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Educational Film Experiment at Workplaces: Can Sex-Role Attitudes and Work and Life Balance Capabilities Related to Maternity Be Treated?

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Abstract

In order to understand the impact of educational videos on the sex-role attitudes and perceptions of maternity at workplaces, an experimental research design was selected. Our survey data originates from a randomized control trial of 262 employees across Estonian organisations. After using a randomization method to select five companies from Estonian company TOP 100 ranking, an equal size control and treatment groups within these companies were randomly selected. Employees of the control group were treated with a 20-minute educational film which was designed originally for highschool students for treating a traditional male-breadwinner type of sex-role attitudes. Research goal was to explore whether an educational film as a teaching tool could be also used in organisations to affect sex role attitudes and challenges of work and life balance with focus on maternity at workplaces. Survey data collection was arranged in companies by randomly splitting the employees into treatment and control groups, and they were guided through the experiment via written instructions and HR specialist support. For data analysis, author used descriptive analysis to measure the differences between the control and treatment group by analysing employees' responses to 20 individual statements in Likert scale, with a focus on sex-role attitudes and maternity challenges questions. More specifically, author compared the differences between control and treatment group as well as the gender differences across the two groups (i.e whether an educational film had a greater affect to one over the other sex). This experiment suggests which topics in educational videos could positively affect sex-role attitudes and perceptions of maternity at workplace. The article also makes suggestions how context supporting training tools can be used together with educational videos at workplaces.

Keywords: work-life balance capabilities, maternal wall, attitudinal change, randomized control trial, traditional sex-roles

Introduction

The research brings forth that balancing work and family life is a significant challenge for women and that having small children tends to be the biggest obstacle in a woman's career. The research substantiates the fact that building a career is easier for men and the glass ceiling as well as the maternal wall has an effect on women's careers.

Work–life balance refers to the ability of every individual, regardless of gender, to coordinate work and family obligations successfully. Work, in this context, refers to paid labor performed outside the home (Wheatley, 2012).

Studies have found that, when parents manage to balance family and working life, they are more satisfied with their life, which positively impacts their mental and physical health (Haar, Russo, Suñe, & Ollier-Malaterre, 2014).

Although half of the working-age population worldwide consists of women, men have considerably more entries to management positions and more effortless access to higher levels of organisations (Eagly et al. 1992).

Women who strive for leadership positions are often confronted with a "glass ceiling" – various invisible barriers that their male colleagues do not meet – blocking them from top management positions. The class ceiling metaphor has inspired many researchers to explore the reasons behind the phenomenon (Ryan and Haslam, 2005, 2007 and Bruckmiller and Branscombe, 2010).

As the motherhood barrier is deemed one of the most important factors hindering women's careers (Williams 2004), it is important to focus on mothers unequal distribution of child care responsibilities and discrimination at workplace, in order to improve their access to labour market and reduce the existing and potential childbirth-related and other obstacles on the career path to reach leadership positions.

There is an understanding that the quality of work and life balance depends on a combination of family member mutual agreements on sharing care, labour market and government childcare policies.

The EU Work-life Balance (WLB) Directive aims to improve families' access to family leave and flexible work arrangements. The WLB directive has entered into European Union law and must now be adopted by Member States by 2nd of August in 2022.

The Work-life Balance Directive introduces a set of legislative actions designed to modernise the existing EU legal and policy frameworks, with the aims of better supporting a work-life balance for parents and carers, encouraging a more equal sharing of parental leave between men and women, and addressing women's underrepresentation in the labour market. Measures under the directive include introduction of paternity leave; transferability option of parental leave between

parents; introduction of carer leave; extension of flexible working arrangements for carers and working parents of children up to eight years old.

In this article, the work-life balance is conceptualised as the results of the capability to make choices between work life and family life. The paper will implement experimental design at workplaces to measure impact of educational video on the attitudes of workers of traditional and egalitarian sex roles and on perception of maternity-career at workplaces.

As underlined, our theoretical underpinnings rely on premises of the capabilities approach (Kremer 2006, Kurowska 2016, Lauri et al 2019). In general, we see that a certain mix of legal and economic constraints with conversion factor can bring along good outcomes in terms of equal capabilities of fathers and mothers to proceed with childcare and dual careers. It is also indicated by Lauri et al (2019) that certain policy mixes measuring legal and economic constraints produce different outputs (capabilities) in different institutional settings.

This research paper will focus on treating this "conversion factor" social norms i.e attitudes concerning appropriate role of mothers and fathers at work place and (in this paper called "traditional and egalitarian sex roles") and perceptions of being mother at work place (in this paper called " maternity for career fit".)

In order to understand the impact of educational videos on the sex-role attitudes and perceptions of maternity at workplaces, an experimental research design was selected. Our survey data originate from a randomized control trial (RCT) of 262 employees of Estonian organisations. After using a randomization method to select five companies from Estonian company TOP 100 ranking and then randomly selecting equal size control and treatment group within these companies. Survey data collection was arranged in companies by randomly splitting the employees into treatment and control groups.

Employees of the treatment group were treated with a 20-minutes lasting educational film, which was designed originally for high school students for treating a traditional male-breadwinner type of sex-role attitudes.

The article will have the following structure: firstly, in-scope theoretical approaches are explained, secondly, research design and methodology is explained and thirdly, the author outlines the results and includes relevant discussion. As final part, the author will outline some practical suggestions how to make impact on traditional sex roles and maternity for career at workplaces.

Theoretical framework

There is a continued and increasing interest in sex roles (sometimes used gender roles) cultural developments and its measurements, being originally an area of focus for social psychology, now extended to education, leadership, management and

organizational behaviour. It is interesting to note that most of the measures developed are meant to measure parental roles or related parental sex role issues (shared care, work and life balance) and not developed for young generations with no children. This is the research gap to be filled as the parental roles are developed during the later stage in adult lives, while sex roles "roll out" in other areas first.

One of the most comprehensive sex-roles measurement guides was published 30 years ago by C.A. Beere (1990) as her "Gender Roles: A Handbook of Test and Measures" was written based on extensive research including findings across 7000 journal articles in the field and over 1400+ different "measures."

One of the more recent sex roles measurement analyses and research was deliverd by John Walter 13 years ago, where in his doctoral dissertation he stated (Walter, 2018) that social developments create the need to phrase sex roles items differently than back in 1970s and 1980s where for example the childcare and careers of mothers and fathers had a different meaning years back than today.

Before starting this research, the author of this article poses a general question: can sex role attitudes be changed at all? There appears to be a "chicken and egg situation"- do formal institutions make cultural (including social norms) changes happen or vice-versa, do culture norms (i.e appropriate behaviours, attitudes about sex roles) drive the changes in government policies?

Sex-roles can be defined as attitudes and behaviours which are prescribed and assigned by a society to men and women on the basis of gender (Bartley, Blanton, & Gillard, 2005:72). Diekman & Goodfriend (2006) indicate that sex-role attitudes are prescriptive while gender roles are descriptive beliefs about gender characteristics and differences. In any terms, the author of this article understands that sex roles express how women and men should behave and the different tasks and roles they are expected to perform. And in many cases, terms sex -roles and gender roles are used interchangeably.

There are many studies which argue that formal institutional changes make informal institutional changes happen. In addition to social structural developments, the institutional context can also influence gender role attitudes, and cultural norms can have an effect on the formulation, institutionalization and efficacy of work-family policies (Budig, Misra, & Boeckmann, 2012). Family policies likely influence gender role attitudes by signaling what is defined as appropriate behavior and by shaping the choices which are available to individuals (Jakobsson & Kotsadam, 2010).

The author of this research believes that the effects of institutions and government policies are difficult to subtract from the effect of cultural preferences and individual attitudes towards sex roles (see Figure 1). We cannot make a difference in society by changing legal and economic constraints only, but instead should focus on "conversion factors" of gendered attitudes and social norms. It is widespread understanding that sex roles are most impacted in early age, but this research

explores whether sex role attitudes and perception of maternity fit for career at workplaces could also be affected later in life by using educational videos.

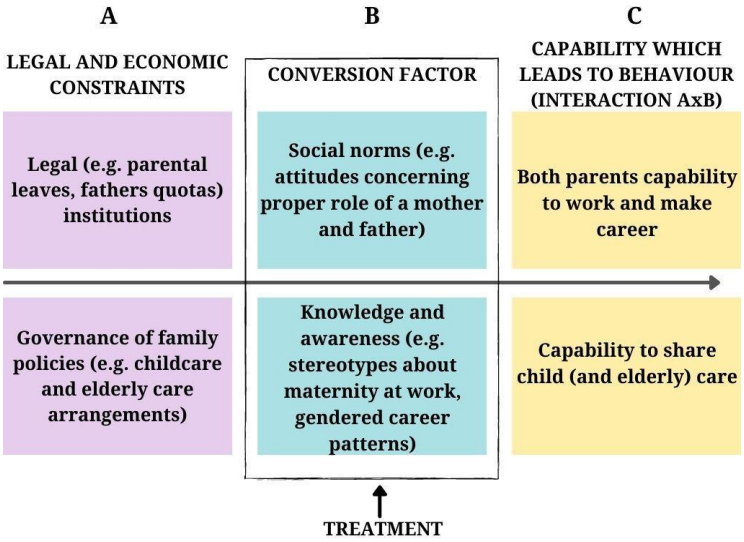

Figure 1: Theoretical model of the approach (modified from Lauri et al. 2019)

It is known that women, once becoming mothers, face many challenges. The glass ceiling phenomenon partially explains the minor proportion of young women in leadership positions. The glass ceiling theory represents an invisible barrier that blocks the advancement of women's careers more easily than men's. (Simpson & Altman 2000). One of its major causes is that women are stereotypically ascribed feminine traits that are deemed inappropriate for a management context and thus lead to less favourable evaluations of women's performances and suitability as career promotions.

The gender (sex role) has an impact on a manager's evaluation and even high proficiency, or great success does not secure women from negative evaluation. Additionally, there's an understanding about leadership styles "fit" for female managers, which contributes to female employee's likelihood of promotion to leadership positions. (Eagly et al. 1992, 2001).

Even though the glass ceiling marks an invisible barrier on the career ladders of all women, the motherhood barrier is a part of the glass ceiling that symbolises an invisible barrier on the career ladders of women with children (Williams 2014, 16). In 2007, Shelley Correll and Stephen Benard wrote an article based on a thorough research that caused quite a stir, proving that if a woman has a child, the likelihood of her finding work decreases by 79%; the likelihood of her getting a promotion is 50% lower compared to women with no children; and that the initial wage offer made to her is significantly lower, not only compared to the wage offers made to men but also

to the wage offers made to women without children. Williams (2014) states that the women interested in building their careers have begun to knowingly evade the possibilities for the prejudice arising from the motherhood barrier.

Researchers Eagly and Karau (2002), proposed the role congruence theory, which described that even though women follow the same career tracks as men, men get promotion opportunities (Eagly & Karau, 2002). This gender inequality that is perceived puts women in a disadvantage because they are less favorable compared to men. These findings suggest that high perceptions of gender inequality or role incongruity in the workplace make it harder for women to succeed.

There is an understanding that the quality of work and life balance depend on a combination of parents balancing the professional and family lives, labour market and government childcare policies.

In the studies conducted so far, three separate problems are differentiated for the motherhood barrier: the parental leave and competence, children and career – the efficiency of work, and the balance of work and family life.

Several studies (Correll & Benard 2005, Correll & Shelley 2007) have proved that for the employer, motherhood determines, by default, a lower level of competence, desire to dedicate to work, and thus the work-related capability of a woman (Correll & Ridgeway 2003, 29). The difference between perceiving the competence of a "mother" and a classic "good employee" is even bigger than the difference between perceiving the comparable competencies of a woman and a man, as the cultural stereotype of a "good mother" is even more different from the cultural stereotype of a "good employee" – she is significantly less competent. Based on the lower competence, it is assumed that a woman with children will contribute less and make less effort, thus being less efficient (Correll & Ridgeway 2004, 684–686).

To prove their competence, mothers have to work significantly harder than others do in their professional lives, constantly demonstrating the completion of duties above their abilities. Each throwback is seen as a direct consequence of the employee's motherhood and the resulting low efficiency of work, which makes the career efforts of women with children very complicated (Correll & Bernard 2005, 1302).

Glass describes (2004) that even though modern employers have increasingly begun to offer their employees opportunities for flexible working time, studies show that taking advantage of the opportunity for the flexible organisation of working time is often also perceived as punishment in a way. If mothers take advantage of the opportunities for flexible working time, their colleagues will begin to increasingly associate them with the traits and stereotypes of a parent, which is immediately accompanied by the above-mentioned prejudices regarding competence and lower efficiency. As a result, a woman with children using the option of flexible working time will actually have to work more than by simply sitting in an office for a regulated working time (Glass 2004, 372–375).

Methodology

Sampling and data collection. The research survey data originate from a randomized control trial (RCT) of 262 employees across five randomly selected Estonian organisations. The five organisations were selected after using a computerized randomisation method, a random allocation of Excel list of top 100 Estonian companies. This list of 100 Estonian companies is created every year by the leading Estonian daily newspaper *„Äripäev."* It is developed based on growth indicators in 2019/ 2018 as of sales revenue, operating profit, and return on investment. In order to qualify, companies need to have been active in 2020 and have a minimum annual sales revenue of 18.8 million euros.

All randomly selected companies were contacted by the researcher. One company declined due to Covid -19 challenging times and a new company was selected by computerized randomisation method. With help of HR directors in selected five organizations, equal size control and treatment group within these companies were randomly selected and instructed respectively.

Research was carried out during the months of May to June in 2021. Due to Covid-19 restrictions, online channels (Zoom, Microsoft Teams, companies' internal conference channels) were used to provide instructions and experiment tools (educational video). Survey instrument itself was available online as the preferred method for companies and respondents. For one of the organisations (production company), a group viewing for educational film was organised in a factory conference room and surveys were filled in individually in paper as respondents had no access to online channels.

Demographic characteristics. Table 1 and 2 display demographic characteristics of our study. In general, the employees were divided in three different age groups: 20-30, 31-40, and 41+ years old. Across all respondents, 50 employees were between 20-30 year old, 81 were 31-40 year old, and the highest number of employees, 131, were over 41 years old. Out of all respondents, 75 were male (0=male), and 187 were female (1=female) (see table 2). Furthermore, in our data set we had some background characteristics that were categorical and ordered in the following way indicating one's level of education acquired: 1= Master's Degree, 2=Bachelor's Degree, 3= High School Degree, 4= Vocational Education, 5= Unfinished Higher Education, 6= Basic Education. As table 2 shows, most respondents are highly educated, with 63% of respondents having at least a bachelor's degree or above.

As tables 3-6 show, while there are some differences in age distribution across the control and treatment group, there are no statistically significant differences across demographic and background characteristics of the control and treatment group, which indicates that our randomization method was successful.

Table 1: Age distribution of employees

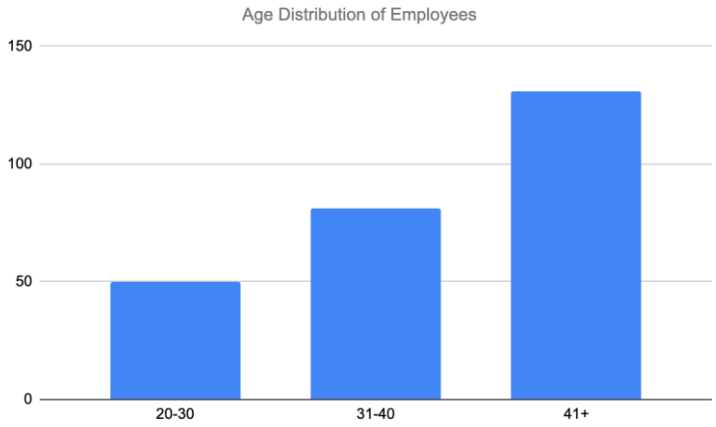

Table 2: Other demographic characteristics of employees

Statistic	N	Mean	St.Dev	Min	Pctl (25)	Pctl (75)	Max
Gender	262	0.714	0.453	0	0	1	1
EducationLevel	262	2.508	1.403	1	1	3	6

Table 3: Age distribution of control group

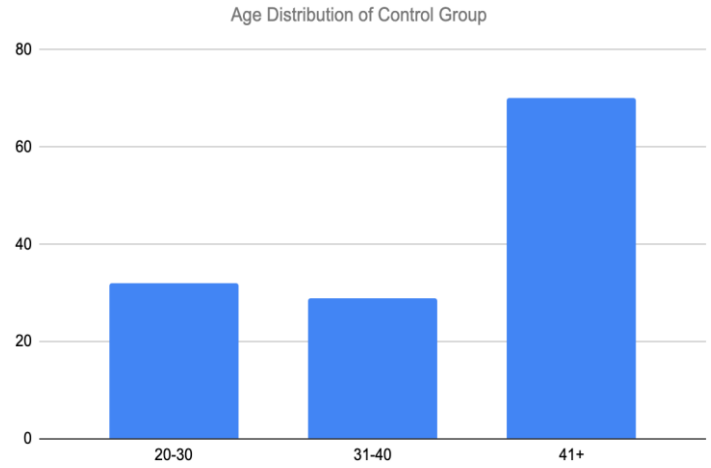

Table 4: Other demographic characteristics of control group

Statistic	N	Mean	St.Dev	Min	Pctl (25)	Pctl (75)	Max
Gender	262	0.695	0.462	0	0	1	1
EducationLevel	262	2.718	1.526	1	2	4	6

Table 5: Age distribution of treatment group

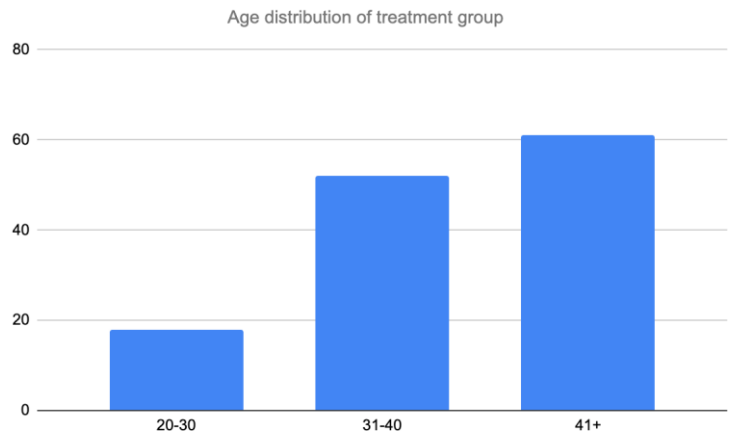

Table 6: Other demographic characteristics of treatment group

Statistic	N	Mean	St.Dev	Min	Pctl (25)	Pctl (75)	Max
Gender	262	0.733	0.444	0	0	1	1
EducationLevel	262	2.298	1.238	1	1	3	6

Methodology. For this research, the author was to measure the differences between the control and treatment group by analysing employees' responses to 20 individual statements on a Likert scale, with a focus on sex-role attitudes and maternity/ career

challenges questions. More specifically, the author's goal was to find out whether an education film has impact on:

The general differences between control and treatment group

The gender differences across the two groups (i.e. whether an educational film had a greater effect to one over the other gender).

Analyses methods. For data analysis, the author has used descriptive analysis, such as minimums, maximums, means and standard deviations to analyze data points from a 6 point Likert scale, which is one of the most broadly used methods for scaling responses in survey studies. The author has also included percentile calculations to understand how respondents' perceptions spread across the spectrum.

3 The design of the treatment and survey instrument

Before filling out the survey, employees in the treatment group were shown a 20-minute-long educational film, produced by Kuukulgur Company, Estonia, and delivered by well-known Estonian actors. For script writing, the author of the article was one of the members of the research group to provide background research about challenges in the area of parental challenges of WLB.

The educational film consists of 8 short sketches of a family of full-time working mother (data analytics specialist), full- time working father (works for logistics as specialist), and how they balance their work and life as parents of two children (toddler and a schoolgirl) while also taking care of the sick grandfather. More specifically, sketches include the usual situations of working parents, addressing the following topics:

Challenges on work and life balance due to long working hours and no options for flexible working hours. Effect on both parents, but more on mothers.

Challenges on taking care of the elderly members at home. Possibilities for asking help.

Pressure on working mothers to be perfect at work as well taking care of the family as the main care provider.

Discrimination at work, questions about family status (about number of children) at job interview and limited possibility to plan flexible working hours as a working mother.

Children at workplace meetings, options for public childcare.

Shared care responsibilities between mother and father, mother's responsibility to take care of family while working full time, mother's "free time" is taking care of family.

Right to get paid leave for childcare and ask for help from the municipal government for elderly care.

The educational video has a "happy ending" as the family furthers themselves, makes arrangements in their life (better shared care of children), the elderly family member has a role in daily home chores, mother's employer understands that having family does not make mother a less efficient employee, and flexible working hours and place does not inhibit work results.

To strengthen the effect of the educational video, the treatment also includes a guiding question after every scetch (such as " Do you think that children benefit when both parents share care equally" etc.) to make a higher cognitive affect towards more egalitarian sex-roles and maternity perceptions at work place.

These educational video series were originally produced as educational tool for high-school children (15 years+) to be used in the classrooms, to make impact on their attitudes of sex-roles development and provide tools how to balance work and life in the future. In schools, educational videos are accompanied by teacher lectures and case study analyses.

The survey instrument. The author used a 6-point Likert scale, which is one of the most common methods to measure a wide range of perceptions, motivations, and intentions. To ensure that the overall likert scale can be treated interval level, an evenly spaced standardized response categories were utilized: 1-totally disagree, 2 - disagree; 3-slightly disagree; 4-slightly agree; 5-agree; 6- totally agree.

The survey instrument consisted of two parts including a total of 20 statements. First part consisted of 10 statements related to traditional and more egalitarian sex roles (Adapted from Walter doctoral dissertation 2018), and the second part consisted of 10 statements related to maternity fit to career (statements were composed by the author based on relevant research concepts in that area).

Survey part 1. Statements to assess employees` attitudes towards traditional and more egalitarian sex roles. Walter (2018) divides the new structure of sex roles, as he has stated that sex roles measurement in 21st century needs to be approached differently as the meaning of parenting, family care and work and life balance are continuously changing. His research states that there are two latent variables: traditional sex roles (originally traditional male- breadwinner concept) and modern sex roles (known also as an egalitarian caregiver concept).

FULMW A full-time working mother can normally establish just as close a relationship with her small child as a mother who doesn't work. (egalitarian caregiver)

BOTHFUL The best way to organize family and work life is for both partners to work full-time and to look after the home and children equally. (egalitarian caregiver)

CHLSUF A small child is bound to suffer if his or her mother goes out to work. (reverse scale) (male breadwinner)

MBREAD It is much better for everyone concerned if the man goes out to work and the woman stays at home and looks after the house and children. (later used in survey in reverse scale)(male breadwinner)

CHLBEN A child actually benefits if his or her mother has a job rather than just concentrating on the home. (egalitarian caregiver)

BOTHPART The best way to organize family and work life is for both partners to work part-time and to look after the home and children equally. (reverse scale) (male breadwinner)

FULDBAD A father who works full-time cannot care for his children properly. (reverse scale) (male breadwinner)

WRKMHOME Even if both parents work full-time, it is still better if the mother has main responsibility for looking after the home and children. (reverse scale) (male breadwinner)

FULDW A full-time working father can normally establish just as close a relationship with his small child as a father who doesn't work. (egalitarian caregiver)

ROLECHA A man can be responsible for looking after the home and children just as well while the woman works full-time. (egalitarian caregiver)

Survey part 2. Statements to assess employees` attitudes towards maternity fit for career were constructed by the author of the article and based on research literature on "maternal wall," "glass ceiling theories" and "gendered career paths" due to the author's work in doctoral dissertation.

WLB1 A woman has to cope perfectly with both her mother role and the role as the best employee, at the same time. (role congruity theory)

WLB2 It is easier for men to pursue a career than women. (gendered career paths)

WLB3 The presence of children affects women's careers more than men's. (gendered career paths)

WLB4 A woman who is pregnant or has small children is not in a position of responsibility because she cannot be fully committed to work. (maternal wall)

WLB5 A woman who is pregnant or has small children is less effective at work as she prioritizes children over work. (maternal wall)

WLB6 A woman who is pregnant or has small children is less competent at work. (perceived loss of professional competence while being a mother)

WLB7 Companies prefer men in leadership positions. (gendered career paths)

WLB8 Organising work and life balance is the mother's responsibility. (work and life balance challenges)

WLB9 Finding work and life balance is mostly a problem for women. (work and life balance challenges)

WLB10 Taking children to work reduces work efficiency. (work and life balance challenges)

Please note that this survey instrument consists of additional 10 statements related to institutional practices to regulate work and life balance, Covid-19 impact on parental roles and care. These statements were not analysed and presented in this article due to the scope of this study.

Results and Discussion

The author of the article compares the differences between control and treatment group as well as the gender differences across the two groups (i.e whether an educational film had a greater affect to one over the other sex).

The author presents the results and discussion in two parts:

1) Sex role attitudes

2) Attitudes to maternity fit for career and WLB challenges

In both parts, the general differences between control and treatment group as well as the gender differences across the two groups results are presented.

Results and discussion on sex-role attitudes: On average, employees in the treatment group were slightly more favourable towards modern sex roles when compared to employees in the control group (see tables 7-12).

Table 7. Descriptives of the Sex-Role Attitudes: Control Group

Statistic	N	Mean	St.Dev	Min	Pctl (25)	Pctl (75)	Max
FULMW	131	4.443	1.484	1	3	6	6
BOTHFUL	131	4.947	1.159	2	4	6	6
CHLSUF	131	3.603	1.597	1	2	5	6
MBREAD	131	2.519	1.454	1	1	4	6
CHLBEN	131	4.489	1.321	1	4	6	6
BOTHPART	131	4.344	1.518	1	3	6	6
FULDBAD	131	2.122	1.436	1	1	3	6
WRKMHOME	131	2.153	1.406	1	1	3	6

FULDW	131	4.237	1.493	1	3	6	6
ROLECHA	131	5.084	1.151	1	4.5	6	6

Table 8. Descriptives of the Sex-Role Attitudes: Control Group (Male)

Statistic	N	Mean	St.Dev	Min	Pctl (25)	Pctl (75)	Max
FULMW	40	4.100	1.464	1	3	5	6
BOTHFUL	40	4.750	1.149	1	4	6	6
CHLSUF	40	3.525	1.450	1	2	4.25	6
MBREAD	40	2.800	1.436	1	2	4	5
CHLBEN	40	4.250	1.171	1	3.75	5	6
BOTHPART	40	3.975	1.476	1	3	5	6
FULDBAD	40	2.275	1.485	1	1	3	6
WRKMHOME	40	2.375	1.390	1	1	3	6
FULDW	40	3.950	1.319	1	3	5	6
ROLECHA	40	4.875	1.305	1	4	6	6

Table 9. Descriptives of the Sex-Role Attitudes: Control Group (Female)

Statistic	N	Mean	St.Dev	Min	Pctl (25)	Pctl (75)	Max
FULMW	91	4.593	1.476	1	3	5	6
BOTHFUL	91	5.033	1.159	1	4	6	6
CHLSUF	91	3.637	1.663	1	2	4.25	6
MBREAD	91	2.396	1.452	1	2	4	5
CHLBEN	91	4.593	1.374	1	3.75	5	6
BOTHPART	91	4.505	1.516	1	3	5	6
FULDBAD	91	2.055	1.417	1	1	3	6

WRKMHOME	91	2.055	1.409	1	1	3	6
FULDW	91	4.363	1.553	1	3	5	6
ROLECHA	91	5.176	1.071	1	4	6	6

Table 10. Descriptives of the Sex-Role Attitudes: Treatment Group

Statistic	N	Mean	St.Dev	Min	Pctl (25)	Pctl (75)	Max
FULMW	131	4.702	1.275	1	4	6	6
BOTHFUL	131	5.260	0.973	1	5	6	6
CHLSUF	131	3.336	1.634	1	2	4	6
MBREAD	131	1.931	1.083	1	1	2.5	6
CHLBEN	131	4.763	1.288	1	4	6	6
BOTHPART	131	4.321	1.515	1	3	6	6
FULDBAD	131	1.939	1.357	1	1	2	6
WRKMHOME	131	1.626	0.979	1	1	2	5
FULDW	131	4.534	1.459	1	3.5	6	6
ROLECHA	131	5.382	0.932	2	5	6	6

Table 11. Descriptives of the Sex-Role Attitudes: Treatment Group (Male)

Statistic	N	Mean	St.Dev	Min	Pctl (25)	Pctl (75)	Max
FULMW	35	4.286	1.619	1	3	6	6
BOTHFUL	35	5.114	1.255	1	5	6	6
CHLSUF	35	3.457	1.853	1	2	5	6
MBREAD	35	1.857	1.033	1	1	2	4
CHLBEN	35	4.629	1.477	1	4	6	6
BOTHPART	35	4.257	1.669	1	3	6	6

FULDBAD	35	1.771	1.416	1	1	2	6
WRKMHOME	35	1.571	0.948	1	1	2	4
FULDW	35	4.171	1.855	1	2.5	6	6
ROLECHA	35	5.200	1.052	2	5	6	6

Table 12. Descriptives of the Sex-Role Attitudes: Treatment Group (Female)

Statistic	N	Mean	St.Dev	Min	Pctl (25)	Pctl (75)	Max
FULMW	96	4.854	1.095	2	4	6	6
BOTHFUL	96	5.313	0.850	3	5	6	6
CHLSUF	96	3.292	1.555	1	2	4	6
MBREAD	96	1.958	1.104	1	1	3	4
CHLBEN	96	4.813	1.217	1	4	6	6
BOTHPART	96	4.344	1.464	1	3	6	6
FULDBAD	96	2.000	1.338	1	1	3	6
WRKMHOME	96	1.646	0.995	1	1	2	6
FULDW	96	4.667	1.270	1	4	6	6
ROLECHA	96	5.448	0.881	2	5	6	6

On average, statements, which the educational film seemed to have the most (positive) impact on, were **the most fundamental statements** around traditional (breadwinner) sex roles:

(MBREAD) It is much better for everyone concerned if the man goes out to work and the woman stays at home and looks after the house and children. (later used in survey in reverse scale) (male breadwinner)

(WRKMHOME) Even if both parents work full-time, it is still better if the mother has the main responsibility for looking after the home and children. (reverse scale) (male breadwinner)

While comparing responses to statements related to traditional sex-role attitudes across male and female respondents, the more significant change between the

treatment and control group was driven by the changes in men's perceptions, suggesting that the educational videos may have more impact on men's perceptions compared to that of women's when it comes to modernising traditional (male breadwinner) sex role attitudes.

Results on maternity career fit. The differences between the treatment and control group results were less notable in responses to maternity fit for career statements compared to those of traditional sex-role attitudes (see tables 13-18).

Table 13. Descriptives of the Maternity Career Fit (WLB) Attitudes: Control Group

Statistic	N	Mean	St.Dev	Min	Pctl (25)	Pctl (75)	Max
WLB1	131	3.153	1.778	1	2	5	6
WLB2	131	4.084	1.504	1	3	5	6
WLB3	131	4.496	1.361	1	4	6	6
WLB4	131	2.328	1.372	1	1	3	5
WLB5	131	2.481	1.332	1	1	3	6
WLB6	131	1.595	1.051	1	1	2	6
WLB7	131	3.954	1.397	1	3	5	6
WLB8	131	2.916	1.669	1	1	4	6
WLB9	131	3.290	1.605	1	2	5	6
WLB10	131	3.763	1.538	1	3	5	6

Table 14. Descriptives of the Maternity Career Fit (WLB) Attitudes: Control Group (Male only)

Statistic	N	Mean	St.Dev	Min	Pctl (25)	Pctl (75)	Max
WLB1	40	2.825	1.448	1	2	4	6
WLB2	40	3.500	1.414	1	2	5	6
WLB3	40	3.775	1.561	1	2.75	5	6
WLB4	40	2.675	1.474	1	1.75	4	5
WLB5	40	2.925	1.509	1	2	4	6

WLB6	40	1.900	1.236	1	1	2	6
WLB7	40	3.450	1.260	1	3	4	6
WLB8	40	2.325	1.509	1	1	3	6
WLB9	40	2.450	1.176	1	1	3	6
WLB10	40	4.050	1.413	1	3	5	6

Table 15. Descriptives of the Maternity Career Fit (WLB) Attitudes: Control Group (Female only)

Statistic	N	Mean	St.Dev	Min	Pctl (25)	Pctl (75)	Max
WLB1	91	3.297	1.894	1	1	5	6
WLB2	91	4.341	1.477	1	4	5	6
WLB3	91	4.813	1.134	1	4	6	6
WLB4	91	2.176	1.305	1	1	3	5
WLB5	91	2.286	1.204	1	1	3	6
WLB6	91	1.462	0.935	1	1	2	6
WLB7	91	4.176	1.403	1	3	5	6
WLB8	91	3.176	1.677	1	1	4	6
WLB9	91	3.659	1.634	1	3	5	6
WLB10	91	3.637	1.581	1	3	5	6

Table 16. Descriptives of the Maternity Career Fit (WLB) Attitudes: Treatment Group

Statistic	N	Mean	St.Dev	Min	Pctl (25)	Pctl (75)	Max
WLB1	131	2.695	1.441	1	1.5	4	6
WLB2	131	4.153	1.501	1	3.5	5	6
WLB3	131	4.351	1.392	1	4	5	6
WLB4	131	1.901	1.059	1	1	2	5

WLB5	131	2.153	1.180	1	1	3	5
WLB6	131	1.160	0.461	1	1	1	4
WLB7	131	4.053	1.377	1	4	5	6
WLB8	131	2.527	1.679	1	1	4	6
WLB9	131	3.473	1.720	1	2	5	6
WLB10	131	3.237	1.488	1	2	5	6

Table 17. Descriptives of the Maternity Career Fit (WLB) Attitudes: Treatment Group (Male only)

Statistic	N	Mean	St.Dev	Min	Pctl (25)	Pctl (75)	Max
WLB1	35	2.457	1.268	1	1	3.5	5
WLB2	35	3.143	1.574	1	2	5	6
WLB3	35	3.829	1.599	1	3	5	6
WLB4	35	1.971	1.200	1	1	2	5
WLB5	35	2.400	1.333	1	1	3.5	5
WLB6	35	1.143	0.550	1	1	1	4
WLB7	35	3.000	1.572	1	1	4	6
WLB8	35	1.657	1.027	1	1	2	4
WLB9	35	2.114	1.568	1	1	3	6
WLB10	35	3.686	1.641	1	2	5	6

Table 18. Descriptives of the Maternity Career Fit (WLB) Attitudes: Treatment Group (Female only)

Statistic	N	Mean	St.Dev	Min	Pctl (25)	Pctl (75)	Max
WLB1	96	2.781	1.495	1	2	4	6
WLB2	96	4.521	1.298	1	4	5	6
WLB3	96	4.542	1.264	1	4	5	6

WLB4	96	1.875	1.008	1	1	2	5
WLB5	96	2.063	1.113	1	1	3	5
WLB6	96	1.167	0.427	1	1	1	3
WLB7	96	4.438	1.074	1	4	5	6
WLB8	96	2.844	1.761	1	1	4.25	6
WLB9	96	3.969	1.497	1	3	5	6
WLB10	96	3.073	1.401	1	2	4	6

The statements regarding maternity in which the educational film had the bigger impact on (see tables 13-18) were as follows:

(WLB1) A woman has to cope perfectly with both her mother role and the role as the best employee, at the same time. (role congruity theory)

(WLB4)A woman who is pregnant or has small children is not in a position of responsibility because she cannot be fully committed to work. (maternal wall)

(WLB6) A woman who is pregnant or has small children is less competent at work. (perceived loss of professional competence while being a mother)

While comparing responses to maternity related statements across genders (see tables 14-15 and 17-18), interestingly, educational video had larger impact on men for statements that were rooted from the traditional sex role of the mother/ caregiver:

(WLB4) A woman who is pregnant or has small children is not in a position of responsibility because she cannot be fully committed to work. (maternal wall)

(WLB6) A woman who is pregnant or has small children is less competent at work. (perceived loss of professional competence while being a mother)

(WLB8) Organising work and life balance is the mother's responsibility. (work and life balance challenges)

However, for statements that were driven from challenges in work and life balance, an educational video had larger effect on women:

(WLB1) A woman has to cope perfectly with both her mother role and the role as the best employee, at the same time. (role congruity theory)

(WLB10)Taking children to work reduces work efficiency. (work and life balance challenges)

Interestingly, there were also statements where the educational video had minimal to no impact at all (i.e. same results in the treatment and control group), insinuating the existence of common and deeply rooted beliefs across genders:

(WLB 2) It is easier for men to pursue a career than women.

(WLB 3) The presence of children affects women's careers more than men's.

This analysis suggests that the educational video can serve a different purpose based on gender. While for men it is mainly about awareness- that is, changing their deeply rooted pre-existing attitudes about traditional sex roles, for women it is more about encouragement towards embodying modern sex roles.

For women, it is most important to provide them confidence and show different ways to make it work. For men, it is important to challenge their pre-existing perceptions of traditional sex roles through open communication and awareness-based content. Finding that there were some statements that were not affected by the educational video (i.e. some deeply rooted attitudes), further supports the importance of connecting the right content with the right channels. Therefore, it is essential to understand the areas that can be influenced through the educational video, and as a result tailor the content accordingly.

Conclusions

This article discusses whether sex-role attitudes can be changed only evolutionary (i.e. over time naturally) or they can be treated by educational videos? The theoretical remises lie to the founding of capabilities building approach (Kurowska 2016, Laur et al. 2019), which explains the success of the family policies in supporting the work-life balance by prevailing attitudes about the "proper" sex-roles in the society. For various outcomes of work-life balance (e.g. gender wage gap, caregiving time gap) family policies interact with attitudinal factors.

This article highlights the importance of three areas when it comes to changing sex role attitudes in the workplace: it is about content of educational videos, channel of delivery, and audience.

This analysis of this article informs us about the “content” area, more specifically outlining topics that can be most effective when using educational videos to positively affect sex-role attitudes and perceptions of work and life balance capabilities with focus on maternity. Furthermore, it not only highlights the importance of content itself, but also the significance of tailoring the content to the right target audience (women vs. men). It serves as a good groundwork for future analysis to further gain insights on how to change perceptions of sex-role attitudes and work and life capabilities in the workplace.

To achieve the objectives of this specific research analysis, the educational video was shown in isolation without any other educational tools (lecture, case study analyses, discussion on topics), and in many areas we can see small changes in sex role

attitudes. Surprisingly, the research results show that men are more subject to change their views on originally very traditional attitudes on sex roles.

It is clear that educational video (or series of videos with regular repetition) is an impactful educational tool, as research in many ways discusses the so-called "multimedia principle". Providing words with pictures, images, or other graphics enhances learning relative to materials that include only words or, as in most work places, sex roles and family challenges are not talked at all openly and in meaningful ways.

The author of the article will outline the following recommendations how the impact of educational videos on sex-roles attitudes can be strengthed.

The mechanism of change can be persuasive communication that includes several channels of communication. There are different levels of communication effort processes (engagement level of the audience) where persuasion can bring along attitudinal change.

Practice from schools suggests that the act of watching a video where an instructor/ employer performs a task has been shown to increase the confidence of students in believing they could also perform the same task. The trustworthiness of the presenter is essential, as facilitating changes starts with trust of the change agent.

It is about role models in society and those closer to workplace who introduce modern sex roles. It starts with employer attitude towards employees with families, and understanding of work and life balance both in legal as well as human perspective. Additionally, the employer should be open for honest and meaningful discussions on balancing work and family life with his/ her employees.

The effect of education (educational videos) can be strengthened by combining educational videos with case study analysis and real-life scenario discussions.

Supervisor and colleague support is important for the actual implementation of workplace policies and for managing work and personal life. It is important to note that in many cases, emotional support explains more variance in work-life conflict than work-family benefits.

Research findings and real-life case studies suggest that instrumental support (education, regulations) in the workplace is solely not enough to achieve a successful work-life balance. Instead, we need a supportive working environment, that is a family-friendly organisational culture, diversity, acceptance and inclusion of all employees, as well as individual recognition and approach, complementing the instrumental support efforts.

Limitations. The main limitation of this study is originating mainly from the scope of data analysis. For this research, the author measured the differences between the control and treatment group as well as dissimilarities across genders by using descriptive analysis. Attitudes on traditional and modern sex roles and maternity fit

for career could be also analysed based on different age groups, educational background, and household types. The analysis methodology can also be expanded to further understand the rationale behind self-reporting of scales of attitudes and whether people behave differently in a socially sensitive environment. All of these areas can be further explored in future studies.

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The comparative study of advertising American presidency election campaign for both "Barack Obama"& "Donald Trump "via advertising animation film with multimedia

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Abstract

The role of advertising animation film as a political motivate in the contemporary reality strategy through multimedia in the research scale of universal unilateral force" America". and this reflection on the animation industry, which made the US authorities and capital owners as a political motivate towards political trends and political changes within and outside America worldwide , And this impact and reflection of our country Egypt and monitoring the effects and results of modern political changes in the contemporary Egyptian reality, and the need to presence of an national Egyptian defensing resistant to Western ideologies, especially the American ideology, which push the changes towards her interests and her advantages as well as the need for writing the history of our contemporary reality by Ourselves via all multimedia forms until they are not forging for the facts or the history with different ideology of the good Egyptian thought. Referring to the futurology, which was concentered with it by the century . As "Dr./ salah Qunsoua "pointed at introduction Book, entitled" the clash of Civilizations" Composed by: Samuil Hentgton - In response to what the current events causes in the world ,like problems and questions, do not find their solutions, or responses in previous models, samples, tribes, familiar and accepted theories until recently. As the contemporary world status, which America & Western Europe present the motivate of what facts happen and destroy the theories stabilized from the analysis of an interpretation.

Keywords: Advertisement –Animation-multimedia -Advertising American presidency election campaign, – the USA president-"Barack Obama"- "Donald Trump "- the Simpsons- propaganda- Video clip entitled "He's Barack Obama He's Come to Save the Day"-advertising animation film"Donald Trump will destroy America".

Introduction

The importance of research

As this is a comparative and analyzing study of advertising animation film for both "Barack Obama"& "Donald Trump" for their advertising campaign of American presidency election via multimedia. And what was written on the article in the Online Shorouk magazine, that: "The world leaders have to watch" Tom and Jerry, "and" Pink Tiger "and the series of animation" Simpson ", which has been predicted for 16 years with being Trump the president of America! So I'll compare and analysis the political projections on animation cadres in both: animation video clip entitled" He's BARACK OBAMA… He's come to save the day", and series animation "Simpson".

The aim of research

To get the results of advertising campaign of American presidency election for both "Barack Obama"& "Donald Trump" via advertising animation film with multimedia. As both of them win in American presidency election. But there was different American public opinion. As there was cheerful delight with "Obama". There was opinions that America is going crazy when "Dounald" win in American presidency election. So I'll compare and analysis the political projections on animation cadres in both: animation video clip entitled" He's BARACK OBAMA… He's come to save the day", and series animation "Simpson". Because they emphasis this contemporary political reality.

The research problems

1) What is The role of "Cultivation Theory" in advertising animation film via multimedia?
2) Are there state symbols in the animation film as a political motivate in contemporary reality strategy?
3) What is the Political projections on advertising animation cadres ,as the animation series "Simpson"?
4) Why The Arab presidents and judgments especially should be see everything In the future broadcasting in the United States from Hollywood movies and also animations, The series of animation "Simpson" is as a political motivate in contemporary reality strategy?
5) What is the political projections via animation cadres in the animation series "Simpson"?
6) Analyzing The advertising Video clip of nominating Donald Trump for the presidency entitled "Donald Trump will destroy America".
7) Are there is emergence and development of advertising animation film as a political motivate in the management of disaster and crises?
8) What does it mean the emergence of state symbols in the American animation film as a political motivate in the contemporary reality strategy?

9) What does it mean The Expressing about the USA presidential headquarters, "the White House"?

10) How many facts are expressing about American presidential elections in animation film? 11- Are the National Security Agency (NSA) is Spying on American citizens the reality or just imagination in animation film ?

11) What is really about the American War on Afghanistan and Iraq?

12) What The New facts about the deleted episode of the Simpsons series entitled "Trump and Obama and Dash"?

13) Analyzing and comparing between the Advertising animation Video clip entitled "He's Barack Obama.. He's come to Save the Day", and The advertising Video clip of nominating Donald Trump for the presidency entitled "Donald Trump will destroy America". And what the real American impression of both presidents," Obama" and" Trump"and how both of the Advertising animation Video clips succeed in expressing that?

14) Time limits: 2000- until now2021

15) Spatial borders: America & Egypt and other Arab countries.

Introduction

This research is divided to several axes about the role the animation film as a political motivate in contemporary reality strategy, as the following:

The first axis: the role of "Cultivation Theory" in advertising animation film via multimedia

The second axis: The emergence of state symbols in the animation film as a political motivate in contemporary reality strategy

Political projections on cartoons in the animation series "Simpson"

Political projections on advertising animation cadres

The third axis Political projections on advertising animation cadres

- The Arab presidents and judgments especially appear to be forced In the future to see everything broadcasting in the United States from Hollywood movies and also animations, because they offer an up dative picture of what happens in the United States, and in the world in The near future?

The forth axis : Political projections on cadres in the animation series "the Simpsons"

- The series of animation "Simpson" as a political motivate in contemporary reality strategy
- Monitoring the political projections via animation cadres in the animation series "Simpson"
- The advertising Video clip lyric of nominating Donald Trump for the presidency entitled "Donald Trump will destroy America"

The fifth axis: The emergence and development of advertising animation film as a political motivate in the management of disaster and crises

The emergence of state symbols in the American animation film as a political motivate in the contemporary reality strategy

The Expressing about the USA presidential headquarters, "the White House" and how to make decision in animation film as a political motivate in contemporary reality strategy

The sixth axis: Expressing about American presidential elections in animation film as a political motivate

The seventh axis :the Expressing about presidential elections, cheating methods and manipulation

The Expressing about Spying the National Security Agency (NSA) on American citizens in animation film as a political motivate

The eighth axis :The American War on Afghanistan and Iraq

The New is the deleted episode of the Simpsons series entitled "Trump and Obama and Dash"

The ninth axis: Video clip entitled He's Barack Obama He's Come to Save the Day

The Video clip lyric entitled "He's Barack Obama .. He's Come to Save the Day".

The first axis: the role of "Cultivation Theory" in advertising animation film via multimedia

It is appeared the role of "Cultivation Theory" in advertising animation film via multimedia . as Cultivation Theory depends on project cultural indicators, which searches in three following elements: the media production, the images beliefs, ideas and symbols introduced in the media content ,and the relationship between receiving the cinema messages and audience behavior.as Cultivation analysis differ between three levels heavy receiver average receiver ,little receiver

So Multimedia role in forming mental images. The media for many people are the main source of the formation of public opinion and therefore the world, which is

lived by many people- according to "Lipman"(1922) and" adlman "(1988)- is a reality that is formed based on the interpretation of news .as"Lipman" has called " A counterfeit environment", and told "the media form the image of the world in our minds, and in the different areas of most important of it : the image of foreign countries, the image of the peoples and certain groups, the image of certain issues, the image of candidates in the elections, and the formation of expectations on certain events."

Figure (1) explains several cadres from the film " The Year In Crazy"", production: Mark Fiore Industries, Inc.year: 2014, Voice of Characterizations: Ray Lin, Stephanie Riggio, John Taylor

The second axis: The emergence of state symbols in the animation film as a political motivate in contemporary reality strategy

- Political projections on advertising animation cadres

When dimensions, objectives and political projections disappear from animation art. It shows The dangerous of advertising animation film, which directly affects the small kid mentality, which is a fertile soil to grow many ideas, which many use it widely in political and intellectual areas, and also many organizations and intellectual bodies use it to broadcast many its deadly propaganda Scenes via attractive scenes to get attention of many viewers towards them.

As the article in the Online Shorouk magazine, entitled "The world leaders have to watch" Tom and Jerry, "and" Pink Tiger "and the series of animation" Simpson ", which

has been predicted for 16 years with being Trump the president of America! So I'll compare and analysis the political projections on animation cadres in both: animation video clip entitled" He's BARACK OBAMA… He's come to save the day", and series animation "Simpson".

- Political projections on cartoons in the animation series "Simpson"

In this regard, the researcher deals with this series particularly because its future expectations motivate the contemporary political reality through two axes: first axis as a political motivate in the contemporary strategy, and the second axis: monitoring political projections via the series cadres.

The third axis Political projections on advertising animation cadres

- The Arab presidents and judgments especially appear to be forced In the future to

see everything broadcasting in the United States from Hollywood movies and also animations, because they offer an up dative picture of what happens in the United States, and in the world in The near future?

The forth axis : Political projections on cadres in the animation series "the Simpsons"

- The series of animation "Simpson" as a political motivate in contemporary reality strategy

As for the Simpson family, ""The Samsons"called in the arabic version""omer Shamshons", "The character of "Simpson Jay Homer" and famed by" Homer" is a fake character and the hero of the animation series of the Simpson family, the series subject that Homer family-with the strange yellow to attract attention- consists of Homer,the father and his wife"marge,and three kids: Bart& lisa& Maggie. He was working in The nuclear power station "Serenfield" and Homer embodies the American moderate class. acting his voice:" Dan Castellaneta".For the first time on television, he appears with the rest of his family, in a short film entitled "Happy night" on April 19, 1987, the character of "Homer"is designed by Paintsit, "Matt Groening" while he is waiting in James L. Brokks'office hall "After its appearance for three seasons on Tracey Uliman channel, then Fox channels network get the right of publication this series to that chain and presented its first episode on 17 December 1989. Fox campany has owned the official sponsor of " The Simpsons" seriesUntil year 2082.

Figure No. (2) illustrates the image " Matt Groening With puppets of cartoon Simpson character,"

- Monitoring the political projections via animation cadres in the animation series "Simpson"

The American elected President- Trump has appeared in several episodes as a famous financial character but further appeared in the 30th episode of his candidacy for the United States presidency in the animation series" Simpson "entitled:" Bar to The Future "on 17 March 2000 and I have seen the episode which related with his campaign, the strange thing is that the scenario of Trump entry to the conference hall is match 100% with his entry into the cartoon series " The Simpsons ". All the scenes appeared in this cartoon episode before several years it has been embodied on the reality with the accurate details, like the clothes, the presence location ,the surrounding characters , his movements and the speech he said.

And we understand that those who control the United States from a particular place are planning events for many years before they occur - before the War of Iraq, Afghanistan and the financial crisis, and before the presence of smart phones, especially before the digital revolution.

Where the father "Homer" goes to the future to find the conference "Donald Trump" and he is presenting to the USA president in the press. After The country will lose her mind . As America will fall down in the rest of the rich trump family , which control America and the the world too. There is a little who remembered this laughing and reliable episode that remembered by Sky News and broadcasted the comic episode that was given to the episode writer, a great fame since the date of Donald Trump won the presidency.

Figure No. (3) explains several cadres from one of the Simpson Family episodes in 2000 predicted that Trump becomes the president and conformed with the scene in the contemporary reality after several years when Trump was already nominated to preside the United States of America In the late 1980s, Trump was recently nominated in 2016 and the usual tray scene in the Trump Tower, and finally after he become the President of the United States and the fears about his shocking statements.

Note that: it is Written "Trump :America you can be my ex-wife!"

In July 2015, Donald Trump is nominated for the presidency of the United States of America on the Republican Party - but no one get interested because no one believed, he

would win and he won on 2 November 2016. "Dan Grini" is one of the writers of Simpson episodes "the Serial hasn't no predictions and the author is not the actual ruler of the world and everything is trying from the series' team work to renew and keeping away from repetitions in his more than 500eposide and display political and humanitarian issues in a comedy way. The delivery of Trump presidential councils was warning to the USA .This vision is matching with that the Americans will become mad. "As in 2015 and after Trump's candidacy for the US presidential elections, a short sarcastic clip was issued:" Trump Tasting Voyage "as the clip shows Tramp goes down the electric staircase between a group of his supporters while one of them falls a sign . that is actually repeated at the beginning of 2016 during the Trump's elections Campaign, but the electric staircase scene is a famous

scene in the Trump Tower. The clip shows the actual economic situation of the United States is now, and the very disastrous .

This is known that "The Simpson family series is "one of the most controversial series recently because her predication with future events before it occurred, like the events of September 11, t the Arab Spring revolutions, the invention of the iPhone, smart clock, three- dimensional printers, and finally the victory of the American president" Donald Trump

Some think that The Simpsons series display many mysterious predictions in the world of politics, medicine and even physics and terrorism. And everything is dominant, everything is controlled in us, our minds and in our plants, and its discoveries and in natural disasters and tell us sometimes what they intend to do and the world in a semi-sling.

The advertising Video clip lyric of nominating Donald Trump for the presidency

entitled "Donald Trump will destroy America"

Narration

No way you give me idea you have freedom to give a choice You don't you have no choice

You have owner they own you

Video clip lyrics

Elope nineteen you come to take control

You take my IP but you can break my sole

Elope nineteen you come to take control

You take my IP but you can break my sole

You know ebola we need you not at all

Narration

Perhaps they have much money

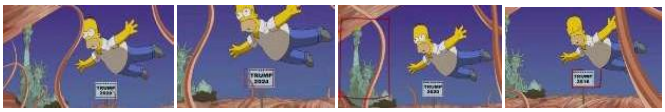

Figure No. (4) illustrates several cadres from the Simpsons series, this following years:" 2012-2016-2020-2024-2028

The fifth axis: The emergence and development of advertising animation film as a political motivate in the management of disaster and crises

The Simpsons series predict with Ebola virus. in the 1997 an episode displayed about Ebola virus without having a relationship with the story of the episode, where the mother is introduced a book for her patient's son carrying his cover the phrase" Virus Ebola "and shows a sleeper monkey. It knows that the monkeys pointed out the accusing fingers for a long time therefore being carried by the virus and the origin of its spread. When the series team workers were asked about this, their response was that the disease was known since 1976 and renewed its appearance in 2014. It was almost becoming a globally disease but it remained in West Africa.

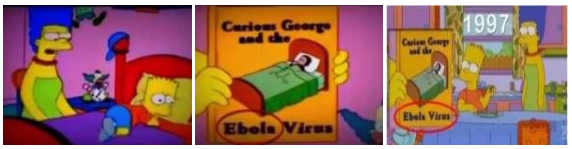

Figure No. (5) illustrates several cadres from the Simpsons series

In the rest of the episode, "Bart" is a failed music, while his sister Lisa was the first president of the United States - nodes here to Hillary Clinton - after the President Trump, who left the country in a bad financial position.as liza's dialogue :"We inherited a critical situation." When Lisa asked, her secretary – the president's Secretary of the United States - " Fan Hoten" for the financial situation, and he answered her : "we are bankrupt"".

Figure No. (6) explains several cadres from one of the Simpsons episodes

The episode ends with Lisa's heroine the burden of the USA presidency after the failure of the trump's policy economically and also appears in another shot that Lisa friend -Mill House- - explained with a graph the unfortunate status that has been forced to take subsidies from China.

Figure No. (7) illustrates a cadre from one of the Simpsons episodes

And the absent reality of everyone that Trump has expressed its political ambition to reach the USA presidential chair in 1987, after one year the appearance of the first episodes of the series " The Simpsons", and announced his candidacy since October 1999, to enter the USA presidential race for the first time in 2000. Candidated by A small American reform party. Some political analysts surprised his shares by winning Trump the USA presidency, nominated by the Republic party. As he appeared in The Simpsons series since 17 years in the 84-year-old in 2033, and he has brought to America a Sufficient crisis and broken finances in external debt and in the dependency of Europe, China and their subsidies. Grape. This scenario comes in contrast to the trump election campaign in which he is promised a maximum economic residence and restoration of America.

- The emergence of state symbols in the American animation film as a political motivate in the contemporary reality strategy
    - The Expressing about the USA presidential headquarters ,"the White House" and how to make decision in animation film as a political motivate in contemporary reality strategy

Figure No. (8) illustrates several cadre from the Simpsons series

The sixth axis :Expressing about American presidential elections in animation film as a political motivate

Figure No. (9) shows several cadre from the Simpsons series

The seventh axis :the Expressing about presidential elections, cheating methods and manipulation cheating voting machine: the Episode 4 in Part 28, "Homer" the Main character P voted for Obama but votes is wrongly gone for " Jen Markin" and after 4 years and during the USA electoral events occurred the same thing in

Penslvania state that all The votes that were in favor of Obama went to his first rival "Med Trump Nei ".

Figure No. (10) Explains several cadre from the Simpsons series

- The Expressing about Spying the National Security Agency (NSA) on American citizens in animation film as a political motivate

The scene of the Simpsons series in 2007"Liza and Marg" was hiding afraid of the government tring to save their city from destroying. So liza is trying to warn her relatives about their conversations , because the government is spying on their conversation and it is not away that this spy is included all citizens.

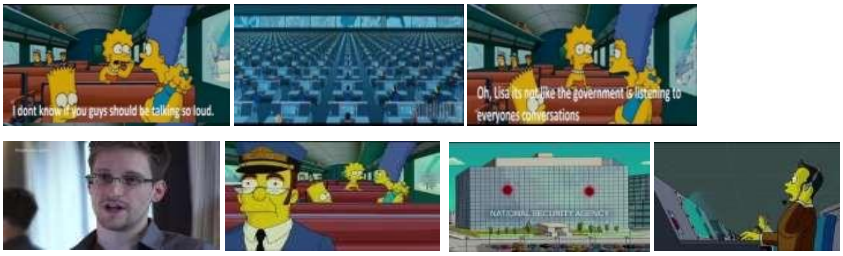

Figure No. (11) explains several cadres of the Simpsons series, at the top cadres illustrate the dialogue that the USA government monitors the telephone talks of her citzens, and below the cadres illustrate by the employee who was working on the USA National Security Agency and explains this fact

It is mentioned that the series broadcasted via Fox News, proven the truth of his expectations for the future, making some say that it's a thoughtful plan for the leakage of their plans in series and films .for two reasons, their huge numbers and the prohibition of communication between them except Hierarchy.

Also in Hollywood movies, which merged the reality into the computer graphic and optical illusion as in the " Terminator part II", "Judgment Day", in 1991 so some videos came online and on YouTube thought that the series team workers may be Illuminati. As The series "Simpsons" on the 20th century Fox television mention some political phrases as a United Nations debate, "system with any pay "I am high with capitalism".

Figure No. (12) explains several cadres from the Simpsons series

The eighth axis :The American War on Afghanistan and Iraq

The USA War was addressed in Afghanistan and Iraq . in one of the Simpsons series and volunteering in the US military. and what the american news agency told about the previous American president policy "Jorge bosh."

- The New is the deleted episode of the Simpsons series entitled "Trump and Obama and Dash"

In the special episode, which was displayed between 2004: 2008, "Trump" appears accompanied by a man from African assets called "Tommy". Tommy- which is similar to the Park Obama- speaks so afraid of something with Donald Trump. While Trump gives him two pieces of money category $ 100, who is irritatingly and tremblingly in a scene that does not exceed 10 seconds .

Figure 13 illustrates one of the scenes expressed a lot of hidden messages from a piggy bank - symbolizes that America may need in the future for China support- to the rest of the items in the background

- Drink bottle (wine) on the table, there is a small stamp with "Halal" in Arabic clearly !!

- The man in the background of the scene carries an Arab Islamic features the same as the dash's leader of Abu Bakr al- Baghdadi.

- It also appears in the background map for the Middle East and notes a red shooting arrow on the map and specifically on Syria or the recent dash's influence area

- On the shelve there is a small pyramid - one of the fishery symbols - in addition to two books with names of Arab countries suffer from dash's presence in its territory, they are "Libya" and "Yemen".

-There are some images in the background of the scene like "Homer in a hysterical case because of the frequent volatile money around him. And There is a picture of Liza behind the bars after being arrested.

The ninth axis: Video clip entitled "He's Barack Obama .. He's Come to Save the Day".

Barack Obama is the supernatural Hero as Super Man, which will achieve the impossible for America at the internal and external level in its international relations and the video clip shows the supernatural capabilities of Barack Obama.

Figure No. (14) explains several cadres from Video clip entitled

The Video clip lyric entitled "He's Barack Obama .. He's Come to Save the Day".

When darkness had descended all across the land

Alone voice in the distance uttered Yes! We can!

He gave good speeches Never sweat

He was real good at the internets

He's Barack Obama He's come to save the day

He passed a major stimulus for the Bourgeois

Then said he'd half the deficit he he! Ha ha!

Stop unemployment! Market Dives!

Fix healthcare in his spare time

He's Barack Obama He's come to save the day

He'll use his superpowers to win in Iraq

Then kung fu chop the Taliban

Ka- chow ! ka - cha! Ka- chow ! ka - cha!

Our image in the world he'll mend Then make the Jews and Arabs friends!

He's Barack Obama He's come to save the day

Telephone is being called

Officer : sir ,we got a situation Obama: piorates

He'll spend the dough! Write the checks !

Disregard the mounting debt! Stop the globe from getting warm!

Fuel your car with nuts and corn! Leap a building!

Run industry! Save a kitten from a tree!

Fix the schools! Go to space!

Stop a train ! wrestle bears!

Smoke a butt! We don't care

Cuz you're Barack Obama You've come to save the day!

So just snap your fingers and fix the USA!

YA YA YA

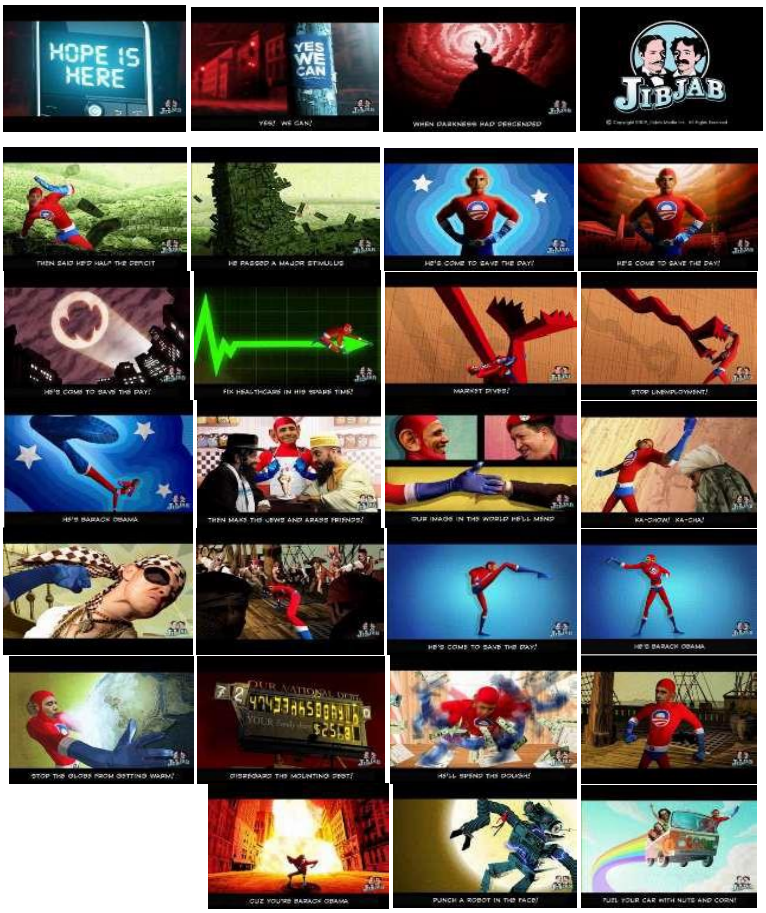

Figure No. (15) explains several cadres from Video clip entitled "He's Barack Obama .. He's Come to Save the Day".

Conclusion

By Analyzing and comparing between the Advertising animation Video clip entitled "He's Barack Obama.. He's come to Save the Day", and The advertising Video

clip of nominating Donald Trump for the presidency entitled "Donald Trump will destroy America". And what the real American impression of both presidents," Obama"and" Trump"and both of the Advertising animation Video clips succeed in expressing how Obama will be loved by Americans as a superhero, and that what happened when he became the American president. And all the right fears of Trump and how Americans are going to crazy.

Results& Recommendations

[1] The important role of "Cultivation Theory" in advertising animation film via multimedia

[2] The emergence of state symbols in the animation film as a political motivate in contemporary reality strategy

[3] There is Political projections on advertising animation cadres ,as the animation series "Simpson"

[4] The Arab presidents and judgments especially should be see everything In the future broadcasting in the United States from Hollywood movies and also animations, because they offer an up dative picture of what happens in the United States, and in the world in The near future?

[5] The series of animation "Simpson" is as a political motivate in contemporary reality strategy

[6] Monitoring all the political projections via animation cadres in the animation series "Simpson"

[7] The future vision of The advertising Video clip of nominating Donald Trump for the presidency entitled "Donald Trump will destroy America"

[8] The emergence and development of advertising animation film as a political motivate in the management of disaster and crises

[9] The emergence of state symbols in the American animation film as a political motivate in the contemporary reality strategy

[10] The Expressing about the USA presidential headquarters ,"the White House" and how to make decision in animation film as a political motivate in contemporary reality strategy

[11] Expressing accurately about American presidential elections in animation film as a political motivate, as: cheating methods and manipulation

[12] The Expressing accurately about Spying the National Security Agency (NSA) on American citizens in animation film as a political motivate

[13] The cruel American War on Afghanistan and Iraq

[14] The New facts about the deleted episode of the Simpsons series entitled

"Trump and Obama and Dash"

[15] Advertising animation Video clip entitled "He's Barack Obama.. He's Come to Save the Day", shows how Obama will be loved by Americans as a superhero, and that what happened when he became the American president.

Note. This research is introduced as worksheet to publish my post- PHD researches in EJMS (European Journal of Multidisciplinary Studies) and for the International Continuous Online Conference "Recent Ideas and Research", organized Online Platform at the venue of Revistia Headquarter, Revistia Publishing, 11 Portland Road, London, UK on 17-18 September 2021

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A Review of Literature on the Effective Pedagogy Strategies for Online Teaching and Learning in Higher Education Institutions: Lessons from the COVID-19 Pandemic

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Abstract

This paper reviews the literature on the effective pedagogy for online teaching and learning at Higher Education Institutions throughout the world during the COVID-19 pandemic. The global higher education system has been severely hampered by the COVID-19 pandemic. The sudden and enormous desire for previously face-to-face academic disciplines to be delivered online has posed a unique challenge. Online teaching and learning necessitate a certain level of technological pedagogical content knowledge for effective pedagogic strategies, which are primarily concerned with planning and arranging for better learning opportunities and creating distinct learning environments through the use of digital technology. The effectiveness of lesson delivery with technology integration is characterized as technological pedagogical content knowledge. It is a significant application in all aspects of learning that are necessary for the teaching and learning process. Consequently, this theoretical paper proposes a conceptual model for comprehending the link between effective pedagogy and technological pedagogical content knowledge, both of which result in students' academic performance in an online teaching and learning context. This theoretical paper recommends that Higher Education Institutions have fundamental technological infrastructure and equip educators and students with advanced technologies applicable to online teaching and learning platforms, which is consistent with an Online Collaborative Learning theory. Educators must also be able to effectively use digital technology systems to deliver online lessons. According to this model, Higher Education Institutions will benefit through providing students with essential technical skills that today's employers require and ensuring that universities around the world remain competitive.

Keywords: effective pedagogy, online teaching, and learning, technological pedagogical content knowledge, Higher Education Institutions, COVID-19 pandemic.

Introduction

Background introduction

The COVID-19 pandemic has spread globally, affecting nearly all nations and areas. The virus was first found in Wuhan, China, in December 2019. Sanitation, the use of face masks, physical distancing, and the avoidance of large crowds have all been utilized as preventative measures. To flatten the curve and minimize illness spread, lockdown and stay-at-home tactics have been employed. In response to the COVID-19 pandemic, governments are enacting legislation to ensure that teaching methods continue during the epidemic (Sumitra & Roshan, 2021). However, there is uncertainty and dispute regarding what to educate, how to educate, the burdens experienced by students and educators, the learning environment, and the consequences for educational fairness. During the COVID-19 pandemic, Higher Education Institutions (HEIs) in South Africa have attempted to use technology to assist virtual learning, and online learning and digital training are growing and evolving rapidly. The literature identifies flaws in online teaching and learning, such as a lack of online education infrastructure, instructor inexperience, an information gap, and a complex home situation (Wahab, 2020). Regardless of these restrictions, the current situation requires action to guarantee that students' learning is not compromised in any way.

As a result of the pandemic, HEIs were compelled to conduct all of their operations online. Although online teaching and learning (OTL) is, in general, an alternative to formal instruction, it is a critical component of HEIs' operations during the COVID-19 pandemic (Coman, îru, Schmitz, Stanciu, & Bularca, Europe, 2020). This revolutionary change may increase students' comprehension of OTL procedures. This research focuses on effective pedagogical (EP) techniques that assist in enhancing students' interest in a subject, involving students in learning, developing fundamental learning abilities, keeping students focused on a task, and producing sustainable and beneficial interactions in OTL spaces. Effective pedagogy plays an important part in an OTL process by encouraging students to develop their profiles and assisting them with any subject of interest (Ruarte, 2019). Furthermore, educators employ efficient teaching strategies that continually fulfill their objectives, which are directly or indirectly related to students' learning, as well as approaches to reach these objectives (Habib, 2017). Educators are the single most important factor determining students' academic achievement. Choosing competent educators is critical for HEIs wanting to enhance their outcomes. Educators are well-versed in their educational topic and possess the necessary experience and skills. Moreover, educators use online teaching and learning to build technical material knowledge in their students. Educators also understand how to help students master ideas, content and skills in the most effective way possible, and they use their technological pedagogical content knowledge (TPCK) of learning mechanisms to determine which strategies will be more effective in helping their students understand the subject matter better.

According to EP and OTL studies, the number of online distance students and programs is growing all around the world (Ruarte, 2019).

The ongoing COVID-19 pandemic has added to the stresses and responsibilities already faced by university educators juggling teaching, research and social commitments, not to mention a balance between work and life (Rapanta, Botturi, Goodyear, Guardia, & Koole, 2020). Educators of all backgrounds have had to prepare and deliver classes from home, with all of the existing technological challenges that entails, and often without the benefit of adequate technical help. Furthermore, a significant challenge for educators has been a lack of technological pedagogical content knowledge (TPCK) necessary for online teaching and learning (Rapanta et al., 2020). According to the suggested model of this research, TPCK incorporates characteristics that are beneficial to students when participating in OTL, such as Collaborative Learning (CL) and Independent learning (IL). More importantly, the model incorporates the technological content knowledge (TCK) and technological pedagogical knowledge (TPK) that educators need when demonstrating a lesson plan appropriate to an OTL environment. In light of the above discussion, this paper is guided by the following research objectives:

i. To examine the effective pedagogies adopted by Higher Education Institutions (HEIs) across the globe during the COVID-19 pandemic;
ii. To assess the technological pedagogical content knowledge in HEIs; and
iii. To evaluate the online collaborative learning theory adopted for online teaching and learning in HEIs.

1. Effective pedagogy in Higher Education Institutions

The COVID-19 pandemic drove the shift of teaching and learning to an online content style, which has become a key part of the world's education system (Mishraa, Gupta & Shree, 2020). However, the degrees and strategies of using OTL to achieve quality education vary and are dependent on the different factors associated with the technological pedagogical content knowledge (TPCK) methodology. Furthermore, for universities to produce meaningful outcomes in the implementation of teaching technology, it is important to consider the different forms of interactions between educators, students and technologies. According to Paudel (2021), the use of new technologies should result in a new paradigm in the relationship between educators and students. Additionally, to efficiently and effectively incorporate technological pedagogy in classroom teaching and learning, educators' viewpoints on teaching, TPCK and skills, and teaching methodologies play a crucial role. The educator's job is more of a mentor, a vital discussion partner for students, and a representative for unique topic realms. This indicates that the educator is encouraging greater academic freedom. Educators need to use technological content knowledge (TCK) to alter their interactions with students (Van Leendert, Doorman Drijvers,·Pel & Van der Steen, 2021). Furthermore, the educators' role in using TCK in educational technology should be to promote learners' learning outcomes. Educators should use

technological pedagogical knowledge (TPK) to enhance their practice, develop their careers, design and develop creative approaches, and include students in a range of practice and work tasks to improve their educational results (Paudel, 2021).

2. Technological pedagogical content knowledge in Higher Education Institutions

Technological Pedagogical Content Knowledge (TPCK) is a concept established to describe the collection of knowledge that educators require to teach the students efficiently and to use technologies (Joseline, Santos, Rowell & Castro, 2021). TPCK strives to identify the type of knowledge necessary by educators for integrating technology in effective teaching while recognizing the multifaceted, multidimensional, and contextual nature of educators' expertise. Furthermore, TPCK is crucial for emerging educators since they are the upcoming educators who will shape the next generation. Previous research found that the use of TPCK in the classroom still needs to be prioritized for successful lesson delivery (Joseline et al., 2021). There is minimal emphasis on the skills that educators need to improve early literacy through the use of technology, and educators frequently struggle with effective technology use in their settings. In addition, TPCK is knowledge about complex interactions between the domains of knowledge principles (Janssen, Knoef & Lazonder, 2019). Learning in modern times requires educators' understanding to be able to collaborate with technology. So, it is not only aspects of pedagogy that are important; content and technology are also considered in implementing modern and innovative classroom learning. TPCK integrates complex technology in learning by paying attention to three aspects, namely pedagogy, content, and the technology itself in learning that is developed by the educator effectively. TPCK elaboration and OTL give students the freedom to pick their own pace of learning and the order of learning activities based on their needs. OTL educators can explore the material in online learning by displaying concrete examples (on virtual presentation) so that they are easy to understand (Joseline et al., 2021). The existence of TPCK in an OTL context is interpreted as an innovation to mobilize student participation by utilizing technology. This will require time and training for educators. However, the existence of TPCK is believed to be a role model of learning that is oriented towards the changes and demands of the 21st century in responding to the knowledge era. Various phenomena of everyday life can be raised as the theme of the subject matter. The subject matter is more verbal learning. Various intellectual skills in nature can develop in students, ranging from fact-finding skills to knowing facts to evaluating or judging facts (Mutiani, Supriatna, Abbas, Rini & Subiyakto, 2021).

2.1 Educators' technological content knowledge in online teaching and learning

Technological Content Knowledge (TCK) is described as the ability to communicate, analyze and produce material using technology without regard for education (Hidayah, Na'im & Puji, 2020). Experts in content know-how technology are used. By

increasing and developing the quality of TCK, the capacity to combine technology and the content of classroom learning materials may be accomplished. Technology content knowledge is the understanding of which technologies are acceptable for usage in various disciplines. Included in this, too, is the awareness that technology may necessitate a content compromise or may improve content representation (Hidayah et al., 2020). Educators must grasp which technology is most suited for their domain's teaching content, as well as how to dictate or modify technology. According to this, educators must be capable of using technology and selecting courses or subject matter that are compatible with the technology that will be utilized in learning.

2.2 Educators' technological pedagogical knowledge in online teaching and learning

Technological Pedagogical Knowledge (TPK) is characterized as the understanding of how to use relevant technology to assist certain teaching and learning techniques without regard for topic content. The foundation for professional growth in 21st-century learning is the integration of technology in enhancing learning with specific pedagogical judgments. Educators are familiar with TPK, which is instructors' knowledge or ability to use various technologies in teaching English for specific and professional understanding (Mulyadi, 2020). According to Heitink, Voogt, Fisser, Verplanken & Van Brak (2017), TPK is an essential knowledge area for educators working in primary education, because these educators are required to teach a wide range of subjects and, as a result, do not always have in-depth subject knowledge.

2.3 Students' collaborative learning in online teaching and learning

Collaborative learning (CL) holds considerable promise in HEIs since it encourages the collaborative production of information as well as the development of skills linked to interaction, which leads to more important learning processes. CL, on the other hand, cannot be effective without proper support since online teaching and learning are considerably more challenging for students because the online environment necessitates new kinds of communication and interaction. As a result, a shift in the educator's role from the conventional transmission of viewpoints to those of a supporter and facilitator of individual and group learning processes is critical (Herrera-Payo, 2021). Collaborative learning in online courses is often seen as beneficial since it improves the interaction between students and instructors while also creating a sense of social presence. When there is no direct human interaction in distant learning, this sensation can aid to decrease student loneliness, which is especially important during traumatic times (Morgan, 2020). This perspective ultimately promotes students' knowledge and overall ability to adapt to various teaching strategies, which supports them in grasping the complexities of teaching and boosts their desire and pleasure (Medwell & Lei, 2021).

3.4 Students' independent learning in an online environment

In today's developing education system, students must be self-directed learners; yet, there is no ideal coursebook that covers all that educators and students may utilize in the classroom. Many students struggle with the transition from their prior studies to the greater independent learning (IL) necessary at university. According to Umaralieva (2021), academic studies require students to take ownership of the learning, become more conscious, and make choices regarding what they will concentrate on as well as how much effort they will invest researching both within and without the classroom. Independent learning is a method, approach and critical pedagogy in which students obtain information by self-motivation and develop inquiry and critical thinking abilities (Umaralieva, 2021). Additionally, it entails the freedom to select how to attain those aims, within the limits of a specific project or program and with the help of an academic consultant. Independent learning necessitates the flexibility of the process to carry out objectives, and it lays more educational responsibility on the student for the achievement of objectives as well as the value of the goals.

3. Online collaborative learning theory

The theory of online collaborative learning (OCL) describes a learning paradigm in which students are enabled and assisted to collaborate to build content (Bates, 2014). Furthermore, students learn to invent, to discover avenues to innovate and, in doing so, to pursue the intellectual information required to solve problems rather than reciting what they believe is the correct answer. Although OCL theory encourages learners to be involved and committed, this is not considered necessary for learning or knowledge creation. According to OCL theory, the instructor is important not as a fellow learner, but as a guide to the information group, or the state of the art in that discipline (Bates, 2014). Learning is characterized as conceptual change and is essential for information construction. The learning practice must be advised and driven by discipline standards, as well as a dialogue framework that stresses conceptual learning and knowledge building (Darling-Hammonda, Flooka, Cook-Harveya, Barronb & Osher, 2020). The aim of online collaborative learning is not to replace the educator, but to use technology to enhance contact between instructor and learners, with a specific approach to learning growth focused on information construction supported and built through social discourse. Therefore, in OCL, the management of social discourse is designed to scaffold learning by assisting with the construction of knowledge in ways that are guided by the instructor, represent the discipline's standards or values, and respect or take into account prior knowledge (Jing & Chen, 2019).

The philosophy of OCL is a concept whose time has come. Students' ability to participate in programs and classes through the Internet and access resources online is forever changing the essence of formal education (Bates, 2014). Higher Education Institutions (HEIs) and educators were caught off guard by the dramatic changes that

were thrust upon them, especially during the COVID-19 pandemic (Jandrić, Hayes & Truelove, 2020). As a result, research into successful online training and learning methods is both timely and critical. The educational improvements brought on by modern computing and networking technology are important. Students of the current world are more likely to come from a wide variety of cultures, have varying degrees of academic and language skills, and want to learn where and when they want (Simsek, 2015). Thus, research into paradigms other than those commonly identified with universities, where students are often required to attend on-campus courses, sit through seminars and attend face-to-face lessons, is long overdue. One such model that holds great promise in light of the current COVID-19 pandemic is online collaborative learning. Collaborative learning is not a novel concept. Admittedly, it seems that for thousands of years, people have been researching informally in groups (Kukard, 2020). It is therefore important to note that almost all formal learning today, especially at the university level, continues to take place in an atmosphere in which students are required to learn independently (Simsek, 2015). Despite this, students often form their informal research groups which assist them in understanding the content collaboratively. As a result, implementing OCL theory in curriculum development is important for HEIs when enhancing students' learning skills in the context of technology. HEIs must pay careful attention to the appropriate application of teaching techniques not only during the Covid-19 pandemic, but also in the post-pandemic era (Kasradze & Gulua, 2021). In addition, HEIs should select appropriate teaching techniques to ensure the development of skills that are critical for the market competitiveness of graduates of a specific program as well as the field as a whole.

5. Methodology

This paper is theoretical in nature. The researcher took a theoretical and reflective approach that integrated the researcher's viewpoints with an interpretation of existing material. A theoretical method develops an understanding of the subject matter by using frameworks, abstract concepts and ideas related to the subject instead of relying on its practical features or uses (George State University, 2015). This technique, according to Rambe, Ndofirepi & Dzansi (2015), integrates the researcher's individual views and interpretation of existing literature on the different components to comprehend the phenomena under inquiry or to offer a preliminary explanation of the situation. As a result, the researcher uses concepts derived from literature and the researcher's imagination to reach logical conclusions regarding the impact of effective pedagogy strategies for online teaching and learning in HEIs worldwide. Given that the goal of theoretical research is to explain phenomena, this research discusses the relationship between effective pedagogy and TPCK in an online teaching and learning context.

The selection of material for the current research began with a search in the Google Scholar® databases (main collection). Publications containing the phrases "online

teaching and learning", "effective pedagogy", "online learning during the COVID-19 pandemic", and "online learning at HEIs" that reacted to the problem were used in this research. Although the definitions of online, e-learning, virtual, digital, web-based, remote and online courses differ significantly, they were considered relevant for this research, which sought to investigate any type of practice in which the teaching and learning process is mediated by the use of technology in a remote scenario. A total of 35 papers met the inclusion criteria for this research, which mostly focused on online teaching and learning methods at HEIs, in terms of academic journals published, experimental research type, and problem relevance.

6. Conceptual Framework

In an online TPCK context, basic technological methods are best used to teach and direct students toward a stronger, more rigorous comprehension of the subject matter. Within the TPCK context, the two types of knowledge, TCK and TPK, are thus mixed in different ways. Technological pedagogical knowledge (TPK) defines the relationships and connections between technological resources and specific pedagogical activities (Kurt, 2018). However, technological content knowledge (TCK) explains the relationships and intersections between technology and learning objectives. These fields are then combined to form TPCK, which considers the connections between them all and recognizes that educators are working in a diverse environment (Kurt, 2018). Moreover, students learn collaboratively and individually in the TPCK context, with the instructor's guidance, to achieve optimal results in an online environment. According to the model in Figure 1, HEIs must reflect on OCL theory to comprehend OTL and develop effective pedagogies. The model emphasizes that students may gain the necessary information and skills for effective OTL. In an environment where students are exposed to technological advancements, they see it as more than simply a tool for teaching, but also as a means for them to learn collectively and individually. Furthermore, instructors benefit from technological advancements in an OTL environment, such as making the production of learning materials easier. Nonetheless, intelligent use of technology is a key aspect in the 21st century. It should be used to improve students' learning and achievement. Pedagogy refers to the interactions between instructors, students, the learning environment and the learning activities. Effective pedagogy is based on the teacher's lesson development skills, the competency of the learners and the availability of resources. A good pedagogy, according to the model of this research, provides real-world activities that bring out the best in each student while also assisting them in improving their online teaching and learning experiences.

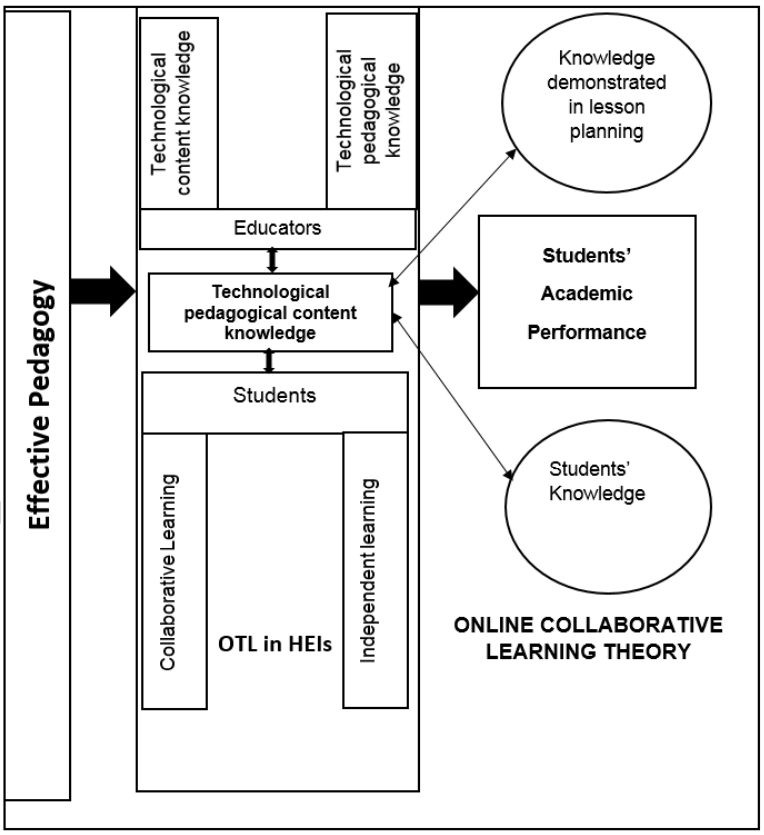

Figure 1: Model of academic performance of students in an online context (developed by the author)

7. Observations and discussion

Many factors influence a student's academic success, including personal qualities as well as family and community experiences. However, according to Habib (2017), the most significant element influencing student learning is the educator. Previous research has revealed a broad range in productivity among educators (Simsek, 2015). Educators tend to be effective with students of all levels of achievement, regardless of the degree of variety in their classrooms. Effective educators cannot be consistently recognized based on where they went to school, whether they are qualified, or how long they have taught (beyond the first few years). Arguably the most effective method to evaluate their competence is to examine their job performance, which includes what educators do in the classroom and how far their students' performance improves in exams. Many things can be learned by students on their own through research, with educators arranging the learning to accommodate the student. In addition, there are various instances in which an educator must educate more directly. For example, giving explicit explanations, descriptions, and illustrations of

the information and skills being offered to students (Habib, 2017).

The transformation in teaching and learning to an online delivery modality, compelled by the COVID-19 pandemic, has become an essential component of the worldwide educational system. However, the degrees and ways of employing these components to achieve excellent education vary and are dependent on the different elements connected with the use of technologies and practices in education, even before the shutdown of universities and schools as a preventive step against the COVID-19 pandemic. According to Paudel's (2021) research, understanding the relationships between educators, students and technologies is critical for producing positive results in the incorporation of instructional technology. The introduction of technology has resulted in a paradigm change in the connection between educators and students. To optimally and efficiently incorporate technology into classroom teaching and learning, educators' attitudes on teaching, technological knowledge and abilities, and instructional techniques all play a part. Educator also acts as greater adviser for students' crucial conversations as well as a leader in certain areas of discussion. This indicates that an educator encourages students to be more self-directed in their learning. Educators utilize technology to alter how they engage with students.

Educators utilize technologies to optimize their work, professional development and creation of new techniques, thinking, reflecting on practice, and engaging students in a variety of relevant activities and assignments for improved academic achievement (Paudel, 2021). However, OTL and homeschooling has limitations since many students dropped out of school due to expectations and economic conditions. Studies should be conducted to assist the most economically disadvantaged communities. There have been instances of students dropping out or opting out of school. This is because of the extended break caused by the academic shutdown during the COVID-19 pandemic (Sumitra & Roshan, 2021). Various types of online learning have been created by HEIs throughout the world and made available for learning during this epidemic. The cost and accessibility of these online platforms for all students coming from different economic backgrounds remain a concern. Students with special needs that may pose learning challenges, such as hearing loss, vision loss or mobility issues, require specialized instruction with assistance and supervision. Despite the difficulty of immediately responding to these problems (for example, by providing a peaceful and equipped area for each student), governments have taken certain steps to promote fair and inclusive access to appropriate learning environments (OECD, 2020). Furthermore, parental support for homeschooling is more important than ever in this environment to give students optimal learning circumstances and to help them in their studies during university closures.

8. Conclusion and future research

Before the COVID-19 pandemic, online learning was underutilized, particularly in developing countries. However, the pandemic has compelled the entire globe to

depend on it for educational purposes. To comprehend OTL and investigate effective teaching pedagogies, researchers should consider foundational hypotheses and perhaps infer that OTL is still distinct. This research's proposed model assumes that both students and educators will develop the necessary knowledge and skills for successful OTL in HEIs. The paper suggests that universities build on the two areas of knowledge presented in the model: technological pedagogical knowledge (TPK) and technological content knowledge (TCK). By doing so, universities can improve their ability to evaluate students' learning outcomes and teaching practices. Students must become life-long learners who are familiar with new effective pedagogies for OTL and the new technologies needed to facilitate online learning in today's new online instructional world. While this research is theoretical in nature, future research may require an empirical research approach. A quantitative approach can provide a comprehensive foundation for understanding the overall impact of effective pedagogy strategies for online learning in higher educational institutions, while a qualitative component can deepen our understanding of educators' and students' experiences of online teaching and learning across the globe.

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Only Humanities Education Will Save Us from Extinction

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Abstract

The purpose of this article is to show how the humanities offer a solid support to understand and face social and personal decisions as well, especially looking at Chile although, we know, these situations are not only local. Also, to provide suggestions of help, in education, through the humanities, so that future citizens escape the disastrous results of the studies of the Organization for Economic Cooperation and Development (OECD) which indicate that a large number of Chileans (53% of adults, but 84% of the country) do not understand what they read, becoming functional illiterates, moving away from the understanding of their social, cultural and historical environment. The above reinforces the idea of a country that can be had. This situation, which has occurred systematically, for different reasons, is what has led, for decades, to a situation of abuse, on the one hand, and weariness and anger in a large part of society, on the other. This is neither new nor local; on the contrary, social discontent has been occurring in different countries for at least thirty years.

Keywords: humanities education, social/personal crisis, education,

Introduction

Certainly, knowledge of history will make people better understand how society has come to the present moment. Experiencing the feelings and teachings of literature and the arts will make citizens more aware and sensitive to reflect on the decisions to be made, by the excessive use of reason, which can lead to mistake the right direction of that society. Possessing knowledge of philosophy will make society develop critical thinking fundamental to help in choosing the destiny of countries.

Today, even prominent economists are asking for humanities education, such as the Spaniard Joan Antoni Melé, with concepts like "ethical banking" or Edmund S. Phelps, Noble Prize in Economics, quoted by Nuccio Ordine says:

[...] Today's economies lack a spirit of innovation. Labor markets not only need more technical skills, they require an increasing number of soft skills, such as the ability to think imaginatively, to develop creative solutions to complex challenges, and to adapt to changing circumstances and new constraints. [...] A necessary first step is to reintroduce humanistic subjects in schools and university curricula. The study of literature, philosophy, and history will be an inspiration for young people to pursue a fulfilling life, a life that includes making creative and innovative contributions to society. (Ordine, 2018, p. 23)

Social crises have been present throughout the history of mankind. Some of them recent, in Chile, as the social question of the saltpeter mines at the beginning of the last century, with all that it meant from abuses to deaths of men, women and children. Then Luis Emilio Recabarren, in his speech "Rich and poor through a century of republican life", in Rengo on September 3, 1910, diagnoses the situation of the workers of Chile when celebrating the centenary of the republic and where he says that the workers, a hundred years after the republic, have nothing to celebrate. That is why it was so important for him that the workers knew how to read:

To encourage instruction, in all its degrees and in all its forms is the duty of every person who considers himself civilized. To encourage instruction, as stated above, is to weaken the bases of unpredictability and vice; it is to begin their disappearance (...). Let us stimulate him to read, to think and to analyze. To do this (...) is to lead the people to improve their living conditions. The more educated people will be the more powerful people. (Recabarren, 2010, p. 55)

Pedro Aguirre Cerda will be in charge of making visible the issue of education for all, with his motto "To govern is to educate", where, for the first time, textbooks are given to all students in public education. The great march of the coal workers from the city of Lota to Concepción, demanding better working conditions and wages for their families in 1960. The 1973 coup d'état, where a before and after in the history of contemporary Chile began, or at least where the division between one Chilean and another became visible.

In Chile, an attempt has been made to implement an idea of an "Apollonian" state, since the beginning of the republic, manifested through peace and order and as a justification to maintain or preserve a socio-economic system, in the last third of the last century, which was imposed in a state of political exception, as Naomi Klein states in her book The Shock Doctrine. Apollo represents the sun and light, beauty is his element, he represents wisdom and, ultimately, perfection.

The manifestations of irrationality such as carnivals and artistic expressions, dithyrambs and bacchantes, presented in the streets during the months of October and November, can be seen as an example of the Dionysian, representing what is outside the idea of peace and order, a catharsis carried out by groups of people who escape the idea of the Apollonian of the system. As Nietzsche expresses it in The Twilight of the Idols "their will to live", it is this will to live that has led the population to demonstrate to generate changes, to challenge the Apollonian that is the "rationality" that dangerously undermines life. The social outburst could be interpreted as the human being who takes care of himself, in the sense of present and future social damage, to get ahead because he cares about his future (destiny) and escapes from Heidegger's "hidden anguish". Just as in Greek culture, both gods (Apollo and Dionysus) reached a balance, one by the perfection of beauty through Phidias, the other by showing the horrors and enigmas of the world, Chilean society seeks to reach a more equitable and socially conscious society by trying to change the system that prevails in the country.

The idea that only productivity and competitiveness are important for a country's economic growth has led to bad practices that have been detrimental to both the public education system and people's working conditions, as well as to other sectors that will not be analyzed here. Morin puts it this way:

Las democracias del siglo XXI estarán cada vez más enfrentadas a un problema gigantesco que nació con el desarrollo de la enorme máquina donde ciencia, técnica y burocracia están íntimamente asociadas. Esta enorme máquina no produce sólo conocimiento y elucidación, también produce ignorancia y ceguera…En tales condiciones el ciudadano pierde el derecho al conocimiento; tiene el derecho de adquirir un saber especializado haciendo estudios ad hoc, pero está desprovisto como ciudadano de cualquier punto de vista global y pertinente. (Morin, 1999, p. 61)

And he continues:

The problem is not only posed by crisis or war. It is a problem of everyday life: the development of techno-bureaucracy installs the reign of experts in all fields that hitherto depended on political discussions and decisions and supplants citizens in the fields open to biological manipulations of paternity, maternity, birth, and death. These problems have not entered the political consciousness and democratic debate of the 20th century, with the exception of a few cases. (Morin, 1999, p. 61)

Later, he observes:

(...) the reduction of the political to the technical and the economic, the reduction of the economic to growth, the loss of referents and horizons, all this produces a weakening of civility, escape and refuge in private life, alteration between apathy and violent revolutions; thus, despite the maintenance of democratic institutions, democratic life is weakened. (Morin, 1999, p. 62).

Why the humanities serve today more than ever, in relation to technique today and in Heidegger, is because the latter is the representation of society. This society that bases its development on technique, this same technique that is part of consumption to sustain the economy. The conjunction of technique and economy lead to solidify a way to distract attention from what is really important, which is to be aware of reality and the immediate social environment of people. The humanities help to understand the above to form a solid pillar of critical thinking.

Advertising and television have been fundamental tools in this course of developing distracted thinking as Mario Vargas Llosa (2012) points out in his book The Civilization of the Spectacle, he says:

(…) en la banalización lúdica de la cultura imperante, en la que el valor supremo es ahora divertirse o divertir, por encima de toda otra forma de conocimiento o ideal. La gente (…) enciende la televisión o compra un libro para pasarla bien, en el sentido más ligero de la palabra, no para martirizarse el cerebro con preocupaciones, problemas, dudas. (p. 136)

According to Martha Nussbaum, quoted by Adriana Valdés (2017), "treating people as manipulable objects if you have never learned another way of looking at them" (p.14) is the basis of inequity in a society like ours.

Society in democracy is difficult to be thought of if citizens are not "capable of thinking for themselves, criticizing tradition, and understanding the meaning of other people's sufferings and achievements". Thus also "...generations of utilitarian machines will begin to be produced, instead of integral citizens" (Valdés, 2017, p. 14). This is how one could think of the educational reforms in secondary education where it was intended to eliminate, philosophy, history, and arts, at some point in Chile. When there is little or no critical or reflective thinking, as Adriana Valdés exposes, the sense of what the country, as a whole, wants to achieve is lost, part of the citizenry begins to feel exploited and excluded. In this way, people become useful in the manner of Heidegger (Acevedo, 2016). The useful, the human being in this case, remained unthemed by deception, or fear thus remaining at the hand of the system for decades, both at the beginning of the republic, as well as throughout the twentieth century. In

the same way, the person is "provoked" and transformed into a resource even when he is not but becomes quantifiable. Without going any further, companies still maintain their Human Resources departments today. Some have recently begun to call their employees collaborators, thus forming a respective totality. When all of the above happens, without realizing it, Byung Chul-Han's statement, "Now you exploit yourself and believes you are realizing", takes on its full meaning. For these reasons is that humanistic knowledge is for life and not instrumental, temporary, as are some skills that have been learned and then discarded because of their obsolescence over time, an example of this is the learning of computer languages that a user needed to have in order to operate a computer before the appearance of the Windows operating system.

According to Ordine (2018), knowledge, humanistic for our interest, is the only form of "wealth" that is not diminished or lost when surrendered and, on the contrary, does enrich the recipient for life.

Television and other factors.

Television, which was originally presented with the mission of informing, entertaining and educating, has become a mere means of entertainment. Where, in addition, today he focuses on looting and violence, losing the sense of what is happening in the background, which are the social demands of Chileans. Television itself creates public opinion when people see the authority of the image, according to Sartori (2012), "The essential thing is that the eye believes in what it sees ... What is seen seems real, which implies that it seems true" (P. 76). But, on the other hand, it makes the ability to think atrophied by having everything visually. As Sartori says:

And this is the process that atrophies when homo sapiens is supplanted by homo videns. In the latter, the conceptual (abstract) language is replaced by the perceptual (concrete) language that is infinitely poorer: poorer not only in terms of words (the number of words), but above all in terms of the richness of meaning, that is, of connotative capacity. (Sartori, 2012, p.52)

Certainly, all the above is applicable to current social networks, especially when people have become accustomed to speaking in one hundred and forty characters on Twitter or with invented abbreviations and various forms of icons that communicate ideas, without taking into account the myriad of curses and expletives that replace formal vocabulary. On the other hand, according to Terry Eagleaton (2017), universities have been losing the ability to train people and citizens with critical and cultured thinking by becoming institutions, similar to companies, with the aim of

obtaining profits and delivering "products" that contribute technology in society, physically reducing them to a minimum expression to the point that not even books can be kept in their small offices, thus also relegating the study of the humanities to a mere filling of academic meshes with "soft" skills that students They do not value in the immediate, but also, in many cases, not in the long term since they are not seen as a value for professional development. Nothing could be more wrong, according to Nuccio Ordine (2018), when he talks about humanistic knowledge or those that do not produce an immediate economic benefit. These are an end in themselves since "they can play a fundamental role in the cultivation of the spirit and in the civil and cultural development of humanity" (p. 9). In this way, the “useless” becomes useful by helping people to be better or, at least, having more tools to evaluate when making work or personal decisions.

The fact that people always experience crises is a fundamental reason to study the humanities. An example of the above are, in general, engineers who throughout their lives make decisions based on the quantitative; However, when all the goals are fulfilled as a family, home, car and midlife approaches, some begin to wonder what the meaning of all this has been, feeling enslaved to work and the responsibilities of life. It is when the midlife crisis can appear. The humanities are the way that leads to the answers and that resolves such uncertainties and questions by finding in them those answers that are not quantitative, but qualitative. Literature gives some examples that transpose time such as Hamlet and his vital doubt of taking revenge, or not on his mother and uncle for the death of his father, the king of Denmark or Faust selling his soul to the devil for the success that did not it came to him. How useful it is to read these texts to realize that literature contains this knowledge that has no immediate economic value, but helps people understand vital issues in times of crisis. In an interview, Howard Gardner (2016), says:

... and it is one of the reasons for the great crisis of maturity, when they realize that there are no (...) humanistic studies: Philosophy, Literature, History of Thought (...). You can live without philosophy, but worse. In an experiment with MIT engineers, we discovered that those who had not studied humanities, when they reached their 40s and 50s, were more likely to suffer crises and depressions (…). Because engineering and technological studies end up giving you a sense of control over your life in the unreal background: you only focus on what has a solution and on the questions with answers. And for years you find them. But, when with maturity you discover that it is really impossible to control everything, you become disoriented ... for lack of humanistic studies.

Training in the humanities allows to promote particular reflection in people, producing an internal change in them. This also allows for personal reflection to make a generational comparison between the present generation and their parents or grandparents. So also, with the evolution of society, allowing a reflection on this and how they will develop in their work environment, for example, to help improve society. This reflection gives the opportunity for all people to share and realize that they have common ideas.

Paradigm shift.

Vergara and Martin (2017), alluding to Dewey say:

Dewey understood and made manifest the profound relationship that exists between the educational system and institutions in contemporary societies. It could be said that the analysis of an educational system shows us how a society seeks to train its new members; how you envision your future; what she wants to be or, at least, as in the Chilean case, the project of society of the power elites. (p. 96)

Later the same authors point out that Dewey:

It noted with concern the growing business and banking concentration and the increase in social and political power of these sectors. He considered that industrialization and the form that economic growth had assumed had produced a corporate transformation of society that generated social and political conformism, social fragmentation, subordination of the masses in a way of life that he called "the culture of money." (p. 97)

According to the above, this situation that has occurred for more than thirty years, and the level of reading comprehension of Chileans today, it is evident that there is a lack of training in the humanities that has allowed a large part of the population to be subjected and abused with constitutionally endorsed arguments by not forcing the state to educate its citizens comprehensively.

Perhaps the time has come to change the ways, not the substance, of educating in the humanities. What would happen if teachers, of biology, chemistry, physics, mathematics, English and others, focused their teachings from a paradigm of questioning the world? Split its contents, units or learning results with a philosophical question. Wouldn't it be interesting for teachers to approach their subjects from questions that, together with their specialty, make their students think about their environment from that area? The above to have in the end, not only a specialist who

makes better decisions, but also an integral person, aware of their social, historical, cultural environment and with instrumental knowledge for life, at the same time.

Never in the history of mankind have there been so many opportunities to educate formally and informally in public or private educational institutions and through the internet, with free online courses, respectively. Unthinkable that a person from a working family could easily access higher education only sixty years ago. The reasons were varied, among them, the non-completion of basic or secondary education. It was only at the beginning of this century that secondary education became compulsory, opening the door for all young people to have the opportunity to think about continuing towards higher education and become university professionals, certainly leaving aside other factors such as economic, such as it is until today. However, thinking of either of these two forms of education starting from a humanistic basis could result in a society with developed critical thinking and, at the same time, more cultured.

Conclusions

Humanities education helps, especially in these times, to counteract the effects of excessive use of social networks where the progressive deterioration of spelling has been seen when using abbreviations, icons or memes and the loss of vocabulary when using words like Wildcards, such as the frequently used rudeness, which make you lose the minimum amount of vocabulary to express yourself correctly in more formal situations. This becomes worrying when people's reading comprehension drops, especially in recent years and increased with the appearance of different social networks in the last ten.

Humanities education helps people in the process of "learning to learn" or to acquire knowledge of a higher order. In this sense, the humanities are an important tool for the process of understanding the fundamentals of crises and a subsequent definition of these social phenomena with a much more solid base than if they did not have this humanist training. Fernando Savater (2015), in relation to education for civic life, says “that this conception of education has especially to do with philosophy, both for its reflection on social practice and the values that guide it and for its preparation for reasoned communication” (p.90).

If the humanities are not included with greater emphasis in the different areas of training of students, to substantiate the origin and objective of what they study, there will hardly be citizens who give meaning to the future society or country that they

want to achieve. Another way of saying this is expounded by Professor Ordine as follows:

... the purpose of the school is not to make our students lawyers or engineers, but to make them free women and men, we have to teach them the importance of some things such as democracy, justice, legality, love for the common good, respect to nature, the significance of artistic heritage and art in general, and, above all, the very high value of human solidarity. (Ordine, 2018, p. 43)

It is the ethical duty of the state to educate its citizens in the humanities to avoid the statistics that lead a large percentage of the country to not understand what they read. In an interconnected world, in the age of knowledge, there cannot be such a situation in which a society leaves aside the part of education that trains the person and makes us more human for the benefit of technical training. No social equilibrium can result from the thought that places the utilitarian or the technical as a primary necessity above the humanist. All technical, economic, or scientific efforts should supposedly be focused on contributing to the common good and the development of people. The example of Chile, during the last thirty years, has shown that this has not always been the case.

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Blockchain in Education - The Case of Language Learning

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Abstract

New technological developments, such as 5G networks, smart and interconnected devices, and the development of the Internet of Things (IoT), lead to a new reality in which the secure flow of data is non-negotiable. In this new reality, blockchain technology can play a crucial role, as it has the ability to provide the necessary background for the safe and inviolable operation of systems. Blockchain is a distributed ledger, in which information and data are stored and verified. These blocks of data do not have to be related to financial transactions but may concern any other type of data that needs to be securely recorded and not changed retrospectively. Although the first application of blockchain technology was about digital currency (Bitcoin), its usefulness is not limited to cryptocurrencies or the field of economics. Blockchain, especially in its last stage v3.0, has many applications in various sectors such as data storage, certification of products and services, government, insurance, health, science, and education. This paper focuses on the current and potential educational applications of blockchain and presents how this technology can be used to solve specific education problems. Nowadays, a variety of blockchain applications concerning the issue and storage of certificates and diplomas, the evaluation of learning outcomes, the support and the academic degree management, the protection of intellectual property, the cooperation between students and their professors, learning accreditation, payment for studies, formation of an academic passport (portfolio) or administration of the educational process are implemented in some HEI and institutions. The paper analyzes the features and advantages of blockchain technology, presents some of the current blockchain applications for education, as well as the benefits and challenges of using blockchain technology in the educational sector. Finally, special reference is made to applications related to the field of language learning.

Keywords: Blockchain, education, language learning

Introduction

Cryptocurrency and Blockchain technology

Nowadays, as financial transactions between both individuals and organizations or companies are carried out through the internet, the security of transactions is emerging as a matter of paramount importance. Traditionally, banks and large financial institutions are responsible for maintaining the security and validity of transactions. This, however, on the one hand has a significant cost, which is paid by the traders and, on the other hand, allows the complete recording and control of all transactions by the intermediaries.

The idea of creating cryptocurrencies emerged as a solution to avoid these restrictions on the movement of capital and made its first appearance after the collapse of the Lehman Brothers in 2008. The first cryptocurrency to be released was Bitcoin and its goal was to create an alternative way of electronic transactions, which does not depend on intermediaries, but allows secure and unquestionable direct transactions between its users. Its creation is attributed to Satoshi Nakamoto - probably a pseudonym for a team of IT and economics experts - who first described the basics of creating an e-commerce system independent of financial institutions and free from government interference and manipulation. This system, based on a peer-to-peer network, could ensure anonymous and secure transactions, using a "proof-of-work" consensus mechanism to create a public transaction history that could not be compromised by an intruder (Nakamoto, 2008).

However, the creation of Bitcoin was based on the pre-existing Blockchain technology, which was not created for the sole purpose of applying cryptocurrencies. It was introduced in its original form by D. Chaum in 1982. Chaum proposed a similar transfer protocol, which was later further developed in 1991 by S. Haber and W. Scott Stornetta, who described the creation of an encrypted data block chain (Bharathan, 2020). At this point, it should be made clear that Bitcoin - and cryptocurrencies in general - and Blockchain are two different things. Cryptocurrency is the means by which transactions are made, and Blockchain is the system that supports, verifies, approves, records and ensures the security and validity of transactions.

What is Blockchain?

Blockchain is a chain of digital blocks that contain data. The data chain is formed so that each block is inextricably linked to the previous block, through cryptographic methods. Thus, if someone attempts to make a change to a block, all the following blocks must be changed in order for the chain to remain valid, otherwise all blocks after what has changed will be invalid (Nofer et al, 2017).

In essence, blockchain is a distributed ledger in which information and data are stored and verified. This ledger is public, and as mentioned above, cannot be modified, so there is a guarantee that all data and transactions that have been recorded are valid

and unquestionable. However, its fundamental difference from the usual ledgers and databases is that it is not maintained by a central authority, but by the users, the so-called nodes, who have installed the required software. Consequently, the registry on a blockchain platform is not located in one place but is distributed, so that it is maintained and synchronized by all nodes at the same time, so that all nodes have the same updated registry. Thus, when making a money transfer, for example, it is not confirmed by a central management that keeps the transaction register (eg a bank) but is verified by all nodes (users) who keep the same register and update it at the same time. This way, it is no longer necessary to have a trusted intermediary, such as a bank, since the trust of users is based on the automatic confirmation of transactions through the software. The data exchange takes place in the Peer2Peer (P2P) network of connected computers (nodes), which, the more they are, the greater the security and validity they offer to the system. This model ensures that security is superior to a client-server system, since, if a node stops working, the system does not crash, and the data is secure.

The four main types of blockchain are public (permission less, no central authority), private (permissioned, controlled by one authority), consortium blockchains (permissioned, controlled by a group of organizations), and Hybrid (controlled by a single organization, but with some permissionless processes) (Wegrzyn & Wang, 2021). In a public blockchain directory (eg Bitcoin) anyone can write or read. In contrast, in a private directory, all participants in the chain are known and trusted (for example, internal orders in a company or organization) and are the only ones with access to the directory. The type of data as well as the way in which the data is registered and verified are determined by the software of each specific blockchain platform.

In the case of a transaction, a consensus is first reached between the users (nodes), for the correctness of the data entered in the register. Users are anonymous, since their accounts (digital wallets) do not contain any personal information. However, the content of the accounts as well as the history of the transactions made with them is visible to everyone, as well as their address, which is, obviously, unique.

Blockchain evolution

Since its first application with the Bitcoin cryptocurrency, blockchain technology has not stopped being improved by computer scientists, cryptographers, mathematicians, and financial experts. Blockchain 1.0 was used for cryptocurrencies, payment systems of foreign exchange, small-value payments, and simple cash transactions (Swan, 2015).

A first major development was the smart contracts introduced by the second-generation blockchain system Ethereum (Nofer et al, 2017). Smart contracts are small computer applications that impose specific conditions and criteria to be met (effectively a sequence of 'if this then that' variables) before registering them in the

blockchain, a procedure that takes place without the intervention of a third party (Alammary et al, 2019). This allowed the technology to extend to financial instruments such as loans and bonds and other banking instruments instead of applying it only in cash transactions. Subsequently, Blockchain 2.0 deals with properties, securities trading, smart contracts, and other areas of finance (Bhaskar et al, 2020).

Another important technological development is the gradual evolution of consensus mechanisms, from proof-of-work, which requires enormous computing power, to proof-of-stake that uses more financial tools to offer the same level of security. Equally important is the transition to blockchain scaling, which no longer uses all computers to verify transactions, but only those necessary for each transaction, obviously providing the same level of security, while greatly speeding up the process (Gupta, 2017).

The next generation, Blockchain 3.0, uses decentralized storage and decentralized communication and focuses on the development of applications in sectors such as e-government, health care, science, culture, and art (Swan, 2015; Alammary et al, 2019). As Efanov & Roshlin (2018) put it, we can identify three phases of development: Blockchain 1.0 as digital currency, Blockchain 2.0 as digital economy, and Blockchain 3.0 as digital society.

Nowadays, research continues in Blockchain 4.0, which promises to offer solutions and approaches that make blockchain technology suitable to business demands - "Industry 4.0" demands- in order to support supply chain management, financial management systems, workflow management and asset management (Bhaskar et al, 2020).

Fields of application of Blockchain technology

According to Chen et al (2018), blockchain technology is characterized by decentralization, traceability, immutability, transparency and can handle currency properties. These technical features can lead to systems with specific advantages in terms of Reliability, Trust, Security and Efficiency.

What blockchain technology really offers is a fast, secure, valid, and unquestionable way to make transactions, as well as a reliable distributed control mechanism, which eliminates any possible breach, both because the data is public and because the encryption method is virtually inviolable. Although the first application of blockchain technology was about digital currency (Bitcoin), its usefulness is no longer limited to cryptocurrencies or the field of economics. Blockchain, especially in its last stage v3.0, has many applications in various sectors such as:

- e-government, e-voting and elections, but also digital identities, for obvious reasons of security and avoidance of violation or change,

- insurance, secure keeping of registers and records, such as the land registry, property registry,
- tax office, company accounting,
- health, secure keeping and exchange of medical records,
- the food industry and the supply chain to record all information about an animal or food, from breeding / production to final sale,
- transport, for the organization and monitoring of data and products,
- autonomous driving, payment of tolls, refueling and drones,
- certification of various products and services,
- management of intellectual property issues such as the distribution of fees or usage rights but also for the immediate payment of the relevant fees directly by users,
- the audio streaming industry for the accurate recording of the movement of each song, and, through smart contracts, the attribution of copyright to artists,
- the digital art market for the certification of the authenticity of digital works. NFT (Non-Fungible Token) technology, a form of token used in the Ethereum blockchain, has been developed in this direction and, of course,
- education.

In the following paragraphs, the different areas in which blockchain technology can be useful in issues that concern educational organizations and applications are examined.

Blockchain applications in education

Research on the use of blockchain in education has seen a significant growth in the last five years, as numerous research proposals suggest systems that try to meet a wide range of needs in various educational fields. In 2017, Grech & Camilleri (2017) published, on behalf of the European Commission's science and knowledge service Joint Research Center (JRC), a report in which they explored the perspectives that blockchain technology gives to education. They concluded that blockchain-based systems could be used for permanent protection of certificates, for automatic recognition and transaction of credits, to maintain a lifelong training passport, to verify the multi-stage accreditation, to track intellectual property, to identify or to receive payments from students and to provide financing of students. Several other researchers such as Sharples & Domingue (2016), Albeanu (2017), Pina et al (2017), Ezeudu et al (2018), Nespor (2019), Alammary (2019), and Fedorova & Skobleva (2020) proposed their own more extended or more concise categorizations.

Methodology

For the purposes of this research, a search in IEEE and Google Scholar was conducted and the most cited scientific papers from 2015 until today were collected and analyzed. A total of 64 publications related to blockchain applications in education were studied, 6 of which were related to language education. As emerged from the

above study, and in an effort to give a general perspective of the ongoing research, some of the most well-known applications are presented below divided into five general categories.

Certification - Issue and storage of certificates and diplomas

The issue, storage, verification and sharing of certificates and diplomas is the most important sector of development of educational blockchain applications, to solve trust problems in the education area (Sun et al, 2021). Certificates and individual learning records that attest someone's skills and achievements play an important role in both education and market, and, therefore, must be stored in long-term available and tamper-proof ledgers (Gräther et al, 2018). Many researchers believe that the application of blockchain technology can increase transparency and efficiency (Turcu et al, 2019), achieve decentralization, manage educational credentials and consequently reduce diploma fraud (Castro & Au-Yong-Oliveira, 2021) and certificate forgery (Reis-Marques et al, 2021).

The first application of its kind was developed in 2014 at the University of Nicosia, Cyprus (UNIC) which used blockchain technology to store and confirm its diplomas and to manage students' certificates received from MOOC platforms (Sharples and Domingue 2016). UNIC was also the first university that started to accept fees for studies as bitcoins (Fedorova & Skobleva, 2020). In 2017, The Massachusetts Institute of Technology (MIT) designed Blockcerts (and the corresponding mobile app BlockcertsWallet) based on the bitcoin blockchain, which uses open-source libraries, components, and applications in order to issue and verify digital diplomas and professional certificates (Pina et al, 2017). An example of Blockcerts application is MIT's Digital Diploma (Turcu et al, 2019). MIT is also among a group of leading universities which in 2018 started to develop the Digital Credentials Consortium, an infrastructure for digital credentials of academic achievement (DCC, 2022). Blockchain for Education platform is another system based on the Ethereum blockchain, which uses smart contracts for issuing, validating, and sharing certificates (Gräther et al, 2018). Castro & Au-Yong-Oliveira (2021) report other similar solutions based on Ethereum and smart contracts, such as those developed at the University of Zurich, University of Lisbon, and Ho Chi Minh City (HCMC) University of Technology in Vietnam. Several more attempts, functional or prototypes, are also mentioned in literature. Castro & Au-Yong-Oliveira (2021) proposed a system for issuing and validating certificates using blockchain and smart contracts; Nespor (2019) proposed a blockchain certification platform, which allows higher education providers or employers to supply official certificates for students with a high level of privacy of their information. Finally, Steiu (2020) cites some other examples of certifications and blockchain identity management applications implemented by educational institutions. These include systems developed by the University of Southern New Hampshire University, Open Source University, and the European start-up BCDiploma.

Accreditation of studies or educational institutions - Verification of personal achievements

Similar to the issue of certification of diplomas is the issue of accreditation of studies. Indeed, students acquire skills and knowledge in both the formal educational system and informal education programs, such as MOOCs. Blockchain could ensure secure "accredited educational records faithfully combined with a negotiable reputation system" (Sharples & Domingue, 2016) as well as the creation of an electronic portfolio containing information about the complete acquired knowledge by someone in his entire life (Fedorova & Skobleva, 2020).

Towards this direction, ie the accreditation of studies, the recognition and transaction of credits, and the attribution of badges certifying acquired knowledge, several universities, large enterprises, and start-ups propose systems able to simplify the process and to ensure the authenticity of students' achievements. Among the most promising initiatives is the creation of the global higher education credit platform EduCTX. The platform is based on the concept of the European Credit Transfer and Accumulation System (ECTS) and aims to offer a reliable digital solution to the -so far analog- higher education credit and grading system by reducing paperwork, improving communication between institutions and by simplifying certificate management and storage for students. The platform is based on a globally distributed P2P network and uses ECTX tokens -as academic credits- which represent an equivalent to student's credit value for completed courses. Thus, it offers stakeholders (students, HEIs, private companies, organizations, or institutions) a global and decentralized education credit and grading system (Turkanović et al, 2018).

Various systems belong to this category. They propose the award of badges that represent academic achievements such as microcredentials, nanodegrees, MOOCs, and certificates from various types of training programmes. OpenLearn is a system developed by the Open University (UK) which is based on the Ethereum public blockchain and awards badges to its study accreditations (Pina et al, 2017). OpenBadges is a system proposed by Mozilla Foundation which creates "digital badges with embedded metadata about skills and achievements" (Albeanu, 2017). Badges can be degrees and certifications, but also microcredentials or any other type of credential. OpenBlockchain is another project based on the Ethereum platform, developed by the Knowledge Media Institute (KMi) in partnership with British Telecommunications (BT) (Lemoie, 2017). For its experiments, the Institute considers Microcredentials (badges) allocated for courses available on the Open Learn website and MOOCs (UK platform FutureLearn) (Turcu et al, 2019). Massachusetts Institute of Technology (MIT) and the Learning Machine company proposed a digital badge for online learning addressed to award certification to students who have attended the projects of MIT Media Lab and passed the corresponding assessment (Skiba 2017). A similar system based on the Ethereum

platform is used by the University of Glasgow for storage of student grades at the institution (Arndt, 2019). Disciplina is a platform which permits the creation of verified personal profiles based on academic and professional achievements (Kuvshinov, 2018; Arndt, 2019). Finally, Ocheja et al (2019) proposed a platform to track learning achievements, transcripts, and certificates (Reis-Marques et al, 2021) and Liu et al (2018), proposed a student's professional ability evaluation system able to link educational institutions and employment enterprises for sharing all necessary information regarding recruitment and industry requirements.

Security and educational management

Many researchers believe that blockchain technology can address the different security issues that LMS or other e-learning solutions (MOOCs, Web 2.0 based etc.) may face in an HEI environment. Fernández-Caramés & Fraga-Lamas (2019) believe that future smart campuses should use blockchain systems to ensure transparency and security. Towards this direction blockchain and, especially, smart contracts can provide new levels of security, trust, and transparency to e-learning and collaborative learning environments, ensure the validity of assessments and exams as well as the issue of credentials and the information storage in e-portfolios, and offer a significant security and efficiency enhancement to educational institutions and learners.

To this end, Altinay et al (2020), in their research study, analyzed the uses of blockchain in school management and especially in storing records, learning identity verification and content security. Bhaskar et al (2020) reviewed 36 research papers concerning teaching, learning, and student activities management, including administration activities at the school, college and universities, and proposed a blockchain system designed to facilitate all the above. Cheriguene et al (2022) proposed a trusted online-learning framework aiming to secure online learning platforms (LMSs) and, thus, to ensure the expected standard of teaching and fairness of assessment and to promote students' and teachers' motivation through blockchain reward methods. Ezeudu et al (2018) proposed an Ethereum based system which uses smart contracts for chemistry education students' data management. Bdiwi et al (2018) introduced the Ubiquitous learning (U-learning), an interactive multimedia system designed to encourage efficient communication among teachers and students in a collaborative learning environment with a high level of security. Finally, Bore et al (2017) proposed a blockchain-based School Information Hub (SIH) designed to improve a school's learning environment by collecting, analyzing, and reporting data that can assist and support the decision-making process.

Protection of digital rights and digital content - Digital signatures, timestamps

Protection of new knowledge, digital rights, copyright, digital content, learning objects acquired by students or faculty members, as well as digital signatures and timestamps is another field of application in which blockchain can offer significant improvements. Towards this direction, Hori et al (2018) discussed the

implementation of the decentralized learning system "CHiLO" for protecting e-books' copyright and ownership, and Bond et al (2015) proposed the use of a digital signature scheme and timestamps in order to detect fake diplomas and fraud in academic certificates. Furthermore, systems such as OriginStamp are used to timestamp files, data, or documents, proving the originality and time of existence of any digital asset (Albeanu, 2017).

A lot of significant research has also been made in digital content management area. Sychov and Chirtsov (2018) developed a unified-bank of learning objects, Chakraborty et al (2017) designed a set of operations and systems to manage and control access to such digital resources, such as education certificates, Ali et al (2016) and Kishigami et al (2015) designed a platform for different kinds of distributed digital content management and Zyskind et al (2015) conceptualized a decentralized network of peers for personal data management.

Learning and educational projects

In this category several applications and systems that try to improve several processes of teaching and learning could be classified, as they were designed to store, protect, and exchange information related to students' performance and progress, to connect students with teachers and employers, to enhance students' interactions in the e-learning systems, to support learners' career decisions providing recommendations, to manage the quality of examination reviews, to store degrees and to measure learning outcomes and reward students.

Educational and learning platforms

Sony Global Education (SGE) is a global assessment platform developed in 2016 with the support of IBM, designed to store, protect, and exchange information related to students' performance and progress (Chen et al, 2018). BitDegree is a gamified online education platform that tries to connect students with teachers and employers. The system uses its own token and blockchain certificates and provides users with courses and learning incentives such as tokenized scholarships (Steiu, 2020). ODEM.io, is a platform which offers direct connections with educators, courses, and access to professional opportunities that meet students' personal profile while, by the use of tokens, ensuring the validity of their continuing education certificates (Steiu, 2020).

Holberton School was the first institute applying blockchain technology to store degrees (Chen et al, 2018). Their blockchain ledger attributes all kinds of educational information, such as learning behavior in class, micro academic project experience, and macro educational background, to a unique user ID. The Institute for Blockchain Studies uses blockchain to Coursera MOOCs accreditation, applying a "pay for success" model. The system uses smart contracts and provides a proof-of-truth mechanism to confirm that the students who signed up completed the course, as well as a payment mechanism (Skiba, 2017; Tapscott and Tapscott (2017). Among other

systems designed to enhance students' interactions in the e-learning systems are the application proposed by Zhong et al (2018) which provides recommendations to support learners' career decisions, the smart blockchain badges proposed by Mikroyannidis et al (2018), and dAppER, a system designed to manage the quality of examination reviews, proposed by Mitchell et al (2019).

Competencies and learning outcomes management

Farah et al (2018) built a system to trace the performance of students for their activities. The system produces a learning block containing the total learning profile of each student. Williams (2019) proposed a learning environment for students. The environment provides prompt/direct support and meaningful feedback. It was intended to enhance the learning process by applying a wide set of skills, encourage critical thinking and problem solving with better collaboration and communication. Wu and Li (2018) introduced a decision-making system for examining students' professional knowledge and expertise. They developed it to build up an evaluation system which measures and manages students' operational proficiencies. Finally, Purnama et al (2021) proposed the Student-Centered Learning Blockchain (SCi-B), a three element system (E-Course, E-Portfolio, and E-Assessment) which can enhance the learning process and increase the credibility of student assessment.

Reward systems

Sharples & Domingue (2016) proposed Kudos, "a permanent distributed record of intellectual effort and associated reputational reward", which is a system that transforms information about the users' learning experience into a sort of digital currency. The system can be used to measure learning outcomes and stored in a virtual wallet. A similar system is the "Learning is Earning" initiative, which can foster students' learning motivation. As they learn, students will get digital currencies according to smart contracts as rewards. This kind of money can be stored in the education wallet, used as tuition, even exchanged with real currencies (Ezeudu et al, 2018).

Blockchain applications in language learning

The language learning sector can obviously benefit from the application of blockchain technology in all the areas mentioned above, but also in some more specific areas, such as the creation of a digital personal language knowledge Identity, the design of configurable language tests, the creation of systems for controlling language learning progress, or the language course design and evaluation. Blockchain could help towards the creation of a digital language knowledge Identity, by forming a ledger of the qualifications (certificates, scores, training etc.), formal (educational institutions) or informal (web services, apps, MOOCs etc.), that a learner has attained. This record could be stored in a public blockchain in order to be available to any institution or business interested. Smart contracts could offer significant benefits to traditional procedures, such as the attribution of intellectual rights and payment processes and

allow royalties to be connected to the use of specific content. Smart contacts could also be created between learner and school or product in order to facilitate payments for specific educational services. Sayers (2016) believes that blockchain could also be a trusted base for the creation of a School or product validation system, giving access to information about the impact of a school or product on learners' language proficiency.

Literature in blockchain applications for language learning is currently limited. There are, however, some significant research projects. Sun et al (2021) proposed a blockchain-based online language learning system to monitor students' English learning process authentically and fairly. The system is able to manage students and learning materials and uses smart contracts in order to provide four functions: record students' learning behavior, calculate students' final scores, record the students' final scores and query scores. The authors believe that such a system can save teachers from heavy and complex homework and provide reliable evaluation on students' behavior. In their study Min & Bin (2022) explored the use of blockchain in course design and evaluation in Chinese universities. By implementing an experimental course based on blockchain technology, they found that the redesign of online courses based on blockchain can improve the quality of teaching and the trust of various parties in online education. Wu (2020) proposed an English Online Education Platform based on Genetic Algorithm and Blockchain Technology, aiming to improve work efficiency, to enhance the fairness and flexibility of the examination, and to make the examination work standardized and paperless. The system manages examinations, item bank, test papers, and a marking function, in order to emancipate the examiners and teachers from the traditional heavy examination work. In addition, the system considers the examination syllabus, the difficulty level, the content, and produces English language tests. Wang & Qiao (2020) proposed a virtual English teaching platform for landscape design majors based on blockchain technology, which combines unsupervised learning and machine learning. The platform is based on virtual reality technology to provide students with a more realistic visual experience. Researchers found that the combination of these technologies had a better teaching effect compared to the already existing traditional platform and is suitable for application to the actual English teaching for landscape design majors. Finally, Song & Shen (2022) designed a system for online foreign language education based on Ethereum and smart contracts. The system uses a modular architecture, it is suitable for use in colleges and universities, and aims to improve the overall teaching efficiency and quality of online language learning.

Along with the research in the use of blockchain in language learning, a very promising dynamic in the market is also beginning to arise. Du'Mmett (2019) reports that English Forward, one of the biggest learn English Q&A site, with over 250 million visitors, has implemented a blockchain application in order to accelerate the progress of English language learning and to offer a more comprehensive solution to link up with teachers, translators and other English language professionals. The company

believes that this solution can guarantee the collaboration, integration, motivation and simplicity that the current English Forward Community requires. Among the expected benefits are the more effective monetization of the expertise of teachers in a competitive and transparent manner, faster and more effective learning activities completion, easily verifiable and more secure rating and certification for both students and teachers, and encouragement of more companies to adopt blockchain, ensuring massive adoption of the platform in order to reach a better return on financial investment on the blockchain technology.

Conclusion

As evidenced by the applications and systems presented, blockchain technology seems to have great potential for exploitation in the education area. In their report, Grech & Camilleri (2017) proposed several scenarios for implementing technology in current or future educational procedures. Among them are certification, accreditation, recognition and transfer of credits, lifelong learning passport, e-portfolios, rewards, payments and funding, and management of intellectual property. Research could also go forward in learning activities design and implementation, tracking of the learning process and measure of outcomes, evaluation, and accreditation and improvement of the quality of online education. Future research could also focus in sectors such as the job driven education, and lifelong learning education, where the need for blockchain-backed credentialing will increase in the next years. Especially with the use of smart contracts, there can also be a benefit from the implementation of new secure and simplified procedures that ensure collaboration and partnership not only between educational institutions but also between teachers and schools, as well as between teachers and students. Finally, blockchain can be used to motivate teachers and students by giving rewards -in badges or digital currency- to those who meet the agreed standards or goals (Chen et al, 2018).

New technological developments, such as 5G networks, smart and interconnected devices and the development of the Internet of Things (IoT), lead to a new reality in which the secure data transfer and storage are non-negotiables. In this new reality, blockchain technology can play a crucial role as it has the ability to reduce costs, increase transaction speed and provide the necessary background for the safe and inviolable operation of systems, as well as the opportunity to create new innovative services and applications.

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Surrealist Artworks as a Stimulus for Student Artistic Expression

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Abstract

Works of fine art present an inexhaustible source of imagination, aesthetics, and creativity and can stimulate the development of personal creativity. Communication with artworks is possible if trained to understand and aesthetically experience them. It is therefore important to be in contact with the rich symbolic meanings of the language of art. If we want to educate students to be able to communicate and understand the cultural dynamics of art forms and to successfully communicate with art forms in the future and develop their visual art literacy, we should implement artistic educational content in higher education. Contact with artworks allows students to better understand their thoughts and feelings and, if using appropriate methods, an artwork can stimulate students to be creative. This paper investigates the influence of Surrealist paintings (made by Rene Magritte and Salvador Dali) on stimulating the artistic creativity of 46 first-year students of Early and Preschool Education at the Faculty of Humanities and Social Sciences in Split, Croatia. The results are presented using a qualitative methodology, i.e. a specific method of aesthetic transfer (perception, reception, and reaction) that brings the observer of the artwork into aesthetic interaction with the work and stimulates their experience of the work along with their creativity. Experiencing the artworks of Surrealism aroused students' emotions and aesthetic experience, allowing them to create background stories about the observed. Using various freely chosen art techniques, they also made their own artworks, which influenced the development of student creativity.

Keywords: students, Surrealism, creativity, method of aesthetic transfer.

Introduction

Artworks from different epochs and periods enrich our knowledge and point to universal human conditions and experiences, thus overcoming cultural barriers. A

quality artwork contains complex layers of meaning, symbols, and metaphors. It is open to various interpretations and moral and emotional reactions of the observer. Fine art with its many contents and meanings helps people to see the world and to introspectively look at themselves and their mental states, thus creating a dialogue and synergy between the creator and the observer. This is how the world of visual art continues to live in the future. Although an artwork was created in the past, the observer in the present experiences, interprets, and evaluates the observed contents and is inspired by the richness of the observed visual forms. Teaching fine arts is mainly concerned with the acquisition and development of productive abilities, focusing less on art appreciation abilities (Duh, et al 2012), yet appreciation abilities are important for the experience, understanding, and evaluation of an artwork. To experience an artwork adequately, it is necessary to find methods of presenting artistic content that will encourage observers to communicate and evaluate the art form. The method of aesthetic transfer is one of the methods enabling communication with the artistic contents from different time epochs and periods. Art appreciation implies the interconnectedness of the processes of perception and reception, which makes the basis of the method of aesthetic transfer. According to one well-known art historian, being exposed to artworks that present different circumstances, often inconsistent with the observer's standards, requires flexibility on the part of the observer. The adaptability of perception is one of the most precious fruits of aesthetic perception. The observer is encouraged to experience aesthetic levels at which they usually do not think (Arnhajm, 2008). The stimulus for thinking in the context of observing an artwork in Art classes is what gives educational value to the approach to the artwork. Previous scientific research: Brajčić & Kuščević (2012), Brajčić & Jujnović (2016), Brajčić & Perić (2019), Kuščević et al (2019), Brajčić et al (2020), Tomljenović & Bratović (2020), Brajčić & Sunko (2020), Sunko & Brajčić (2021) included the method of aesthetic transfer, which proved to be successful in working with school students and children of different ages. This paper describes the results of research stimulated by the method of aesthetic transfer in the approach to artworks of Surrealism in working with university students.

Surrealism as a stimulus for artistic expression

Surrealism as an art movement emerges in the 20th century art in Paris, France, and represents a vast field of activity in the art of the century, affecting not only fine arts but also film, photography, and literature. The poet and writer Andre Breton, the most important theorist and the major spokesman of the movement, published *The Surrealist Manifesto* in 1924, in which he pointed out that Surrealism implies actual functioning of thought, that is, psychic automatism in its pure state intended for verbal or written expression. He believes that thought should be dictated in the absence of any control exercised by reason, exempt from any aesthetic or moral concern (Lucie-Smith, 2003). Initially, Surrealism was not intended to be realized in the field of fine arts, but in verbal and written expression; nonetheless the ideas of Surrealism very quickly captured fine arts leaving a significant trace there. Ignoring

many aesthetic, moral, and life principles, the Surrealists found their inspiration in the complex cultural tendencies and currents of their time.

The Surrealist movement grew from the Dadaist movement founded in Switzerland (from 1916 to 1918) by artists of various profiles, poets, painters, and sculptors meeting in the Zurich Cabaret Voltaire. The Dadaists were "disappointed with all that European culture had created up to that time and which was devalued by the war violence with its massacres and utter insanity, so they decided to rise up against all values, even against the programs of previous movements that proved powerless despite all their rationalism" (Semenzato, 1991: 586). In the aftermath of the First World War, some Dadaists, including a particularly significant poet Tristan Tzara, moved from Zurich to Paris. Coming to Paris, these artists directly encouraged the creation of *The Surrealist Manifesto*. Surrealism inherited from Dadaism the defiance of reason and logic, while the rejection of thinking and the acceptance of the subconscious led the Surrealists to accept new ideas that were present in the culture of their time. Surrealists were inspired by the ideas, thoughts, and works of Sigmund Freud and his revolutionary explorations of the nature of the human soul, the role of dreams, and the power of the irrational in shaping personality. Once repressed and now liberated subconscious, unencumbered by the constraints of reason and logic, becomes the creative impulse of Surrealist painters. For them, the painting becomes a document of the state of consciousness. A peculiar feature of Surrealism is the symbolic fascination with the occult. Unexplored areas of the human spirit, neurotic nightmares, fantasies, hallucinations, visions, allegorical, unusual, fantastic situations become sources of inspiration for Surrealist painters. Ivančević (2001) states that Surrealists sought to explore the unknown areas of the human spirit and that is why their paintings seem to be a description of the dreams of strange visions. Surrealists rejected and ridiculed reality and logic, seeking to connect objects into completely unusual and unexpected relationships. According to Ivančević, Surrealists are interested in the subconscious, unexpressed states of the human spirit, contradictions, dreams, hallucinations, and fantasies. Thus, fantasy, irrationality, and imagination prevail in their paintings.

Novelties in Surrealist art experiments include frottage and a method of artistic expression called *Le Cadavres exquis*, seen in Surrealist drawings based on an old children's game in which several collaborators finish a text or a drawing without knowing what preceded their part. Results of such artistic activities are unusually distorted drawings.

"Surrealism insists on the passive role of 'the author' in the mechanism of poetic inspiration. Surrealism exposes as counter-inspiring any active control through reason, morality, or aesthetic evaluation. The author can witness the origin of the

work only like a spectator – indifferently or passionately" (Mirenić-Bačić; Ratković, 2001: 42).

Picasso, Arp, Klee, Ernst, Miro, and De Chirico took part in the first joint Surrealist exhibition in Paris in 1925. For some of these painters, Surrealism was only a passing phase and a useful experience, while others found the fulfillment of their artistic aspirations in the movement. The most famous representatives of Surrealism in fine arts are Max Ernst, Rene Magritte, Joan Miro, and Salvador Dali.

Rene Magritte (1898 – 1967) studied at the Brussels Academy. He was first influenced by Cubists and Futurists, while around 1925, the influences of Surrealism can be felt in his works. Magritte uses the motif of dream and subconscious to create impressive compositions of unusual and strange confrontations of famous objects or events. By placing familiar objects in unusual circumstances, or rather, creating his compositions from incoherent and unrelated elements, Magritte creates fantastic Surrealist art with strong poetics.

After graduating from the Fine Arts Academy in Madrid, Salvador Dali (1904 – 1989) traveled and created in Spain, France, and the United States. He is a representative of veristic Surrealism, a style in the 20th century painting characterized by photographic accuracy in visual representations. In his works, the characters of people, animals, and things are presented grotesquely, hallucinatorily, and disproportionately. The painter in an absurd way uses associative reactions to depict states of dream, trance, neurotic outbursts, hysteria, subconscious complexes, and fear. Within the framework of his Surrealist work, Dali also engaged with film art.

Method of aesthetic transfer

Teaching methods represent quality communication in teaching and learning and are therefore essential in transferring and acquiring knowledge and skills with the aim of developing personal competencies and potentials (Duh & Zupančić, 2011). The method of aesthetic transfer is applied in acquainting the observer with an artwork, whereby it transmits not only knowledge but also aesthetic components in communication with observers. The personal impression is highlighted in the interaction, and it depends on different personalities of the observers. This is a qualitative method that assumes observation or analytical inspection along with the collection of data on the observed phenomena. This method of research takes place in three phases: 1. *perception*: perception of artworks with all senses, 2. *reception*: putting images into words, 3. *reaction*: activity, productive reaction to the artwork (Duh & Zupančič, 2011: 69). The first two phases are aimed at stimulating aesthetic experience, which encourages the cognitive component of aesthetic transfer, while reception occurs as a creative process of receiving and processing information, i.e. as a productive and creative response to the observed work, which makes cognitive and psychomotor components of aesthetic transfer.

Research methodology

Research aim and questions

The aim of the research was to determine the influence of the works of Surrealism (Magritte, Dali) on student motivation and creativity. In accordance with the defined aim, the following research questions were formulated:

Does the painting *The Son of Man* by Rene Magritte influence student motivation?

Does the painting *The Burning Giraffe* by Salvador Dali influence student motivation?

Does the painting *The Son of Man* by Rene Magritte influence student artistic creativity?

Does the painting *The Burning Giraffe* by Salvador Dali influence student artistic creativity?

Research sample

A total of 46 first-year students of Early and Preschool Education at the Faculty of Humanities and Social Sciences, University of Split, Croatia participated in the research. All students were females and gladly participated in this research, which took place during regular classes at the Faculty.

Method of data collection and processing and the research procedure

The data were collected using the method of aesthetic transfer and using a free interview. The interview was based on Hickman's questions related to the encounter with an artwork to encourage various answers and creativity of the observer's experience: What feelings does this work evoke in you? What does this work remind you of? After having learnt about the artist and the circumstances in which the work was created, what feelings does this work arouse in you now? What does this artwork mean to you? How does this artwork relate to issues that concern you as well? (Hickman, 1994). Students noted down and handed in their impressions in the reception phase. In the phase of data processing, we analyzed students' artworks according to the criterion of creativity accompanied with the observation of the research authors, and we performed a comparative analysis of students' creativity with regard to their works. In the results analysis section, we will present three works of fine art and three literary works that represent three categories of student works as illustrative examples: 1. highly creative student works, 2. artworks with pronounced elements of creativity, and 3. less creative artworks.

The creativity of artworks was assessed according to these six criteria: a) pronounced possibility of redefinition and recomposition, b) rich use of color and shape, c) unusual and imaginative presentation of motifs, d) rich art vocabulary, e) well used mixed media art technique, f) fluency in ideas during realization, d) associativity. According to the above criteria, student artworks were evaluated by the research authors.

The research was conducted from December 2021 to January 2022. A total of 8 hours of exercises were dedicated to creating works, i.e. four hours dedicated to each analyzed artwork. The research was based on a qualitative art and research method of aesthetic transfer, i.e. observation, description, and interpretation of situations that took place during all three phases of aesthetic transfer. Perception – students observed the artwork, reception – internal reaction to the artwork (expressed in words), and reaction – creation. Prior to the research, material, technical, and spatial conditions were prepared so that students could create their own artworks, and before the beginning of their work, appropriate art tools and materials were prepared. Students had the freedom to choose art techniques and materials.

Research discussion and results

Due to the scope of this research, we will present only two studies on student artworks in the results section. In each study, we will present exemplary works of students from the already described categories.

Study 1

On a big screen in the classroom, students were shown the painting *The Son of Man* by Rene Magritte. The students watched the presented painting in silence and with great concentration.

Figure 1. Rene Magritte, The Son of Man, 1964

1. Highly creative student work (Figure 2, Figure 3)

Perception phase – The student M. T. watched the painting in silence for ten minutes. The observation was followed by the reception phase, during which the student thought and expressed herself in words.

Reception phase – "The work by Rene Magritte entitled *The Son of Man* prompted me to think about the connection between knowledge and sin, to think about man and freedom, and set an example of an interesting composition that sparked an idea of creating my artwork 'Slobod i Sloboda' ('Mr. and Mrs. Freedom')."

Reaction phase – The student was strongly motivated for literary expression and wrote a poem entitled "Slobod i Sloboda":

Slobod i Sloboda (Mr. and Mrs. Freedom)

Mr. Freedom started to bow to Mrs. Freedom, when she made him stand up and said

Mr. Freedom, do not kneel before me, for you are equal to me.

Do not stand before me like before an icon, but take me to be your wife,

Your mistress and a friend and a part of your being.

Let's dance the divine dance together.

Along with the poem, the student successfully expressed herself in prose as well. She described her artwork in an essay in the following way. "Considering freedom and love as phenomena inherent to the human being, in my artwork I thought about the manifestation of freedom in a love relationship. In every love relationship, we ask ourselves how to determine freedom in the relationship between two people, is freedom defined by lovers, or does the freedom define the lovers? We can go with questions in all directions, that is exactly the goal of the work 'Slobod i Sloboda'. Becoming aware of freedom in a relationship, it is important to look at its roots, to know the beginning, thus a depiction of Adam and Eve, the first people who tasted the fruit from the tree of the knowledge of good and evil, who became aware of and tested their freedom. It is clear to us that this freedom entails a great sacrifice, but it becomes what God planned for man, to become faithful to his image, created in the image of God, to become the one who actively participates in his freedom and moves towards his liberation.

Along with the beginning, becoming aware of the creation is also important to us, God creates the world and the man, he shapes him and gives him a purpose. Man becomes an earthly creator, creates and builds, shapes and intends something, both to himself and to help others, for the purpose of liberation. He builds with his companion, with her, he shares his destiny and the results of his work, and together they nurture the fruits of their love. In the center of my work, there is an eye covered with a sphere with a slit in the middle. This part of the composition points out the importance of opening the view to the wider picture of reality, the importance of entering the core

and remembering the beginning. Below, we can see the photograph 'Love Story', which shows two great lovers who were connected by art. They are painter Salvador Dali and his wife Gala.

Dali considered Gala his greatest muse and often dedicated his works to her, while she took care of many other parts of their lives, including tailoring his interesting suits. They often emphasized the free character of their relationship. The freedom they enjoyed together and built together. In the photo, they hold Dali's work 'love story' as a sign of the importance of their love in the work of this artist. The black background with gold leaves represents the negative aspects and difficulties in relationships intertwined with golden moments of comfort, pleasure, fulfillment, and growth. In this work, I wanted observers to reflect on the character of freedom in a love relationship."

Figure 2. "Slobod i sloboda" Student M. T.

Figure 3. "Slobod i sloboda" Student M. T.

The student M. T. was inspired by Rene Magritte's work and made interesting and highly creative artworks, which she called "Slobod i Sloboda". Although the task was to create one artwork, the student created two of them on her own initiative. She chose the techniques of collage and acrylic.

2. Artwork with pronounced elements of creativity (Figure 4)

Perception phase – The student K. K. observed the painting carefully for 10 minutes.

Reaction phase – "This work evokes in me the feelings of discomfort and mystery because human gaze reveals the depth of a person's soul and character, because the moment we do not see a person's gaze we cannot see their intentions. This work reminds me of the phrase: 'The eyes are the mirror of the soul'. Because, as I have already mentioned, the gaze and the eyes reveal much about the person and their intentions, whether bad or good. The gaze creates a kind of intimacy and connection between the speaker and the listener and, although in some situations excessive gaze can create discomfort in us, making us feel as if the listener perceives and analyzes us, when the person is not looking at us, this can create even greater discomfort because this can mean complete disinterest and we feel we talk 'in vain'. Gaze reveals a lot about human character, and what the person expects or wants from us. There is also a metaphor 'to smile with your eyes', which means a lot to us today because of the pandemic we are going through and because of which we have to wear protective masks. In these situations when we are having a conversation, we cannot see if that person is smiling, we can only hear it or see it when the person is 'smiling with their eyes'."

Figure 4. BIND(ing) student K. K.

Reaction phase – The student K. K. entitled her artwork, inspired by Magritte's painting, "BIND(ing)". She used a mixed media technique (watercolor, collage). She says: "Magritte's painting inspired me to create my work, because during the analysis I saw an apple covering the face, and realized that we can't see exactly what is needed to understand an important issue in today's world, i.e. 'Is a person good or evil?'

The gaze also reveals whether the person is interested in conversation, in getting to know each other, or something completely different."

3. Less creative student artworks (Figure 5)

Perception phase – The student K. B. observed the painting carefully.

Reaction phase – "This work is seemingly simple and clear. But when observing it longer, it evokes in me a sense of mysticism and complexity."

Figure 5. Student K. B.

"The white shirt and suit remind me of formality and seriousness, while the four-leaf apple partially covers the eye and leaves an impression of playfulness. In addition, I later noticed that the elbow is turned in the 'wrong' direction. This observation clearly confirms the fact that only by looking closely can we know the details. Looking at the artwork, I think that there is no one right answer, or universal truth, because something seemingly simple, like this work, contains multiple hidden messages."

Reception phase – The student called the artwork "Revelation" and verbalized the experience of making her own work inspired by Magritte's painting in the following literary description: "With my work I wanted to get to the core of the human mind and what is in it and motivate the observer to think about their own thoughts that motivate them and because of which they love life. The key would mean we can lock our thoughts at any time and live on 'autopilot', unaware of ourselves." The student did not give a name to her painting.

We analyzed all student works by comparing them according to the categories.

Table 1. Student artistic creativity in Study 1

Artwork category	f	%
1.1. highly creative artworks 2.3. 3.	17	36.96
4.artworks with pronounced elements of creativity	19	41.30
5.less creative artworks	10	21.74

From the observed results we can notice that students reacted positively to the method of aesthetic transfer, whereby 36.96% of students made highly creative artworks, 41.30% of students created works in which elements of creativity were pronounced, and 21.74% of students made less creative works. During the creation phase in this study, the authors noticed the students were highly motivated in expressing themselves. We can even point out that some of the students almost enthusiastically approached the creation. The students often recomposed and redefined their work, changed their original ideas, exchanged ideas and experiences with each other, and participated very actively and independently in the creation of their works. They also observed and commented on the works of their colleagues with great curiosity. The verbal and written reactions of the students to the observed painting indicate the strong experience of the observed content that stimulated the students to express themselves in fine art and literature. We can conclude that Rene Magritte's *The Son of Man*, presented by the method of aesthetic transfer, encouraged students to creatively express their thoughts and ideas. These results coincide with the results obtained in previous studies conducted by the authors (Brajčić & Kuščević, 2012; Brajčić & Jujnović, 2016).

Study 2

On a big screen in the classroom, students were shown Salvador Dali's painting *The Burning Giraffe*.

Figure 6. Salvador Dali, The Burning Giraffe, 1937

Highly creative artwork (Figure 7)

Perception phase – The student M. Š. observed the painting carefully for 10 minutes.

Reception phase – "This artwork arouses in me the feelings of restlessness, fear, interest, and wonder. The feelings of restlessness and fear are mostly caused by the depiction of a giraffe in flames and two terrible female figures, but also cold, dull colors. The work is mystical and full of symbolic meanings, and therefore arouses a sense of interest and wonder (mostly because of the drawers). It reminds me of an apocalypse or a dream. The apocalypse because the painting shows catastrophic scenes that create panic, nervousness, and fear. The dream because the scenes are very unusual, insane, irrational, and imaginative. This work for me represents doom, death. Each drawer symbolizes an open, unfinished chapter in life that haunts and eats the female figure. Her pain and helplessness are shown not only in the drawers but also in the bloody hands and head, and knives stabbed in her back. There are also unusual and imaginative real-life motifs like a burning giraffe. It looks like a symbol of

suffering and pain. Each of us has some problems and doubts from the past that torment and follow us."

Reaction phase – "The inspiration for this work was Salvador Dali's painting *The Burning Giraffe* which conveys to the observer various intense feelings and the symbolism behind the work. Thus, Dali's work makes us think about important life issues, conveys his feelings, and sends a certain message. My work was created with the aim of conveying a certain meaning and pointing out the importance of the relationship between human and nature. A woman's head would represent the human race, and a branch would represent the nature."

Figure 7. Fusion, student M. Š.

"The point is that without the nature, the survival of the human race would be questionable. We must care more about nature and environmental protection because the nature is an integral and important part of our lives."

2. Artwork with pronounced elements of creativity (Figure 8)

Perception phase – The student P. M. observed the painting carefully for 10 minutes.

Reception phase – "The painting evoked undefined sad feelings in me, perhaps because of the colors, suggesting suffering. Struggle is definitely the word that I think best describes this painting made by the great artist Dali. Every time I look at it, I see some new detail that changes my whole view of the painting. When I summarize everything, I think that for me this work represents both mental and psychical struggle. I would say that physical struggle is symbolized by two abstract figures. Their blood, flesh, and bones depict the struggle in the cruelest way. In the background, there is a small burning giraffe. This for me presents a mental struggle, the feelings, and mental suffering experienced by the dominant figures in the painting. Now that I have become aware of my feelings, I am sure that this painting has aroused in me negative feelings that I can associate with violence and lack of tolerance, which I do not support by any means."

Reaction phase – "The title of my work will be 'W&P (Water and Peace)' where I will try to show a figure from another world that has found water and is no longer burning. The red color inspired by Dali's painting represents pain and sacrifice. That color is on the hands of my figure, all over her body, and around her. The figure finds a source of water (peace) which in my painting is represented by black details such as the stone spring, blue colors of the drops of water, and blue details in the right corner which are in contrast with the upper left corner of this work and symbolize peace and positive emotions."

Figure 8. *W&P (Water and Peace), student P. M.*

"The person who finds peace (perhaps including me too) has found all, so my improvised figure will find their water accordingly."

3. Less creative artworks (Figure 9)

Perception phase – The student P. L. observed the picture carefully for 10 minutes.

Reception phase – "'The Burning Giraffe' by Dali makes me feel uneasy. The work reminds me of a dream, as do other Dali's works. Nothing makes sense. Due to the composition in which the character in the foreground goes towards us, it is easy to get involved in the image, a dynamic has been created according to which it seems that I am also a part of it."

Reaction phase – "The title of my work is 'The Game of the Subconscious'. Dali's works as well as the direction of Surrealism are generally known for presenting the dreams."

Figure 9. The Game of the Subconscious, student P. L.

"Usually, the elements of Surrealist works are contextually unrelated actions that merge into one. My work has shown something similar. The world of dreams and all those images that emerge from the subconscious while we sleep without any special explanation. As I dream, sometimes I feel like something is coming towards me and makes me feel heavier. Nothing is crystal clear, but the feeling is real and familiar."

Analyzing the student artworks in Study 2, we noticed that the artistic and literary creativity of students was stimulated.

Table 2. Student artistic creativity in Study 2

Artwork category	**f**	**%**
1.1. highly creative artworks 2.3. 3.	14	30.43
4.artworks with pronounced elements of creativity	23	50.00
5.less creative artworks	9	19.57

Highly creative artworks were noticed in 30.40% of students, while 50% of students made works in which elements of creativity were pronounced. Only 19.57% of students made less creative works. Students also showed high motivation during their work, they communicated with each other and actively participated in the creation. The students changed their creative aspirations, constantly looking for changes, alterations, for an artistic expression that would best suit their ideas, curiously observing the artistic ideas of their colleagues. During the creative process, the students communicated with each other exchanging ideas, and thus became co-creators of other works. We conclude that Salvador Dali's painting *The Burning Giraffes* stimulated the motivation and creativity of students.

These results coincide with the results obtained in previous studies by authors in which works of modern artists of the 20th century were used as a stimulus (Brajčić & Kuščević, 2012; Brajčić & Jujnović, 2016).

Conclusion

The time we live in is the time of the image, the time of visual communications, and visual culture. Education should thus pay special attention to the development of student visual and artistic skills and abilities within the overall development of personality.

Using artwork as a stimulus in motivating students' artistic expression is an interesting issue in art pedagogy that has been insufficiently researched. We conducted the research entitled "Surrealist Artworks as a Stimulus for Student Artistic Expression" to contribute to investigating student perception, reception, and reaction to Surrealist artworks. In this research, the positive effects of Surrealism on the motivation and creativity of students were determined. The method of aesthetic transfer stimulated students' art appreciation and productive abilities releasing their creative artistic and literary potentials. Furthermore, relying on our observations, we

can conclude that this method encouraged students to act, to be motivated, independent, and autonomous. It also affected their aesthetic experience. Through their artistic and literary works, students developed artistic communication skills and cognitive-emotional competencies. The results showed that artwork is an inexhaustible source of knowledge that enhances originality and communicativeness through language, symbols, and images, creating new links visible in new creative forms. Students transformed their visual and artistic experience in contact with the works of Surrealism into their own research and creation of artistic and literary works.

The use of the method of aesthetic transfer, applied mainly in work with preschool children and school students, has proven to be effective and scientifically justified in working with university students as well.

Future research on the application of the method of aesthetic transfer as a stimulus for the development of creativity could include other contemporary artists and art movements of the 20th century. Such research would make a significant contribution to stimulating students' creativity in visual art education.

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A Study of University Students' Idiomatic Competence

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Abstract

There is no doubt that formulaic expressions such as collocations, idioms and compounds play an important role in the second language acquisition and their teaching should be an integral part of foreign language learning since they show insights into foreign language culture and promote fluency, proficiency and communicative competence. That is the reason why idioms present an integral part of the English language curriculum at the Faculty of Food Technology and students are taught idioms related to food. The aim of this paper is, therefore, to establish whether the students are familiar with the food idioms prior to teaching them in order to incorporate them into the curriculum. The assumption is that most of the idioms are not intelligible to students since it is impossible to guess their meaning by anlaysing their individual components. However, due to the fact that the subjects were the 1st year graduate students who have been learning English for 15 years, this research will reveal whether there are students who are almost proficient users of English since they are familiar with most of the idioms. These results will, then, be of great importance when revising and designing the teaching materials intended for the students of food technology.

Keywords: idioms, multi-word units, formulaic expressions, collocations

1. Introduction

Acquisition of vocabulary and word combinations presents an important aspect of language learning. Language learners are often not aware of the existence of compounds, collocations and idioms and they perceive them as separate units, which leads to a number of errors. Language for specific purposes is a special area where the knowledge of specific lexical items is of great importance. Since idioms present a major component of lexical knowledge, their importance for successful communication cannot be denied. Figure 1 shows the hierarchy of errors and, as evident from this figure, lexical errors are considered the most serious because it is possible to understand a speaker if he/she makes a grammatical error, but not if a lexical error is made, which can lead to misunderstanding. For this reason, lexical

units play a pivotal role in language teaching and learning and lead to native-like proficiency.

THE MOST SERIOUS THE LEAST SERIOUS

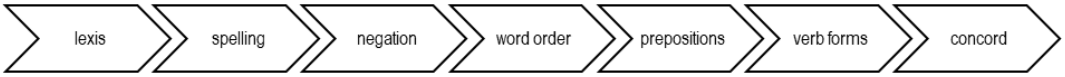

Figure 1. Hierarchy of mistakes according to McCretton and Rider. Source: Adapted from James (1998, p. 229)

2. Defining idioms

A lot of problems emerge when one tries to define idioms. Scholars agree on one point: they are multi-word units. So are collocations, which do not cause any serious problems to the EFL/ESL learners in the understanding process (Mackin, 1978). A multi-word unit can be defined as a fixed and recurrent pattern of lexical material sanctioned by usage (Grant and Bauer, 2004). This term encompasses both idioms and restricted collocations (those where it is possible to substitute only one constituent), but not phrasal verbs since they are a separate and independent group that deserves research on its own. According to Fernando (1996), idioms are "conventionalized multi-word expressions often, but not always non-literal." Gramley and Patzhold (2003) define an idiom as a "complex lexical item which is longer than a word form but shorter than a sentence and which has a meaning that cannot be derived from the knowledge of its component parts." In the Cambridge Advanced Learner's Dictionary, we can find the following definition of an idiom: a group of words whose meaning considered as a unit is different from the meanings of each word considered separately. However, the context in which a certain multi-word unit is used is necessary to decide whether we are dealing with a literal or idiomatic interpretation of a multi-word unit. For example, a multi-word unit *to kick the bucket* can have the following meaning: to strike the pail with your foot or to die. It is generally accepted, however, that literal senses of some expressions do not survive alongside their figurative ones in normal, everyday use (Cowie, Mackin and McCaig 1993). The criteria for defining idioms have changed, have been narrowed and modified by lexicographers, Eastern European phraseologists, lexical semantics, lexicologists and vocabulary in language teaching research, and the most generally accepted definition of an idiom is the one describing them as words, whose meaning cannot be predicted from the meaning of their constituent parts (Grant and Bauer, 2004).

3. Types of idioms

Makkai (1972) divides these idiomatic multi-word units into a heterogeneous set of phrase and sentence "types", the most common of which include lexemic idioms (those can be subdivided into phrasal verbs -*bring up*, tournures – *rain cats and dogs*, irreversible binominals – *coffee and cream*, phrasal compounds - *blackmail*, incorporating verbs - *eavesdrop* and pseudo-idioms – *to and fro*), and sememic idioms (further subdivided into: proverbs – *It never rains but it pours*, familiar quotations – *brevity is the soul of wit*, first-base idioms associated with a national game like baseball – *have two strikes against one*, idioms of institutionalized politeness – *May I ask who's calling*?, idioms of institutionalized greeting – *how do you do*?, idioms of an institutionalized understatement – *I wasn't too crazy about him* and idioms of institutionalized hyperbole – *he won't even lift a finger*). This classification was further extended by different authors. Alexander (1987) adds four more categories to Makkai's classification of lexemic idioms (proverbial idioms – *the land of Nod*, metaphorical idioms – *a hot potato* and idiomatic similes – *as cool as a cucumber*) and McCarthy (1998) adds even more categories – prepositional expressions – *in two shakes of a lamb's tail*, frozen similes – as keen as mustard, possessive's phrases – *a king's ransom*, opaque compounds – *a mish-mash*, idiomatic speech routines, gambits and discourse markers – *by the way*, restricted collocations – *breakneck speed* and cultural allusions – *to be or not to be*. Semantically, idioms can be classified into six categories: a) semi-idioms which include at least one word connected to its literal meaning (e.g. *stir up trouble*), b) semi-opaque idioms whose meaning can be guessed, but not easily (e.g. *keep one's head above water*), c) pseudo idioms which include an element that has no meaning on its own (e.g. *spic and span*), d) pure idioms, well-formed idioms, or idioms that have both literal and non-literal meaning (e.g. *spill the beans*), e) full idioms which consist of constituents whose ordinary meanings are not related to the idioms' semantic interpretations (e.g. *toe the line*) and f) figurative idioms that have figurative meanings besides current literal interpretations (e.g. *catch fire*) (Grant 2003). Syntactically, idioms seem to include any type of immediate constituent (they can be further divided into asyntactic idioms – *by and large*, commonly occurring phrase patterns – *in the nick of time*, clause patterns – *foot the bill*, different grammatical types – *keep tabs on someone*). However, such classification provides descriptions rather than definitions (*under the water, blow the gaff*). As far as functional classification of idioms is considered, it appears that the function of idioms varies with the spoken (making complaints or for topic transition) or written genre. No matter which classification is considered, they seem to exhibit discoursal (Moon, 1998a) and pragmatic functions as well (Simpson and Mendis, 2003). Liontas (1999, as cited in Liontas, 2017) claims that there are at least three relevant dimensions to any given idiomatic expression: the semantic opacity dimension (also known as transparency), the structural dimension, and the conventionalized pragmatic dimension. Semantic opacity or transparency is "the extent to which an idiom's meaning can be inferred from the meanings of its constituents" (Glucksberg,

2001: 74). When the structural dimension is taken into account, they interpreted as are memorized configurations which are identified when those word configurations become unique to the idiomatic expression in the minds of language learner (Glucksberg, 2001).

4. Importance of idioms

It is a well-known fact that learning the words individually results in a number of problems. It takes a lot of time to retrieve the words from the learners' memory and to make proper sentences. Thus, learning the words in chunks and different combinatory possibilities of words contribute to developing proficiency in a foreign language. A successful language learning mastery includes a crucial component of learning formulaic sequences such as idioms, collocations, and compounds (Wray, 2000). Apart from that, learning idioms and other formulaic sequences results in making the learners familiar with the foreign language culture and customs. It is roughly estimated that native speakers of English use approximately 7,000 idioms per week, although these numbers have yet to be corroborated by empirical data (Hoffman, 1984, as cited in Liontas, 2017). That is the reason why idioms should be included in the curriculum and should be presented to learners according to the frequency of usage, which is a topic covered by applied and corpus linguists who take into accounts the frequencies and patterns of idioms in order to give priorities in teaching and learning contexts (Liu, 2003). While designing the teaching materials, the teachers can group the idioms according to themes, which creates the possibility of better retention since these topics and themes present a framework and organization for the random lists and make it much easier for the learners to grasp them more deeply (Boers, 2000). There is a wide range of idioms related to nature, animals, body parts, sports, food, etc. It just remains for the teachers to check and decide which idioms out of these groups are used most frequently. Another, so-called, non-semantic approach to teaching is to provide the idioms one by one and quite incidentally through the materials. The importance of formulaic sequences is also emphasized by Nattinger and DeCarrico (1992) who point out their usefulness in teaching conversation and developing fluency. Promotion of communicative competence, proficiency, fluency and familiarization with the target language seem like convincing arguments emphasizing the importance of idioms (Wray, 2000; Wood, 2002; Schmitt, 2004; Thyab, 2016). That is the reason why idioms should find their place in teaching materials and curriculum.

5. Methodology

For corpus analysis, two written activities were administered to thirty 1st year graduate students of the faculty of food technology. These students have been studying English for 15 years. That is the reason why the receptive (in the first activity) and productive (the second activity) knowledge of idioms was tested. In the first activity, the students were asked to connect twenty-two food idioms with their meanings. The second activity was designed to check the productive knowledge of

idioms since the students were asked to use idioms from the previous activity in the sentences containing gaps. It is generally accepted that most of the idioms are not intelligible to students, but the activities were so designed (starting from the easier) to enable students to fulfil their tasks without any difficulties (in the first activity, they could have matched the idioms they are familiar with their meaning and the meaning of the rest of the idioms could have been guessed). The other reason why this research was conducted on the 1st year graduate students is the fact that they have been studying English for quite a lot of time and there may be students who are advanced (or proficient) users of English who can recognize and use idioms related to food.

6. Results and discussion

The results of this research were attained from the corpus which consisted of 22 idioms. In the first activity, the students had to match idioms with their meanings (Table 1). The students were very successful since the accuracy percentage shown in Table 3 was very high (77 %). They had most problems with matching the idiom *to go pear-shaped* with its meaning since the accuracy percentage was only 33 %. The idioms *full of beans* and *to put all one's eggs in one basket* were correct in 50 % of cases, whereas they were well-familiar with the idioms *a piece of cake* and *a big cheese* (accuracy percentage 97%), followed by *to take something with a pinch of salt* and *to be as alike as two peas in a pod* (accuracy percentage 90 %). Generally speaking, the students showed good receptive knowledge of idioms, which was checked in the first activity. The next step was to use the idioms from the 1st activity in the corresponding sentences, so as to check the productive knowledge of idioms (Table 2). The results obtained in this case were slightly below the score from the previous activity. Namely, the accuracy percentage, also shown in Table 1, was 71 %. The idiom they had the most problems with was *to go pear-shaped* as in the first activity. However, they were more successful in the actual application of the idiom in a sentence, the accuracy percentage being 40 %. It was also difficult for them to use the idiom *hot potato* in a sentence (53 % accuracy). Interestingly, they had less problems with the usage of idioms *full of beans* and *to put all one's eggs in one basket* in a sentence (63 % and 67 % accuracy, respectively). Their score was, again, very high for the idiom *a piece of cake* (97 %), followed by the idiom *carrot top* (90 %). As expected, the students were less successful in the second activity since they were confronted with a more difficult task although there were students whose score was 100 %. However, the results do not deviate much from the previous activity so the next goal was to check whether there is a positive correlation between these two tasks. It was tested by Pearson's correlation coefficient. The score obtained was 0.7 which indicates a positive correlation between these two activities, meaning that it is very likely for the students who failed to match the idiom to its meaning to make the same error while using the same idiom in the corresponding sentence. The low scores obtained in some cases are a signal that some idioms (*to go pear-shaped, hot potato*) are not known to students and they show us that they should be practised and taught more in the future. The possible reasons why the students are not familiar with these idioms might be due to

the contextual factors, meaning they were not exposed enough to these idioms and could, therefore, not foresee their meanings although the idiom *hot potato* is used very often and it is not clear why it is not familiar to the students. Out of all the above-mentioned idioms, the idiom *in a nutshell* is the most frequently used (Rafatbakhsh and Ahmadi, 2019) with the usage of 1.18 per million and this research showed that this idiom was used correctly in 80 and 70 % of cases, respectively. So, one of the methods of teaching idioms could be to present them to students according to their frequency of usage and to organize them according to different themes conveyed by their meaning. Previous research on idiom learning strategies revealed that the most frequently used strategies were guessing the meaning of the idiom from the context, discussing and analysing the idiom, using the literal meaning of an idiom, repeating and paraphrasing idiom, using background knowledge, referring to an L1 idiom, imagining an actual situation in which the expression could be used, a meta-analysis about the nature of idioms, using an L1 equivalent, group discussion, retelling and rephrasing (instead of 'repeating and paraphrasing'), and figuring out the meaning of individual words in order to guess the meaning as a whole (Cooper, 1999; Al-Khawaldeh et al., 2016). An additional strategy which could be applied is using various media and different kinds of texts to encourage the students to explore authentic L2 language materials themselves (Pucelj, 2018). Furthermore, some studies were also conducted to establish the relationship between the participants' attitudes and the idiom learning strategies they employ while acquiring new idioms (Liontas, 2002; Ababneh, 2016). There seems to be a positive correlation between these two variables, meaning the more positive the attitude a student has, the more strategies he or she will use to learn new idiomatic expressions. Very high scores obtained in the present study showing that the students possess good knowledge of idioms could be explained by the fact that Croatian students do have an overall positive attitude towards English, regardless of their education level (Mihaljević Djigunović, 2007; Batur, 2016; Badžoka, 2017). Furthermore, the studies conducted in Croatia also show that there is a small statistically significant positive correlation between the participants' academic achievement and the attitudes towards acquiring new idiomatic expressions. It implies that the learners that have a higher grade in the course also possess a more positive attitude towards learning idiom (Pucelj, 2018). Overall, it can be concluded that the students show positive attitudes towards learning new idioms and that they already possess good knowledge of idioms; it is only up to the teachers to find the most efficient way of teaching them and create the materials that would best suit their students' desires and wishes.

Table 1. Idioms and their meaning (1st activity)

Idiom	meaning
1 to egg someone on	earn the income
2 a big cheese	very relaxed

3 to bring home the bacon	very important person (VIP)
4 to butter someone up	person with red or orange hair
5 carrot top	be extra nice to someone (usually for selfish reasons)
6 cool as a cucumber	be pregnant
7 full of beans	have a lot of (silly) energy
8 hard nut to crack	rely on one single thing
9 hot potato	use your brain
10 in a nutshell	do not be upset about making a mistake, since you cannot change that now
11 it's/there's no use crying over spilled milk	don't consider sth 100% accurate
12 a piece of cake	to become irrational or crazy
13 to put all one's eggs in one basket	difficult to understand (often a person)
14 to take something with a pinch (grain) of salt	a controversial or difficult subject
15 use your noodle	in summary
16 to know one's onions	to redden in the face (blush)
17 to go pear-shaped	reveal the truth
18 to be as alike as two peas in a pod	to be very similar
19 to go bananas	to fail or fall apart
20 to go red as a beetroot	to be very knowledgeable or skilled in some area
21 to spill the beans	very easy
22 to have a bun in the oven	to urge someone to do something

Table 2. Idioms in a sentence

idiom	sentence
full of beans	The kids are always _____ after sleeping.
bring home the bacon	My husband has had to _____ ever since I lost my job.
carrot top	I bet my future child will be a _____. Red hair runs in my family.
to go pear-shaped	The project was very successful at first, but then it _____. Everything went completely wrong.
go bananas	Robert _____ when he found his wife had crashed his car. I've never seen him so angry.

egg someone on	The gang tried to _____ us _____ but we didn't want to fight.
cool s a cucumber	When the fire broke out everybody panicked, except Tom. He stayed _____. He stayed completely calm.
as alike as two peas in a pod	Paul and his father are _____. It's incredible - they're completely identical.
red as a beetroot	Brian went _____ when he realized that we'd overheard what he said. He was so embarrassed.
to know one's onions	If you want to know about the pros and cons of GMO, ask William. He really _____. It's a field which he's expert in.
to have a bun in the oven	I don't think she will come to the bar because she has a _____. I wonder if it's a boy or a girl.
to take something with a pinch (grain) of salt	Take everything you read on the Internet with a _____ and you'll be okay.
a big cheese	I thought I was just going to interview the secretary, but they let me talk to the _____ himself.
butter someone up	We'll have to _____ Anne _____ before we tell her the news about the broken plate.
hard nut to crack	The spy we captured is a _____; he hasn't said a thing since we b egan the interrogation.
hot potato	Another _____ in US politics is whether or not to keep abortion legal.
in a nutshell	I don't want the long version— just tell me what your point is _____.
It's no use crying over spilled milk	I know that you really wanted to pass that exam, but you didn't study enough. There's _____. It will be better next time.
a piece of cake	Studying English is _____ for me. It is very easy and I don't have to prepare at home at all.
to put all one's eggs in one basket	I applied to several colleges so I _____ in one basket.
to use one's noodle	You're going to have to really _____ on this crossword puzzle. It's an extra difficult one.
to spill the beans	There is a surprise party for her on Saturday. Please don't _____.

Table 3. Accuracy percentage (1st and 2nd activity) and Pearson's correlation coefficient

idiom	% accuracy (1st activity)	% accuracy (2nd activity)	Pearson's correlation coefficient
1 egg someone on	83 %	63 %	
2 a big cheese	97 %	80 %	
3 bring home the bacon	83 %	70 %	
4 butter someone up	80 %	73 %	
5 carrot top	90 %	90 %	
6 cool as a cucumber	87 %	83 %	
7 full of beans	50 %	63 %	
8 hard nut to crack	83 %	80 %	
9 hot potato	57 %	53 %	
10 in a nutshell	80 %	70 %	
11 it's/there's no use crying over spilled milk	93 %	63 %	
12 a piece of cake	97 %	97 %	
13 put all one's eggs in one basket	50 %	67 %	
14 take something with a pinch (grain) of salt	90 %	83 %	
15 use your noodle	93 %	63 %	
16 to know one's onions	63 %	57 %	
17 to go pear-shaped	33 %	40 %	
18 to be as alike as two peas in a pod	90 %	87 %	
19 to go bananas	63 %	70 %	
20 to go red as a beetroot	80 %	80 %	
21 spill the beans	83 %	83 %	
22 to have a bun in the oven	63 %	63 %	
	77 %	**71 %**	**0,7414**

7. Conclusion

The aim of this research was to determine whether the 1st year graduate students who have been learning English for 15 years are familiar with the idioms related to food, i.e. to check if they can match the idioms with their meanings and then use them in sentences. The results revealed that they possess good knowledge of idioms because the accuracy percentage was 77 % and 71 %, respectively. Furthermore, there were even two students who made no errors, their score was 100 % in both activities. The meaning of the idiom *a piece of cake* was well-known to them and they were able to use it correctly in the corresponding sentence. The idioms they mostly struggled with were the idioms *to go pear-shaped* and *hot potato*. The obtained results will be a good starting point for teaching as it is clear that more time should be spent explaining and

teaching the above-mentioned idioms since they lead to more fluent speaking and writing. Idioms can be taught in various ways: explaining their meaning or by demonstrating the meaning of a certain idiom through a context, by discussing and analysing the idiom, using the literal meaning of an idiom, repeating and paraphrasing idiom, using background knowledge, imagining an actual situation in which the expression could be used, a meta-analysis about the nature of idioms, group discussion, retelling and rephrasing (instead of 'repeating and paraphrasing'), and figuring out the meaning of individual words in order to guess the meaning as a whole. Finally, idioms can be translated and compared to their equivalents in the mother tongue. To check whether a certain idiom is acquired, the students can be asked to match idioms with their meanings or they can be offered several different meanings of an idiom (a multiple-choice question) and they should circle the correct one. Furthermore, foreign language learners can be asked to use idioms in sentences or to replace the demonstrated meaning with the corresponding idiom. To conclude, teaching materials should contain more idioms and special emphasis should be put on their active usage since prefabricated chunks help learners to improve fluency, especially in spoken language and lead to native-like proficiency. Thus, their importance should not be neglected because they are means by which the foreign language learners can express very complex thoughts through very few words.

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Determining Cyber Security-Related Behaviors of Internet Users: Example of the Faculty of Sport Sciences Students

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Abstract

The most practical and fastest way to access information in today's world is via the internet. Thanks to the internet, the necessary information can be reached in a short time. Nevertheless, in addition to the benefits of the internet, it can also pose risks for users. For this reason, it is important to increase the level of awareness of individuals against threats that may occur in the cyber network. Sports organizations, like other sectors, process sensitive personal data and may face cyber attacks. It is important to determine the cyber security behaviors of the students of the faculty of sport sciences, who will be taking part in different careers in sports in the future, and so to contribute to the students' development in this regard. In this study, the cyber security-related behaviors of the faculty of sport sciences students were examined in terms of gender, age, frequency of internet usage, frequency of monthly purchases of products or services over the internet, and level of knowledge about cyber security. The "Personal Cyber Security Provision Scale" developed by Erol and associates (2015) was used as a data collection tool. For this reason, ANOVA and Independent Samples t-Test were used to investigate the significant differences between the scale scores and the variables. According to the findings of the study, students' behaviors related to cyber security differ according to gender, daily internet usage, monthly product or service purchase frequency, and knowledge level about cyber security. The age variable, on the other hand, does not affect cyber security behaviors. According to the results obtained from the Personal Cyber Security Ensuring Scale, the students of the faculty of sport sciences have high cyber security awareness. However, it is seen that they have lower scores from the factors of "Take Precautions" and "Privacy Protection" compared to other factors on the scale. Therefore, it is important for students to be informed about cyber security practices, what kind of precautions they should take in this regard, and how they can learn about improvements in this field to create cyber security awareness.

Keywords: Sport, the faculty of sport sciences students, cyber security, information management training, internet

Introduction

The world is being reshaped by technological developments, and this change affects the lives of individuals. Nowadays, people perform many activities virtually, and the use of information technologies and the internet is encountered in almost every aspect of our lives.

The rapid development of information and communication technologies, especially in recent years, and the fact that they have become easily accessible to individuals have played an important role in the widespread use of the internet (Yiğit and Seferoğlu, 2019). The most practical and fastest way to access information in today's world is via the internet. The necessary information can thus be accessed in a short time. The internet provides great convenience in diverse areas such as education, banking transactions, shopping, entertainment and many others.

The usage of the internet, which is such an integral part of our lives, is also increasing. While the internet provides many benefits to people's lives, it also brings some innovations and changes (Bayzan, 2013). According to the "Information and Communication Technology (ICT) Usage Survey on Households and Individuals" conducted by the Turkish Statistical Institute (TUIK), the daily internet usage of individuals aged 16-74 was 82.6% in 2021. This value was determined at 79% in the previous year.

Improvements, such as rapid widespread internet access, computers becoming a portable technology and the use of mobile phones as computers with the help of software, have now brought about a transformation in the communication habits of individuals, and new problems have emerged, even though the internet shortens distances between people (Karakaya and Yetgin, 2020). The internet can create addiction, thanks to the convenience and opportunities it provides and the sense of freedom it creates in people. In addition to the benefits of the internet, it can also pose risks for users.

On the one hand, people can obtain information easily through widespread internet access. On the other hand, the loss or alteration of the information they already hold may occur. In particular, sharing files over the internet or some risky attitudes of shoppers can affect both themselves and all employees in the business where they work, in terms of information security.

In addition to its positive benefits, the internet can negatively affect its users, especially children and young adults. Just as there are criminals in the real world, the internet also contains its own criminals. Information shared on the internet can be used for fraudulent purposes. The internet negatively affects social life due to issues such as "obscenity", "online fraud", and "virtual gambling". Another negative consequence caused by the internet is internet addiction, which occurs due to

unconscious and uncontrolled use of the internet. People are left in a dilemma between participating in the virtual and real worlds due to this addiction. Furthermore, various crimes bracketed as "cyber crimes", such as unauthorized access to computer systems and services, fraud and forgery, the use of unauthorized software, the use of computer systems by illegal organizations and threats from them are dangerous situations that have entered our lives through the internet (Bayzan, 2013).

The risks arising from internet usage can negatively affect the users both mentally and physically, as well as socially and financially. While negative factors such as "viruses", "unwanted messages (spam)", and "ad fraud" are directly technology-focused, threats such as cyberbullying, privacy violation, and terrorism are non-technology-related risks (Erol et al., 2015).

Sharing all kinds of information on different platforms in social media has made the information belonging to individuals and organizations prone to certain dangers in terms of confidentiality and integrity. For this reason, the importance of information security is increasing day by day. Thus, it is necessary for both individuals and institutions to take more precautions against these risks that may arise from the internet. The most important precaution may well be informing and raising awareness of individuals about cyber security (Karakaya and Yetgin, 2020).

The word cyber is used to express concepts covering computers and their networks. Today, cyber security has become an important concept in national security strategies. With the continuous development in technology, improvements in cyber security happen very quickly. For this reason, it is important to increase the level of awareness of individuals against threats that may occur in the cyber network (Aslay, 2017). The low awareness of internet users about cyber security, their carelessness, and negligence while surfing the internet, may allow for cyber crime and harm people. For these reasons, the importance of cyber security has emerged (Yiğit and Seferoğlu, 2019).

When the literature is examined, it is seen that there are many studies on cyber security and threats on the internet (Yavanoğlu et al., 2012; Lang et al., 2009; Nagy and Pecho, 2009; Kaşıkçı et al., 2014; Karaoğlan Yılmaz et al., 2014; Öğütçü, 2010; Furnell et al., 2005; Demirel et al., 2012; Yiğit and Seferoğlu, 2019; Avcı and Oruç, 2020). Like other sectors, the sports sector is also affected by technological developments. In the report named The Cyber Threat to Sports Organizations, it is stated that at least 70% of the sports clubs interviewed have encountered a cyber attack at least once. Sports clubs and organizations process a significant amount of sensitive personal data and conduct many financial transactions each year. Moreover, almost every sports organization has a web page and can keep customer and personnel records digitally (https://www.ncsc.gov.uk/files/Cyber-threat-to-sports-organisations.pdf). From this point of view, technology is used intensively in the sports sector, as it is in other sectors.

It is important to determine the cyber security behaviors of the sports science faculty students, who will be taking part in different careers in sport in the future, and in this way to contribute to the students' development in this regard. Therefore, this study aimed to determine the cyber security behaviors of the students of the Faculty of Sport Sciences. The research questions guiding the study are as follows:

What are the personal cyber security behavior levels of the students of the faculty of sport sciences?

Do these students' personal cyber security behavior levels differ significantly according to various demographic characteristics (gender, age, daily internet usage, frequency of monthly purchases of products or services over the internet, and level of knowledge about cyber security)?

Methodology

Research Model

The study was carried out using the cross-sectional survey method, one of the quantitative research methods. According to Büyüköztürk and associates (2020), in this method, data is collected to determine certain characteristics belonging to a group. This study aims to determine the cyber security-related behaviors of the students of the Faculty of Sport Sciences. Ethics committee approval for the study was obtained from Istanbul University Social and Human Sciences Research Ethics Committee dated 14.09.2021 and numbered E-35980450-663.05-466515.

Participants

Participants were determined according to the convenient sampling method, which is one of the non-random sampling methods. In convenience sampling, participants are selected from people who can be easily accessed and applicable units due to such limitations as time and workforce (Büyüköztürk et al., 2020). The study sample consisted of 221 people who are continuing their education in sport sciences faculties of various universities.

Data Collection

The **"**Personal Cyber Security Provision Scale" developed by Erol and associates (2015) was used as a data collection tool. This scale consists of 5 factors and 25 items. These factors are named as "Privacy Protection", "Avoiding Unsafe", "Take Precautions", "Protection Payment Information" and "Left No Trace". Items are evaluated on the 5-Point Likert scale (1-Never, 2-Rarely, 3-Sometimes, 4-Often, 5-Always). Items 5, 7, 12, 13, 17, 18, 19, 20, 24, 25 in the scale were included as reverse items. The Cronbach's alpha for the overall scale was calculated as 0.921.

Data Analysis

The data obtained with the Personal Cyber Security Ensuring Scale were analyzed using SPSS 28. It was determined that data are normally distributed (Kurtosis: -0.410,

Skewness: -0.379). For this reason, ANOVA and Independent Samples t-Test were used to investigate the significant differences between the scale scores and the variables of gender, age, daily internet usage, frequency of monthly purchases of products or services over the internet, and the level of knowledge about cyber security. The statistical significance level of the study was determined as $p<0.05$.

Findings

The findings of the study are given in the tables below.

Table 1: Demographic Characteristics of Participants

Variables	Group	Frequency	%
Gender	Female	119	53.8
	Male	102	46.2
Age	18-19	41	18.6
	20-21	86	38.9
	22-23	69	31.2
	24-25	25	11.3
Daily internet usage	Less than 1 hour	73	33.0
	1-2 hour/s	50	22.6
	3-4 hours	58	26.2
	5 hours or more	40	18.2
Frequency of monthly purchases of products or services over the internet	None	15	6.8
	1-2 time/s	74	33.5
	3-4 times	82	37.1
	5-6 times	47	21.3
	7 times or more	3	1.4
Level of knowledge about cyber security	No knowledge	5	2.3
	Low	49	22.2
	Moderate	67	30.3

High	68	30.8	
Advanced	32	14.5	

When the participants' scores on the Personal Cyber Security Ensuring Scale were analyzed in terms of the whole scale and the sub-dimensions, the findings in Table 2 were reached.

Table 2: The Scores of the Participants on the Personal Cyber Security Ensuring Scale

	Overall Scale	Privacy Protection	Avoiding Unsafe	Take Precautions	Protection Payment Information	Left No Trace
Mean	4.28	3.98	4.40	3.80	4.42	4.38
Min.	3.33	3.40	3.25	3.00	2.50	3.25
Max.	5.00	5.00	5.00	5.00	5.00	5.00

According to these findings, the average score of the participants on the overall scale is 4.28, from the dimension of protecting personal privacy 3.98, from the dimension of avoiding untrustworthy sites 4.40, from the dimension of taking precautions 3.80, from the dimension of protecting payment information 4.42, and from the dimension of leaving no traces 4.38.

Table 3: Statistical Analysis Results Between Participants' Scale Scores and Gender

Gender	Number	Mean	Std. Deviation	t	p
Female	119	109.4286	8.99677	1.710	**0.044**
Male	102	107.1765	10.58058		

***p < 0.05**

The relationship between the scale scores of the participants and their gender was examined with the Independent Samples t-Test. The results are indicated in Table 3. Accordingly, it was determined that there was a significant difference ($p<0.05$) between the gender variable and the scale scores.

Table 4: Statistical Analysis Results Between Participants' Scale Scores and Ages

Age	Number	Mean	Std. Deviation	F	p
18-19	41	108.1707	10.68387	0.664	**0.575**
20-21	86	108.6512	9.99149		
22-23	69	107.4058	9.48423		
24-25	25	110.5600	8.60271		

The relationship between the scale scores and the ages of the participants was examined with the ANOVA, and the results are shown in Table 4. No significant difference was found between the ages and scale scores of the participants ($p > 0.05$).

Table 5: Statistical Analysis Results between Participants' Scale Scores and Daily Internet Usage

Frequency of Internet Usage	No.	Mean	Std. Deviation	F	p
Less than 1 hour	73	116.0137	5.14105	106.600	**0.001**
1-2 hour/s	50	113.6200	5.24070		
3-4 hours	58	101.0690	7.05085		
5 hours or more	40	98.5500	7.94516		

$p < 0.05$

The relationship between the scale scores of the participants and their daily internet usage was examined with the ANOVA. The results can be seen in Table 5. A significant difference was found between the participants' daily internet usage and scale scores ($p < 0.05$). Findings of the Post Hoc Scheffe test are shown in Table 6.

Table 6: The Post Hoc Scheffe Test Results between Scale Scores of Participants and Daily Internet Usage

Groups (I)	Groups (J)	Mean Difference (I-J)	Std. Deviation	Sig.
Less than 1 hour	1-2 hour/s	2.39370	1.15191	0.232
	3-4 hours	**14.94473***	**1.10375**	**<0.001**
	5 hours or more	**17.46370***	**1.23441**	**<0.001**
1-2 hour/s	Less than 1 hour	-2.39370	1.15191	0.232
	3-4 hours	**12.55103***	**1.21094**	**<0.001**
	5 hours or more	**15.07000***	**1.33112**	**<0.001**
3-4 hours	**Less than 1 hour**	**-14.94473***	**1.10375**	**<0.001**
	1-2 hour/s	**-12.55103***	**1.21094**	**<0.001**
	5 hours or more	2.57897	1.28967	0.285
5 hours or more	**Less than 1 hour**	**-17.46370***	**1.23441**	**<0.001**
	1-2 hour/s	**-15.07000***	**1.33112**	**<0.001**
	3-4 hours	-2.51897	1.28967	0.285

p < 0.05

According to Table 6, there is a significant difference between the scale scores of the users whose daily internet use is less than 1 hour and 1-2 hours, and the scale scores of those who use the internet for 3-4 hours and 5 hours or more.

Table 7: Statistical Analysis Results between Scale Scores of Participants and Frequency of Monthly Purchases of Products or Services Over The Internet

Frequency of Monthly Purchases of Products or Services Over The Internet	**No.**	**Mean**	**Std. Deviation**	**F**	**p**
None	15	117.4667	3.50238	27.983	**0.001**
1-2 time/s	74	114.2838	6.31050		
3-4 times	82	106.0488	9.98753		
5-6 times	47	101.0638	7.50769		
7 times or more	3	96.3333	9.23760		

p<0.05

The relationship between the scale scores of the participants and the frequency of monthly purchases of products or services over the internet was examined with the ANOVA test, and the results are given in Table 7. A significant difference was found between the monthly frequency of purchasing products or services and the scale scores of the participants (p< 0.05). Findings of the Post Hoc Scheffe test are shown in Table 8.

Table 8: The Post Hoc Scheffe Test Results between Scale Scores of Participants and Frequency of Monthly Purchases of Products or Services over the Internet

Groups (I)	Groups (J)	Mean Difference (I-J)	Std. Deviation	Sig.
None	1-2 time/s	3.18288	2.27331	0.743
	3-4 times	**11.41789***	**2.25454**	**<0.001**
	5-6 times	**16.40284***	**2.38082**	**<0.001**
	7 times or more	**21.13333***	**5.07756**	**0.002**
1-2 times	None	-3.18288	2.27331	0.743
	3-4 times	**8.23500***	**1.28725**	**<0.001**

	5-6 times	**13.21995***	**1.49745**	**<0.001**
	7 times or more	**17.95045***	**4.72818**	**0.007**
3-4 times	**None**	**-11.41789***	**2.25454**	**<0.001**
	1-2 time/s	**-8.23500***	**1.28725**	**<0.001**
	5-6 times	**4.98495***	**1.46880**	**0.024**
	7 times or more	9.71545	4.71918	0.377
5-6 times	**None**	**-16.40284***	**2.38082**	**<0.001**
	1-2 time/s	**-13.21995***	**1.49745**	**<0.001**
	3-4 times	**-4.98495***	**1.46880**	**0.024**
	7 times or more	4.73050	4.78080	0.913
7 times or more	**None**	**-21.13333***	**5.07756**	**0.002**
	1-2 time/s	**-17.95045***	**4.72818**	**0.007**
	3-4 times	-9.71545	4.71918	0.377
	5-6 times	-4.73050	4.78080	0.913

p<0.05

When Table 8 is examined, there is a significant difference between the scale scores of the participants who do not purchase products or services over the internet and those who purchase 1-2 times a month, and the scale scores of the participants who purchase products or services 3-4, 5-6, and 7 or more times a month. The scale scores of the participants who do not buy products or services over the internet and who make purchases 1-2 times a month are significantly higher than the scale scores of the other participants.

Table 9: Statistical Analysis Results between Scale Scores and Level of Knowledge about Cyber Security

Level of Knowledge about Cyber Security	No.	Mean	Std. Deviation	F	p
No knowledge	5	100.0000	7.96869	61.394	**0.001**
Low	49	99.4898	6.48435		
Moderate	67	104.1791	8.72114		
High	68	115.5147	4.94294		
Advanced	32	117.0000	5.57066		

p < 0.05

The relationship between the scale scores of the participants and level of knowledge about cyber security was examined with the ANOVA, and the results are given in Table 9. Accordingly, a significant difference was found between the level of knowledge about cyber security and their scale scores ($p < 0.05$). Findings of the Post Hoc Scheffe test are shown in Table 10.

Table 10: The Post Hoc Scheffe Test Results between Scale Scores of Participants and Level of Knowledge about Cyber Security

Groups (I)	Groups (J)	Mean Difference (I-J)	Std. Deviation	Sig.
No knowledge	Low	0.51020	3.17694	1.000
	Moderate	**-4.17910***	**3.13718**	**0.017**
	High	**-15.51471***	**3.13557**	**<0.001**
	Advanced	**-17.00000***	**3.25414**	**<0.001**

Low	No knowledge	-0.51020	3.17694	1.000
	Moderate	**-4.68931***	**1.27200**	**0.010**
	High	**-16.02491***	**1.26805**	**<0.001**
	Advanced	**-17.51020***	**1.53803**	**<0.001**
Moderate	**No knowledge**	**4.17910***	**3.13718**	**0.017**
	Low	**4.68931***	**1.27200**	**0.010**
	High	**-11.33560***	**1.16485**	**<0.001**
	Advanced	**-12.82090***	**1.45412**	**<0.001**
High	**No knowledge**	**15.51471***	**3.13557**	**<0.001**
	Low	**16.02491***	**1.26805**	**<0.001**
	Moderate	**11.33560***	**1.16485**	**<0.001**
	Advanced	-1.48529	1.45066	0.902
Advanced	**No knowledge**	**12.00000***	**3.25414**	**<0.001**
	Low	**17.51020***	**1.53803**	**<0.001**
	Moderate	**12.82090***	**1.45412**	**<0.001**
	High	**1.48529**	**1.45066**	**0.902**

p<0.05

There is a significant difference between the scale scores of the participants who state that they do not have knowledge about cyber security or have little knowledge, and the scale scores of those who state that they have moderate, high or advanced knowledge. The scale scores of the participants who have little or no knowledge about cyber security are significantly lower than those of the other participants. The scale scores of the participants who state that they have moderate knowledge about cyber

security are significantly lower than the scale scores of the participants who state that they have high or advanced knowledge about cyber security.

Discussion and Conclusion

Nowadays, the internet is a necessity that we benefit from in our daily lives in many areas such as accessing and sharing information, communication and shopping. In addition to the conveniences provided by the internet, people are faced with some cyber risks and threats over the internet.

In this study, the cyber security-related behaviors of the students of the faculty of sport sciences were examined in terms of gender, age, daily internet usage, frequency of monthly purchases of products or services over the internet, and how they define their level of knowledge about cyber security. According to the findings of the study, the students' behaviors related to cyber security differ according to gender, daily internet usage, monthly product or service purchase frequency, and knowledge level about cyber security. The age variable, on the other hand, does not affect cyber security behaviors.

According to the results obtained from the Personal Cyber Security Ensuring Scale, the total scores of the students of the faculty of sport sciences were found to be high (4.28 points out of 5). While the factor with the highest average was "Protection Payment Information" (mean score 4.42), the factor with the lowest average was "Take Precautions" (mean score 3.80). Therefore, it is possible to say that students exhibit behaviors related to cyber security in their daily lives. This finding is similar to some studies in the literature (Avcı and Oruç, 2020; Karacı, Akyüz and Bilgici, 2017; Yiğit and Seferoğlu, 2019). It is seen that the students consider especially important the categories "Protection Payment Information" and "Avoiding Unsafe". On the other hand, students pay the least attention to "Take Precautions". Thus, it is important to increase the participants' awareness about taking precautions.

Another result of this research is that students' cyber security behaviors differ depending on gender. Female students have more positive cyber security behavior than male students. In the literature, some studies found that cyber security behaviors do not differ in terms of gender (Karacı, Akyüz and Bilgici, 2017; Subramaniam, 2017; Yiğit and Seferoğlu, 2019; Yan et al., 2018), but in the studies conducted by Akgün and Topal (2015), Kınay (2012) and Topçu (2008), male students took more risks than female students in matters related to security. In addition, according to Tekerek and Tekerek (2013), female students were more aware of information security than male students. Likewise, in a study conducted by Mart (2012), women were aware of the

dangers they may face compared to men in terms of information security. The differences between the results of the studies may be due to the fact that the studies were conducted on different groups. In addition, it would be useful to conduct qualitative research about the main factors behind these differences.

According to the results of this study, students' cyber security behaviors do not differ depending on age. The obtained finding is similar to the study conducted by Gökmen and Akgün (2015).

The study also investigated the effect of students' daily internet use on cyber security behaviors. According to the findings, students' cyber security behaviors differ depending on time spent online. According to this, the scale scores of the users whose daily internet use is less than 1 hour or 1-2 hours are significantly higher than the scale scores of the participants who use the internet for 3-4 hours or 5 hours or more. Based on this result, it can be said that students with low daily internet usage time have higher cyber security awareness. In a similar study conducted by Yiğit and Seferoğlu (2019), no significant difference was found between students' cyber security behaviors and the time spent on the internet. In another study, the awareness of the group that uses the internet more than the average and ethical awareness are negatively correlated (Akgün and Topal, 2012). These results may be due to the fact that the studies were conducted on different groups. In addition, for what purpose the participants use the internet and which websites they spend time on are also issues that need to be emphasized.

In this article, the frequency of monthly purchases of products or services over the internet, and the cyber security behaviors of the participants differed. The scale scores of the participants who do not buy products or services over the internet and those who make purchases 1-2 times a month are significantly higher than the scale scores of the other participants. This result is consistent with the findings of the analysis regarding the duration of internet use, which is another variable of the study. In addition, considering that the students of the faculty of sport sciences participating in the study are weak in the factors of "Take Precautions" and "Privacy Protection", compared to the other factors on the scale, the importance of the cyber security behaviors of the participants in online shopping emerges.

According to the findings of the study, the scale scores of the participants who stated that they have knowledge about cyber security is high. This shows that the participants' level of cyber security knowledge affects their awareness and is reflected in their behaviors. In the literature, the importance of raising awareness on an individual basis is mentioned, as well as the precautions that can be taken in terms

of technology to ensure cyber security (Keser and Güldüren, 2015; Şahinaslan, Kandemir and Şahinaslan, 2009; Shaw, Chen, Harris and Huang, 2009). In addition, attention is drawn to the importance of the human factor in exposure to cyber attacks, and it is stated that human error is an important factor in the negative results of these attacks. (Anwar et al., 2017; Öğütçü, Testik and Chouseinoglou, 2016; Sasse, Brostoff and Weirich, 2001;Yan et al., 2018). For this reason, increasing the awareness of individuals about cyber security through training has an important role in reducing the effects of cyber risks.

According to the results of the study, it is possible to say that the students of the faculty of sport sciences have high cyber security awareness based on the scores they get from the scale. However, it is seen that they are weak in the dimensions of taking precautions and protecting personal privacy compared to other dimensions of the scale. In today's world, where rapid changes are experienced in technological developments, it is important to inform students about cyber security practices, what kind of precautions they should take in this regard and how they can follow the developments in this field to create cyber security awareness. For the students of the faculty of sport sciences, who will take part in different application areas of sports in the future, in order to have enough information about the risks they may encounter during their use of the internet and how they can manage these risks, training can be provided or courses related to cyber security can be placed in the curriculum.

Suggestions can be made for future studies in this area. It should be noted that this study is limited to 221 students and a data collection tool. It is possible to conduct more in-depth studies with larger samples. In addition, studies can be conducted to determine the needs and expectations of students regarding cyber security in the field of sports.

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