a doctor for her physical problems, who sent her to the psychiatric hospital for an evaluation, where she received a diagnosis of depression. She says that her depression results from the death of her boyfriend. She reports overeating, overthinking, feeling desperate, and suffering from insomnia. Even more difficult than grieving for her boyfriend, she says, is being away from her daughters.

Ms. Roonak has seizures and kidney problems, for which she takes medicine. She also experienced a heart attack. Her son is a doctor, who treats her physical problems and sends her medicine to her. Ms. Roonak feels depressed and emotionally unstable, which results in headaches and vomiting. She deals with her emotional issues, she tells us, by controlling herself. She does not let her feelings out, because whenever she does, she gets a headache and gets even more depressed. She is especially prone to mental instability if a relative gets married, or if the family has a disagreement. She tries to avoid overthinking because it hurts emotionally, but sometimes cannot avoid overthinking about her lost children, especially her daughters, whom she worked so hard to raise.

She has anxiety about her living children whenever there are violent demonstrations. She also overthinks about and regrets the death that she apparently caused.

Ms. Rezan has only one kidney, and she has rheumatism, and she describes her health as generally weak. She has seen doctors at the men's prison, where they referred her to an outside doctor. She buys her own medicine—there used to be an organization that would pay for it, but it no longer exists. She cannot afford to have a kidney transplant. "I am suffering mentally and physically." Ms. Rezan, too, tells us that she overthinks. She is very depressed; she wept throughout the interview. She misses her children, especially her son, and when she overthinks about them, her mind gets "free field" to overthink.

Ms. Xuncha has heart disease, high blood pressure, and severe migraines. On top of these conditions, a prison doctor diagnosed uterine cancer two years ago. Because of the dangers of anesthesia to her heart, surgery is impossible She quit her course of chemotherapy because of the side effects. If she wants to go to a private hospital she can, she says, with a few days' advance notice, and she can go to the hospital in the male prison for simple things. In addition, doctors come to the women's prison for simple check ups and blood tests. Still, her perception is that it is more difficult in prison than at home to get simple care; as an example, she tells us that she lost her vision in her right eye, and it would cost 12,000 IQD (about 10 USD) for an ophthalmologist's check-up and more than this for eye drops. A doctor told her that he could cure her eye for 1000 USD, but she only has 5,000 IQD, and she needs to buy her own heart and blood pressure medicine from this. Ms. Xuncha was more reticent about her emotional health than about her physical health, but did tell us that "grieving is hard." It was especially hard for her to hear about family members having died, since she was unable to attend their funerals, which are very important Kurdish rituals. "We can't see our relatives and can't feel the support of the outside world."

Education

Severed from their roles as family members, unable to form substitute kinship with their peers, these women's social and emotional lives were shallow. This not because there were no opportunities, but because they were unable to harness opportunities. The inability to imagine any alternate path or identity may stem, in part, from their slim education. Education, especially higher education, opens new concepts, new ways of relating to other people, and reveals a wider world (Rose & Hardi, forthcoming). But in our group, not one woman had a higher education beyond a vocational certificate. Three women had no formal education at all; three had completed or almost completed primary school; three had completed high school and held certificates in practical fields. This reflects the general population. The 2018 demographic survey reports that "nearly one out of five individuals aged 6 years and above has never attended school (17%) (Kurdistan Regional Statistics Office 35). "Non-attendance, which corresponds with illiteracy, is higher in rural areas, and the share of individuals who have never attended school is largest in the oldest age groups (71%)" (Kurdistan Regional Statistics Office 35). The institution provides primary and secondary education for women who have missed the opportunity to study, or who have delayed their study. Also, if a woman is incarcerated while attending college or university, the prison can provide services that allow her to continue her studies by distance learning. However, and notably, the prison administrators recall no such cases.

The Future

The women's plans after incarceration (that is, the six women who would be released) were strikingly modest, even grim. They longed to return to their families, even if their families did not want them, and, in some cases, to their employment, even with diminished status. There was no talk of starting over, moving elsewhere, reshaping one's identity, or in any way remaking oneself. There was no hint of wanting to cut any ties with family members who had turned away. There was no element of feminist recognition of power imbalances, no sentiment of the personal being political. There was no outrage against violence. There was no indication of consciousness that their individual plight was shared by other women. There was not even any fanciful "what-if" musing.

Ms. Kazhal wants to be in Erbil with her son and return to nursing work even though her salary will be half what it was, given the economic crises that have occurred since her incarceration. Ms. Pakiza only wants to reunite with her children and form a family again. "If it is in a tent it is OK; it doesn't matter." Ms. Solin wants to be reunited with her son and find a job at a cafeteria. Ms. Lana wants only to see her mother once, and then to die. Until then, since her father will not allow her to return home, she expects to live on the streets after she is

released. Ms. Gashaw plans to resume caring for her children, including finding tutors for her son, and return to the job where she had the altercation that landed her in prison. Ms. Amina was sentenced to death; Ms. Roonak and Ms. Rezan were incarcerated for life. Ms. Xuncha, who was sentenced to life but will have an early release at just short of 80 years old, wants to create a life for her mentally ill son and then die.

Conclusions

Popular culture emphasizes the drama of prison—the dangers, the tensions, and the rigor of institutionalized life. Even more exotic, often salaciously so, are portrayals of women's prisons. "Orange is the New Black," the American television series loosely based on the book of the same name (Kerman, 2010), popularized the intrigue of prison life in the 21st century, but prison life had been a staple of drama for decades before. Hollywood promotes the image of prisons in the Middle East as especially brutal and corrupt, most notoriously in the movie Midnight Express (1978). Popular entertainment is not based purely on fantasy, though. Accounts from journalists, human rights groups, and scholars suggest that Middle Eastern prisons, particularly women's prisons, are no models of correctional science (Ghaddar, Ghadier, & Abboud, 2016). Indeed, female prisoners anywhere in the world are at special risk of harm while in prison (Finn, 2013; Owen, Wells, & Pollock, 2017).

Not the stuff of Hollywood, the nightmare of the Sulaimani Women's prison is a lack of imagination. The women live a half-life of liminal existence throughout their prison sentences. Traditional Kurdish women are not equipped with the perspective to imagine new identities or new beginnings. Their very birth as females stamped their identity on them: they were mothers, wives, daughters, and sisters, and these roles would determine their lives throughout and after incarceration. While the prison itself is adequate, even pleasant, internalized shame and community standards are the barriers to any sort of self-determination. Deeply codified gender roles perpetuate a "pervasive honor-shame complex" (Johansen, 2019, p. 3). Such internalized oppression produces ghosts going about the motions of life.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

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Investigation of Secondary School Students' Views on the Distance Education in the Pandemic Process

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Abstract: In this study, it is aimed to reveal the evaluations of secondary school students regarding the distance education process in the pandemic process. For this research, phenomenology, one of the qualitative research designs, was used. 32 students studying in the fifth, sixth, seventh and eighth grades of a secondary school in Diyarbakır participated in the research. In the determination of the students participating in the research, the easily accessible and criterion sampling method, one of the purposeful sampling methods, was used. Students' views on distance education during the pandemic process were collected through a semi-structured interview form developed by the researchers. The interview form consisted of 17 open-ended questions. In the interview form, there were questions about thoughts on the distance education process, distance access opportunities, teaching practices, communication, time, precautions and expectations. Content analysis was used in the analysis of the data. When the findings of the study were examined, the students mostly emphasized that face-to-face education is good and distance education is boring. The students stated that they participated in distance education by using television at home, they found the course content sufficient in teaching practices, they evaluated the communication in the distance education process negatively, and they mostly communicated with their teachers in this process. While the students mostly stated that the course duration is not enough, they expressed the opinion that the broadcasting times prepared for distance education are appropriate. Students stated that they mostly experienced problems related to equipment and materials in this process, and that they solved these problems with the supply of equipment. Students mostly expressed their opinions about external expectations. Among the external expectations, the views on expectations from the teacher were mostly emphasized. In line with the results of the research, suggestions that are thought to contribute to distance education are included. Improvements can be made in internet infrastructure and base stations in rural areas. Internet service can be provided free of charge to all teachers and students through the Ministry of National Education. Different strategies, methods and techniques can be used in teachers' lessons so that students do not get bored with distance education.

Keywords: Pandemic process, Distance education, Secondary school students

Introduction

The covid- 19,which started with the first case in Wuhan, China in the last month of 2019, firstly affected China and then the whole world. The World Health Organization declared this epidemic diseases to the whole world as a pandemic due to its spread all over the world and the rapid increase in the number of cases (WHO 2020). The covid- 19 iş transmitted very quickly from person to person throgh droplets (Deniz et. al., 2020). In order to minimize this rate of transmission, it should slow down human movement. In studies conducted, it is stated that closing school, forcing people to stay at home, restricting the use of communal living spaces is the most effective approach in the number of covid-19 cases (Deniz et. al., 2020). This disease has caused many

institutions, especially health, to become inoperable. One of these institutions is an educational instirutions. One of the institutions undertaking in Türkiye is the Ministry of National Education. It undertakes this task with formal and non- formal education institutions. Since the education process is a service that the state provides equallay to all citizens, it is an important process that should continue uninterrupted (Karaman, 2020, s.45). In order to cope with this situation in Turkey as in every country, the effect of pandemics on education and today's experiences of countries. In these epidemic periods, one of the methods used in places where educational institutions cannot be opened or when students do not have the opportunity to access education is distant education.

Distance education refers to an education system model in which students and teachers in different environment carry out their learning and teaching activities with communication technologies and postal service (İşman, 2001). According to Horzum(2003), distance education is an education model which the lesson that can be applied in a virtual environment can be taught live by using information technologies without the time and place restrictions of teachers and students. It is known that this traning has advantages and disadvantages. Flexibility, access to the same subject multiple time, low cost, practicality and dissemination of education, being able to benefit from the comfort of out of school environment, the prominent advantages offered by distance education to students, while the necessity to have learning discipline health problem that may arise due to the use of technology for a long time, not being able to benefit from the process with the desired efficiency due to infrastructure and technology inadequacies is one of the main disadvantages the process for students (Koç, 2021).

The main concept in distance education that should be emphasized is the concept of distance teaching. According to Topraklı and Ersoy distance education is define as teaching activities which offered by means of telephony, radio, letter, television, internet, video, computer through channel that provide communication via wired- wireless and mail and students and teachers. Come together physically and asynchronously and perform their learning and teaching activities partially and completely. In our country, distance education is carried out with wired and wireless internet, Eba tv, online live lessons and sosyal networks. Thus, the learning activity can be carried out independently of time and place. Digitizing education also includes factors effecting distance education. Teacher student interactions, distance learning tools, level of use, safety of the learning environment and health measures are the prominent effects. In the distance education process, healthy communication between the teacher and the student, the formation of a virtual learning environment, the emergence of the need for technology, the lack of digital literacy, the decrease in the duration of the lessons, and the fact that the practice-based courses do not serve the purpose, has brought a new dimension to the lives of teachers and students.

The emergence of the epidemic caused the closure of educational institutions and the transition to distance education. The Ministry of National Education has decided to continue education on 3 television channels and Eba within the scope of open and distance education applications at primary and secondary education levels (MEB, 2020). Distance education, which was initially made in compulsory courses, started to be held in all courses with the change of course of the epidemic. The Ministry of National Education has established Eba TV channels and Eba support points over TRT in order to provide students with access to education and to provide equal opportunities for students. Live lessons have been started on the Eba Platform. Tablets were provided to low-income students along with the internet.

During the pandemic process, countries have new needs as they go through a new formation and transformation. There are factors such as the opportunity, equipment, the student's ability to use technology, the attitudes developed towards distance education, the family and the teachers who provide education (Kaynar et. al., 2020). Undoubtedly, there are students at the center of education. Students are faced with an experience that has never been experienced before. It can be seen that the pandemic period causes students' learning losses, stays away from peer education, prevents socialization, causes psychological disorders and causes a decrease in teacher-student communication by staying away from their teachers. In addition, students gain self-learning and digital skills.

When we look at the studies on this subject, in line with the findings obtained in the research, the participants stated that there are beneficial aspects about the distance education system made in order not to disrupt the education within the scope of the pandemic process but, they stated that there were shortcomings in terms of limited interaction, students' active participation in the lesson, not being suitable for individual differences, and problems in entering the lesson, and that it should be developed and improved in terms of infrastructure inequality of opportunity and content material. Kaynar researched secondary school students' views on distance education. The study group of this research consisted of 565 secondary school students who received distance

education due to coronavirus and mixed method design was used. According to the data obtained from the research, it shows that the students listen carefully to the lessons related to distance education, follow the lessons regularly, make preparations for their needs before the lesson, keep the notes of what is explained in the lessons, ask questions about the subjects explained and know how to solve the problems they encounter or may encounter in the system. Baz (2021) is an evaluation of students on possible learning losses during the covit 19 epidemic. For this purpose, studies on learning losses in the domestic and international literature were examined. The examinations made show that the learning losses deepened due to the difficulties experienced in accessing distance education activities and supporting the learning performance of students during the COVID 19 epidemic. In a study called distance education applications in the covid-19 process carried out by Sözen, the distance education process applied for the sustainability of education and training in Turkey and in the world has been examined in all its aspects. Various suggestions were made in the light of the information obtained. In addition, research has been conducted on other stakeholders of education, such as teachers, school administration and parents. In the international literature on this subject, Nadeak aims to analyze the effectiveness of distance learning by using social media. By applying an online questionnaire to 250 students, he reached the following conclusion: Distance education using social media is only effective in theoretical and theoretical training. In a study by Kochan, secondary school students' views on the quality of distance education in Poland were discussed and underlined that instructors are unprepared and sometimes unwilling to switch to an effective online teaching mode. stated that the lack of interpersonal relationships and the incompatibility of digital resources among peers have other effects of online learning, such as the impact on education and student morale.

When these studies are examined, it is seen that many studies have been carried out on the distance education process during the pandemic process. In these studies, studies were carried out in terms of student losses in distance education, student perceptions in distance education, teacher problems and parent problems. This study differs from other studies because it is examined in terms of secondary school students' thoughts on distance education in the pandemic process, access opportunities, teaching practices, communication timing, pandemic measures and expectations. In addition, this research may differ from other studies in terms of revealing the perspectives of students studying at a school in Diyarbakir, Turkey, regarding the distance education process in the pandemic process. Students, who are the subject of distance education during the pandemic process, have a great role in the process. Students have adapted to distance education in a short time and have been in constant communication with teachers, parents, school administration and their own circle of friends. It is thought that determining the opinions of the students who are in the distance education process about the distance education process during the pandemic period will make important contributions to the studies for distance education.

In this research, it is aimed to examine the views of secondary school students on the distance education process in the pandemic process. Based on this research, answers are sought to the following questions.

- What are the thoughts of secondary school students about distance education in the pandemic process?
- How are secondary school students' views on distance education in the pandemic process in terms of access opportunities?
- What are the evaluations of secondary school students regarding teaching practices in distance education during the pandemic process?
- How are the views of secondary school students on distance education in the pandemic process in terms of communication?
- How are the views of secondary school students on distance education in the pandemic process in terms of time?
- How are secondary school students' views on distance education in the pandemic process in terms of pandemic measures?
- What are the expectations of secondary school regarding distance education during the pandemic process?

Method

Research Design

In this research, one of the qualitative methods, the phenomenology design, was used. Qualitative method is a method that tries to describe how people interpret what they experience (Merriam,2009). Phenomenology involves describing, understanding and interpreting the phenomena that we encounter in our daily lives but that

we do not have a detailed understanding of (Bloir & Wood, 2006; Creswell, 2016). This research focused on the views on distance education in the pandemic process.

Study Group

This research was conducted in the 5th,6th,7th and 8th grades of a secondary school in the Çermik district of Diyarbakır in the Southeastern Anotolia Region, in the 2020-2021 academic year. Since it is a disadvantaged region and the most socio-economically backward region, participants were selected from the Southeastern Anatolia Region. In the determination of the students participating in the research, the easily accessible and criterion sampling method, one of the purposeful sampling methods, was used. Purposive sampling allows for in-depth study of situations that are thought to have rich information(Yıldırım & Şimsek,2016) In order to determine the students, criterion sampling was used from easily accessible sampling. In the selection of the students participating in the research, being 5th, 6th and 8th grade students was taken as the basic criterion.

Data Collection Tools

After the necessary permissions were obtained, the data from the secondary school students were collected using the interview form to evaluate the teaching during the pandemic period. The qualitative data of the research were collected with a semi-structured interview form developed by the researchersThe interview form consisted of 17 open-ended questions. In the interview form, there were questions in terms of student opinions, thoughts, access opportunities, evaluations of applications, communication, time, pandemic measures and expectations. Necessary arrangements were made in the interview form by taking the opinions of a field expert and a Turkish teacher. The interviews lasted for about 10-15 minutes. The researcher tried to be biased and empathize with the students throughout the research process.

Analysis of Data

Content analysis was used in the analysis of the data obtained from student opinions. Content analysis is a technique that allows to study human behavior and nature in indirect ways (Büyüköztürk et al., 2020). Inductive analysis was used in the content analysis process. Inductive analysis is performed to reveal the facts about the determined situation and the relationships between the facts by coding the data (Miles et. al., 1994).

In this study, Miles-Huberman model (Miles et. al., 1994, p.12) was used for data analysis. In this model, there are three stages: data reduction, presentation of data, and formatting of results. These three phases are used for analysis, intertwined in parallel before data collection, during data collection, and after data collection.

The interviews made in this study were first written down for analysis and a 50-page text was obtained. In the first stage, the data was reduced and then coded and noted where necessary. Tables were used to make the visible relationships between the reduced and coded data. At the last stage, the relationships between the codes were reviewed and verified. In addition, in the data analysis, the data was divided into codes and certain categories were created by counting the separated codes, and then themes were formed from the categories consisting of grouped topics (Patton 2002). Code names were used for male and female students to keep the identities of the participants confidential.

While performing the qualitative analysis of the research, some criteria were taken into account to ensure credibility (Guba,1981; Guba et. al., 1982). These criteria were examined in terms of credibility, transferability, consistency and confirmability. In a study, it is recommended to specify one or more of these criteria to check the accuracy of the findings (Creswell, 2014). In this study, in order to increase the credibility, the researcher tried to provide an environment of trust by conducting long-term interviews with the students. In addition, the data of the research were examined at different times by experts in the field and the credibility was tried to be increased. In addition, in order to ensure the credibility of the data analysis among the researchers, the incompatibilities were resolved by looking at the stability between the codings. Formulas (consensus/consensus+disagreement×100) were used for the agreement among the coders and the agreement between the coders was calculated as seventy-six percent. In order to increase the transferability, the research process was tried to be described in detail and researchers who conducted similar research were given the opportunity to evaluate their own work. In addition, in this context, it has been tried to benefit from the experiences of the students who participated in the research by using the purposeful sampling method. In order

to ensure confirmability, the researchers examined the obtained results with the data at different times and compared.

Findings

Student views on distance education during the pandemic process, thoughts, access opportunities, teaching practices, communication process timing, pandemic measures and expectations were examined in terms of themes.

Figure 1. Student views on distance education during the pandemic process

In the theme of thoughts on distance education in the pandemic process, student's opinions were examined under the categories of thoughts, feelings and evaluation. : In the category of thoughts, the most of students stated that face-to-face education is better. This view was followed by codes about distance education being inefficient, problems caused by the internet and equipment, limited opportunities, and lack of participation in the course. In the category of feelings, students stated that distance education is boring. In the evaluation category, students evaluated distance education in terms of positive and negative educational activities and oppurtunities. In the evaluation category, most of the students expressed their opinions about educational activities. Student's views about this theme are as follows:

It was a bad period for me, sometimes there was a problem with the internet and sometimes the voices of the teachers could not be heard, so we were not fully learning. Thus, the distance education process was bad for me. I think face to face education is better than distance education (P9-M).

Students who have the opportunity should attend, because we can't get any other education. Also this process was very boring, we couldn't have face-to-face education (P25-F).

During the distance education process, I read more books and did tests. We used to do activities once in a while (P15-F).

Student opinions on the theme of access opportunities in distance education during the pandemic process were evaluated under the categories of participation environment and participation tools. The most of the students stated that they participated in distance education in their home environment. The most of the students stated that they participated in distance education by using television. They stated that they use tablet, phones and computers together with television. Student views about this theme are as follows:

I ensure participation from home with my tablet (P5-M).

I ensure participation from our home with Eba. There was internet so there was no need to go anywhere (P12-F).

I attended EBA TV Secondary School (P13-M).

In the theme of teaching practices in distance education during the pandemic process, students found the course content sufficient, and expressed their opinions on the continuation of face-to-face education. Student views about this theme are as follows:

The course contents were very good, they were explained in an understandable way, so we understood (P28-M).

No, I don't want to, because we can't get a full efficiency, and after you learn this subject, you won't have any repetitions. That's why school feels more productive (P20-F).

In the theme of communication in distance education during the pandemic process, students evaluated communication in the distance education process negatively and they mostly communicated with their teachers in this process. Also they stated that they communicate with their friends along with their teachers. The students mentioned that they mostly communicated through the live lesson in this process. Students expressed their views on this theme as follows:

I don't think too well. Because there may be students who can't attend. I believe that better communication is established in face-to-face education (P11-M).

I communicated with my teachers because of attending the live class (P17-F).

I communicated through the live lesson or a message (P16-F).

In the theme of timing in distance education during the pandemic process, the most of the students complained about the lack of time. However, they stated that they approved the broadcast time prepared for distance education. Students expressed their views about this theme as follows:

Lesson duration was half an hour, it would be better if the lesson duration was forty or fifty minutes (P1-M).

Lesson duration was 30 minutes. I think it should be extended a little more (P2-M).

The broadcast streaming of lessons on Eba tv was good. For instance, we could attend any topicon Eba TV whenever we wanted (P3-F).

I think timing was good, I don't thinkit should be changed (P11-M).

In the theme of pandemic measures in distance education during the pandemic process, the most of the students had troubles about equipment and materials. These problems were followed by student-related problems. Among the measures related to distance education, mostly the supply of equipment took placed. This measure was followed by measures about personal precautions and educational activities. Students mostly evaluated the measures as positive. Students shared their views about this theme as follows:

During the distance education period, sometimes there were internet problems and power cut, so we couldn't attend lessons. Therefore. this process was a bit bad (P20-F).

There were problems in the during distance education. This problems were about the voice of teacher and phone, tablet. Some of the teachers could not attend the class (P21-M).

I bought a tablet (P31-M).

I bought a high quality tablet to avoid communication problems (P32-M).

I evaluated positively (P14-F).

I evaluated Eba TV, live lessons, zoom positively. We were impressed to spend our free time in distance education (P28-M).

In the theme of expectations in distance education during the pandemic process, students mostly expressed their views about external expectations. Views on external expectations were followed by internal expectations. In addition, students mostly stated that they had expectations from their teachers. Expectations from teachers were followed by family, peer, officals abd personal expectations.

Distance education did'nt meet my expectations. Because my wishes were that teachers could attend classes faster and all the students could attend lesson. In addition all students should have internet (P6-F).

My expectation was met, because teachers gave good lectures (P22-M).

Finally, students expressed additional opinions regarding distance education during the pandemic process. Students who presented their opinions expressed their wishes for face-to-face education. A student on this subject said that " I would like to add that it was much better that face-to-face education was opened (P22-M)".

Conclusion

In this study, the themes of student views on distance education during the pandemic process, thoughts, access opportunities, teaching practices, communication process, timing, pandemic measures and expectations were examined. Most of the students who experience this process have the opinion that distance education will not be like face-to-face education. It is known that the best solution is distance education due to the conditions that occur during the pandemic process.

Students mostly stated that face-to-face education is better. Kaynar et al., (2020) concluded that students believe that face-to-face education is more beneficial than distance education and that face-to-face interaction is necessary for a good education.In the continuation of their thoughts,the students who participated in the interview stated that distance education is inefficient,there are problems due to the internet and equipment,the opportunities are limited and the lack of participation the live lesson. This finding supports the finding of the research. The difficulties experienced by the teachers participating in the research were determined as the many distractions in the study environment of the students, disconnections caused by the internet connection at home, breaks in the camera and sound system, power cuts, problems in entering the EBA, and lack of technological equipment (Kavuk et. al., 2021). In the category of feelings, students stated that distance education is boring. In the evaluation category, students evaluated distance education in terms of positive, negative, educational activities and opportunities.

Student opinions on the theme of access opportunities in distance education during the pandemic process were evaluated under the categories of participation environment and participation tools. Students mostly stated that they participated in distance education in their home environment. Students mostly stated that they participated in distance education by using television. They stated that they use tablet phones and computers together with television.

In the theme of teaching practices in distance education during the pandemic process, students stated that they found the course content sufficient. In a study examining the views of classroom teachers on distance education, it was concluded that EBA was sufficient in terms of content and infrastructure (Saygı, 2021). This finding is similar to the finding of the research. In a study conducted by Burak (2021), it was revealed that the difficulties experienced in accessing distance education activities and supporting of students' learning performance during the COVID-19 epidemic deepened learning losses.

In the research, while the students evaluated the communication in the distance education process negatively, they stated that they mostly communicated with their teachers in this process. They stated that they communicate with their friends along with their teachers. The students mentioned that they mostly communicated through the live lesson in this process. Çakın et. al. (2020) found in their research that teachers have problems with communication and students' learning. This finding is consistent with the finding of the research.

In the context of timing in distance education during the pandemic process, students mostly complained about the lack of time. In addition, they stated that they found the broadcast streaming of EBA TV prepared for

distance education appropriate. In a study conducted by Kavuk et. al. (2021), it was determined that the students followed the lessons on EBA TV. This finding supports the finding of the research.

In the theme of pandemic measures in distance education during the pandemic process, students mostly experienced problems related to equipment and materials. These problems were followed by student-related problems. Among the measures related to distance education, mostly the supply of equipment took place. This measure was followed by measures for personal precautions and educational activities. Students mostly evaluated the measures taken positively. In a study conducted by Batdal-Karaduman et al., (2021), it was determined that the reasons such as the lack of access to the technologies used in the distance education process, the lack of technology and internet infrastructure, the low attitudes and motivation of the stakeholders towards the process negatively affect the quality of the distance education process. This finding supports the finding of the research.

In the theme of expectations in distance education during the pandemic process, students mostly expressed their views on external expectations. The views on external expectations were followed by internal expectations. In addition, students mostly stated that they had expectations from their teachers. Expectations from teachers were followed by family, peers, officals and personal expectations. Finally, during the pandemic process, students mostly expressed additional opinions regarding distance education. The students who expressed their opinions expressed their wishes for face-to-face education.

Recommendations

Students mostly stated that face-to-face education is better. This view was followed by opinions such as the inefficient distance education, the problems caused by the internet and equipment, the limited opportunities, and the lack of participation in the course. In addition, the students stated that the communication was negative, the course duration was not sufficient and they had external expectations. Improvements can be made in base stations in rural areas and internet service can be provided free of charge to all teachers and students through the Ministry of National Education. Different strategies, methods and techniques can be used in lessons so that students do not get bored with distance education. Especially when children's interest in games is considered, game-based course contents can be integrated into distance education courses. Tools such as tablets and computers can be provided to students by the Ministry of National Education. In-service training can be given to teachers so that they can use current technologies and online education environments more effectively.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

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Appendix 1. Semi-Structured Interview Form for Students' Opinions on Distance Education Process in the Pandemic Process

Thoughts on distance education

1. What are your thoughts on distance education?
2. What are your thoughts/feelings about attending live classes during the pandemic period?
3. How do you evaluate the distance education process?

Questions regarding access in distance education

4. Where did you participate in teaching activities during the distance education process?
5. Which channels did you participate in teaching activities during the distance education process? How did you join? How did you gain access?

Teaching practices in distance education

6. What are your views on the course content on the distance education platform during the pandemic period?
7. Do you want to continue your lessons remotely if the pandemic is over? Why?

Questions about communication in distance education

8. What do you think about the communication process in distance education?
9. Who did you communicate with in distance education? How did you communicate? Can you explain?

Questions about time in the distance education process

10. What do you think about the course duration in distance education courses?
11. What do you think about the broadcast streaming of the live lessons on EBA TV?

Questions about precautions in the distance education process

12. Did you experience any problems during the distance education process? If so, what kind of problems did you encounter?
13. What kind of measures have you taken to avoid problems in participating in distance education during the pandemic period?
14. How would you evaluate the measures taken for an effective education during the pandemic period?

Questions about expectations in the distance education process

15. Did distance education meet your expectations during the pandemic period? How?/What do you think about it?
16. What kind of expectations did you have from whom during the distance education process?

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A Study on Left-Brain Dominance of the Higher Secondary Students

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Abstract: This present study intends to find the left-brain dominance of the higher secondary students in Tirunelveli, Thuthukudi, Kanyakumari, and Virudhunagar districts in Tamilnadu, India. In this survey study, the population consists of 2000 higher secondary students of the above-mentioned districts of Tamilnadu, among this population, based on the result, the population was separated by left, middle or moderate and right brain dominant by the instruction of the scoring key. Here, 743 higher secondary students were coming under the left-brain dominance, 135 were in the right brain and 1122 higher secondary students were in middle or moderate brain dominance. In this study, the investigator examined only the left-brain dominance of the higher secondary students. The alert scale of cognitive style by Loren D. Crane (1989) was used to collect the data for this present study, which consists of 21 optional statements. Necessary instructions were given to every student before they asked to do the questionnaire. The scoring was done according to the scoring scheme and the formulated hypotheses were tested using appropriate statistical technical like percentage analysis, and chi-square. The findings indicate that the left-brain dominance of the higher secondary pupils' level is moderate and there is a substantial association between family income and districts community of the higher secondary students and their left-brain dominance.

Keywords: Left-Brain dominance, Cognitive style, Higher secondary students, Teachers, Curriculum.

Introduction

Human beings like to go to school to cultivate themselves as knowledgeable people in society, but the social circumstance influences them to grow or dropout (Hewes, 1973). Most of the educationalists criticize that everyone cannot be a perfect Learner, even most of the slow learners and dropouts achieve in their life (Concha et. al. 2012; Gazzaniga et. al., 1965). According to the human Physiology and Psychology theories, human growth and development belong to nurture and nature (McGilchrist, 2009). Human Physiology clearly defines that the growth depends on the persons' nurture but in psychology, it depends on the socio environment (Edwards, 2012).

In this regard, our brains were not progressed towards the requirement of contemporary and modern life (Zull, 2002). It is by several, and intricate mixtures of the functional modules, and by complete and myriad of interconnections, our brain can adapt to the functional neural systems, that makes us adjust and cope up with the multifaceted skills and tasks (Harrington, 1987). For so many ages, those processes of multitasking and adaption by the brain the tasks in formal education has been included for both students and teachers.

Lateralization of the brain function is known as Brain dominance, which defines that it is the tendency to carry out the explicit and precise brain activities by either the brain's left or right side(Corballis, 2012). The left and right side of the brain may be similar and alike, but the hemisphere of each side carries out a few specific

functions over each other (Corballis, 1999; Corballis, 2014). For example, the function of speech is monitored and accomplished by the left hemisphere (It is for a left-handed person by the right hemisphere) (Zhang et. al., 2009). It differs from person to person in each activity regarding the side of the brain. Mostly it differs between the right and left-handed people. The analytical and logical activities are influenced by the left hemisphere (Bauer, 1993). The artistic, creativeness, and intuitiveness are influenced by the right hemisphere. To activate the level of artistic, creativeness, and intuitiveness, a right-hand person uses his left hemisphere by drawing or working on something using his left hand. At the beginning of the '70s, an unavoidable criticism arose that conventional science refused to accept the truth about different hemispheres and it was argued that it is just a story (Meguerditchian et. al. 2010). Even after many experimental and neurological experts' panel discussions, the people were not stopped arguing about the mental function which is lateralized by one or another hemisphere (Sperry, 1982). "Although the simple division of functions posited by popular writers proved to be mistaken, several laterality findings are now well supported: language abilities are strongly lateralized to the left hemisphere, especially in right-handed people, but also in most left-handed people" (Sher Afgahan et. al., 2017).

Need for This Study

UNESCO's strategic aims in education are that the quality of the education has to be improved by modifications of contents and methods, and encouraging research, revolution, invention, and sharing of information (Cantalupo, 2001). The 21st century poses a qualitatively new challenge in the field of education (Hopkins et. al., 2005). Many different professional opportunities exist in education including classroom teaching, administration, and a host of support positions such as counsellors, therapists, social workers, dieticians, and health personnel (Gannon et. al. 1998). So the present education system is to be entirely rehabilitated for the future generation. Only then, the young generation might have the awareness and knowledge about the importance of education especially skill-based education (Lindell, 2013), which is brain-based. Unfortunately, the education system in India focuses only on the memory level and understanding level but not on the reflective level (Wolfe, 2010). This will never help the learners to improve creative thinking. As a result, only a certain percentage of learners will succeed in higher studies and pursue research. The higher secondary students must obtain knowledge through skill-based education which makes them become effective individuals in society.

Title of the study

A study on left-brain dominance of the higher secondary students

Operational Definitions

Brain dominance means "lateralization of brain function, which describes the tendency for either the left or the right side of the brain to carry out specific brain activities."

Higher secondary students mean students who are perusing their higher secondary school education (XI and XII standards).

Methods and Procedures

The present study intends to find the left-brain dominance of the higher secondary students of Tirunelveli, Thuthukudi, Kanyakumari, and Virudhunagar districts in Tamilnadu. The investigator has adopted the survey method which suggests the gathering of data from higher secondary schools in the present study. The population consists of the higher secondary schools of above mentioned four districts. The investigator selected randomly 6,7,7,6 higher secondary schools from Tirunelveli, Thuthukudi, Kanyakumari, and Virudhunagar districts respectively. In this study, the investigator examined only the left-brain dominance of the higher secondary students. The alert scale of cognitive style by Loren D. Crane (1989) was used to collect the data for this present study, which consists of 21 optional statements. Brain dominance refers to the extreme use of the left or right or whole brain. Individuals who are predominantly left side tend to be more verbal, analytical, and problem-solvers, while individuals who are predominantly right-sided tend to be artistic, good at mathematics, and more visual in nature. This inventory contains 21 items, each item having two statements on a scale.

Different methods are used to establish the tool's validity. Content validity and concurrent validity are established by the investigator in this study.

In order to establish content validity, the investigator has given the tool to experts in various colleges. After well checking and scrutinization by the experts the brain dominance inventory has been executed. The suggestions and corrections given by the experts were based on language, suitability, and relevance. The content validity was affirmed by modifying the tool based on the suggestions rendered by the experts. And the establishing concurrent validity, brain dominance inventory was given to a randomly selected sample of sixty students from St. Xavier's higher secondary school, Palayamkottai.

Then the investigator gave the brain dominance scale developed and validated by Vengo Regis and Thomas Alexander (2007) as suggested on the same day to the same students. The students' responses were scored. To establish the concurrent validity, the product-moment correlation coefficient between the two sets of scores was found. It was 0.82. For establishing the brain dominance scale's reliability, the test-retest method was used by the investigator. The tool was administered to a randomly selected sample of sixty students from St. Xavier's higher secondary school, Palayamkottai.

The reliability of the tool was established by noting the time taken to complete the tool and the collected responses were scored. After 15 days, the same respondents with the same tool were administered. Again, the students' response was scored. The correlation coefficient was attained by computation and it was 0.76. Necessary instructions were given to each one before they were asked to fill up the scale. The scoring was done with the key which was prepared by the investigator for the brain dominance scale. In this scale, all the items were objective type with two choices. Each question has 2 statements, Respondents gave one point for each time he/she answered "A" for questions: 1, 2, 3, 7, 8, 9, 13, 14, 15, 19, 20, and 21. Respondents gave one point for each time he/she answered "B" for questions: 4, 5, 6, 10, 11, 12, 16, 17, and 18. Add all points, 0-8 left-brain, 9-13 middle brain, and 14-21 right brain. Whereas no wrong answer is given with zero marks. So an individual may get the lowest score of zero and the possibility of the highest score of 21. The formulated hypotheses were tested using appropriate statistical techniques like percentage analysis and chi-square.

Objectives

1. To find out the level of left-brain dominance of the higher secondary students.
2. To find out the level of left-brain dominance of higher secondary students concerning background variables
3. To find out whether there is any significant association between the community of the higher secondary students and their left-brain dominance.
4. To find out whether there is any significant association between districts of the higher secondary students and their left-brain dominance.
5. To find out whether there is any significant association between the family income of the higher secondary students and their left-brain dominance.

Hypotheses

1. There is no significant association between the community of the higher secondary students and their left-brain dominance.
2. There is no significant association between districts of the higher secondary students and their left-brain dominance.
3. There is no significant association between the family income of the higher secondary students and their left-brain dominance.

Analysis of Data

Objective Testing

To find the level of left-brain dominance of the higher secondary students and to find out the level of the students in their left-brain dominance with regarding gender, community, and family income.

Table 1. Level of brain dominance of the higher secondary students

Left-brain Dominance					
Low		Moderate		High	
Count	%	Count	%	Count	%
72	9.7	671	90.3	-	-

The above table reveals that 9.7% of the higher secondary students have a low level of their left-brain dominance and 90.3% of them have a moderate level in their left-brain dominance.

Table 2. Level of brain dominance of higher secondary students concerning background variables

Background variables	Categories	Low		Moderate		High	
		Count	%	Count	%	Count	%
Gender	Boys	35	10.6	29	89.4	-	-
	Girls	37	9	376	91	-	-
Community	OC	10	23.8	32	76.2	-	-
	BC	29	7.3	367	92.7	-	-
	MBC	23	12.1	167	87.9	-	-
	SC/ST	10	8.7	105	91.3	-	-
Income	Up to 25,000	35	8.4	380	91.6	-	-
	25,001 – 50,000	17	9.7	159	90.3	-	-
	50,001 – 1,00,000	9	11	73	89	-	-
	Above 1,00,000	11	15.9	58	84.1	-	-

The above table reveals that 10.6%, and 89.4 of the higher secondary boys, and 9% and 91% of girls have a low and moderate level of their left-brain dominance. 23.8% and 76.2% of the OC students have a low and moderate level of their left-brain dominance. 7.3% and 92.7% of the BC students have a low and moderate level of their left-brain dominance. 12.1% and 87.9% of the MBC students have a low and moderate level of their left-brain dominance. 8.7% and 91.3% of the SC/ST students have a low and moderate level of their left-brain dominance respectively.

8.4% and 91.6% of the students come under up to Rs/.25, 000 of their parents' income have a low and moderate level of their left-brain dominance. 9.7% and 90.3% of the students come under up to Rs/.25, 001 – 50,000 of their parents' income have a low and moderate level of their left-brain dominance. 11% and 89% of the students come under up to Rs/.50, 001-1, 00,000 of their parents' income have a low and moderate level of their left-brain dominance. 15.9% and 84.1% of the students come under up to Rs/.25, 000 of their parents' income have a low and moderate level of their left-brain dominance respectively.

Hypothesis Testing

H_o1

There is no significant association between the community of the higher secondary students and their left-brain dominance.

Table 3. Association between the community of the higher secondary students and their left-brain dominance

Left-brain Dominance	Calculated χ^2 value	Remarks
	13.49	S

(at 5% level of significance, for 6 df, the table value of χ^2 12.92)

It is inferred from the above table that there is a significant association between the community of the higher secondary students and their left-brain dominance. The calculated χ^2 value (13.49) is higher than the table value (12.92) at a 5% level of significance. Therefore, the null hypothesis is rejected and it is concluded that there is a significant association between the community of the higher secondary students and their left-brain dominance.

H_o2

There is no significant association between Tirunelveli, Thuthukudi, Kanyakumari, and Virudhunagar district higher secondary students and their left-brain dominance.

Table 4. Association between Tirunelveli, Thuthukudi, Kanyakumari and Virudhunagar district higher secondary students and their left-brain dominance

Left-brain Dominance	Calculated χ^2value	Remarks
	23.33	S

(at 5% level of significance, for 6 df, the table value of χ^2 12.92)

It is inferred from the above table that there is a significant association between Tirunelveli, Thuthukudi, Kanyakumari, and Virudhunagar district higher secondary students and their left-brain dominance. The calculated χ^2 value (23.33) is higher than the table value (12.92) at a 5% level of significance. Therefore, the null hypothesis is rejected and it is concluded that there is a significant association between districts of the higher secondary students and their left-brain dominance.

H_o3

There is no significant association between the family income of the higher secondary students and their left-brain dominance.

Table 5. Association between the family income of the higher secondary students and their left-brain dominance

Left-brain Dominance	Calculated χ^2value	Remarks
	3.98	NS

(At 5% level of significance, for 6 df, the table value of χ^2 12.92)

It is inferred from the above table that there is no significant association between the family income of the higher secondary students and their left-brain dominance.

Findings and Discussion

The findings indicate a general impression that the level of left-brain dominance of the higher secondary students is moderate. The result shows that there is a significant association between community, districts of the higher secondary students, and their brain dominance. The community of the students is influencing the brain dominance of the students. This may be because based on their origin, culture, and lifestyles of the students' communities have separated the cut-off percentage in chose their education and career. Based on the opportunities from their community are being unique and significant. But, these are all testing by the cognitive strength of the individual that is, through the competitive examinations and interview method of examination candidates selected. This also induced and urges the students from all the community to prove their cognitive strength by open. Hence, the community is influencing the left-brain dominance of the students.

The result shows that there is a significant association between districts of the higher secondary students and their left-brain dominance. Students from the mentioned districts are influencing the left-brain dominance of the students. This may be because each district is being unique but long ago, all the mentioned districts were in the single and same geographical realm. So in all districts may have the common phenomena at any of the characteristic features, coastal districts like Kanyakumari and Thuthukudi may have the large exposures of teenagers; Because cultural and industrial openings are being rich in these two districts more than that job opportunity like small scale and large scale industries play a significant role.

Tirunelveli and Thuthukudi are being the places on the riverbank of Thamirabarani. Tirunelveli is called the oxford of south India, because more number of higher education institutions like law college, engineering colleges, arts and science colleges, colleges of education, polytechnic colleges, and an enormous number of higher secondary schools, high schools, and elementary schools are making this districts and also the students more efficient and Virudhunagar district a well known for industrialization, here more number of fireworks business being done everyday basis. Without have enough knowledge of logic and technical mind people cannot do this kind of work successfully. People who are in this field must have unique in their mind and body then only it succeeded. Students from this family may also have the same things in their cognitive behavior. Hence, districts are influencing the left-brain dominance of the students.

Conclusion

Knowledge over the functions and jobs of the human brain is better, but understanding and holding a perception of the learners' brain functions is the best (Ehret, 1987). During this contemporary era, a catastrophe occurs that students lose their individuality, creativity, productivity, and independent thinking. This study may help the teachers to know about the students in their classroom. During the children's growth, it depends on their activities that make the activeness of the brain's side (left or right), that ultimately have an overlook on their choices of higher studies in the degree level (MacNeilage, 2013). Students who choose science and engineering show their high left-brain activity (Rogers et al., 2013). Understanding the preferences of the learners' brains is vital because it determines certain skills and weaknesses, likes, and dislikes. As a teacher one who must know how to make the learners brain based on their preferences (Ellamil et. al., 2012). If the curriculum has been made by the brain preferences of the learners then it will be a great opening of the human resources in all the fields.

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Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

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