The Relation Between Web 2.0 Rapid Content Development Self-Efficiency and Professional Burnout of Special Education Teachers

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ABSTRACT

This research was carried out specifically to address the question of the relation between Web 2.0 rapid content development self-efficacy belief (W2RCDSB) level and professional burnout level of special education teachers. 90 special education teachers participated in the research. "Web 2.0 Rapid Content Development Self-Efficacy Belief Scale" and "Maslach Burnout Inventory" were used to obtain the data. Descriptive statistics, t-test, ANOVA and Pearson correlation analyzes were used in the interpretation of this research, which was designed in the correlational model. The results of the research show that special education teachers have a moderate level of W2RCDSB and they feel professional burnout at a normal level. However, the characteristics of teachers such as gender, age, graduated program and professional seniority do not make a significant difference on the dependent variables. Also it is realized that level of professional burnout decreases as the W2RCDSB level of teachers increases.

Keywords: *Special education teachers, web 2.0 tools, professional burnout,*

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INTRODUCTION

With the widespread use of mobile devices and the internet, traditional learning environments have begun to be replaced by technology-supported learning environments. In this process, teacher competencies came to the fore as one of the key components affecting success in learning environments (Sulaiman & Ismail, 2020). The emphasis on the digital competence that a teacher should possess in certain fields in the 21st century, as published by many organizations such as UNESCO, International Society for Technology in Education (ISTE), National Educational Technology Standards for Teachers (NETS-T) and TUBITAK, support this claim (Orhan-Göksun and & Kurt, 2017). The digital transformation in education has been influential on the education vision in Turkey as in many countries, and the Ministry of National Education has set important goals such as "supporting and encouraging leading teachers who develop digital learning materials" by emphasizing the use of information and communication technologies in the 2023 Education Vision (MEB, 2018). In accordance with this goal, teachers are expected to develop and use digital learning materials in their course designs (Arkan & Kaya, 2018). One of the technologies that would facilitate the workload of teachers in this regard is Web 2.0 tools (Karaman et al., 2008).

Web 2.0 tools allow the development of many digital materials that take into account the individual differences of students, which is particularly useful in special education, and increase student-teacher interaction and teacher-teacher cooperation (Billingsley et al., 2011; García et al., 2014; Seabrooks-

Blackmore and & Patterson, 2013; Yeni, 2017). In addition, these tools make the learning process fun and enjoyable for the students and so increase their participation in the lessons (Zentel et al., 2008). Considering the individual differences of students in special education and the insufficiency of the available digital materials, digital content production becomes an important need. The responsibility of special education teachers in meeting this need is to develop and improve their competencies in this regard. However, in her research Yeni (2017) stated that 77% of the special education teachers who participated in the research did not develop digital content for their students. Studies on the subject show that teachers' readiness levels are insufficient to use these tools (Horzum, 2010; Tatlı et al., 2019; Yu et al., 2012). In addition, teachers stated that they tought these tools to be a waste of time due to the technical difficulties they bring about and thus prolong the pre-lesson preparation process (Arabacı & Akıllı, 2021).

Present goals and expectations aim to increase the quality of learning processes but also cause additional workload for teachers (Talan & Batdı, 2022). This workload can cause mental pressure and tension in many teachers who have various deficiencies in the technology integration process (Al-Fudail & Mellar, 2008). In other words, while technology is a tool that supports learning-teaching processes, it can become a source of stress for teachers who have inadequacies in this regard. This is because teachers with low digital competencies spend more time with these tools, and this can lead to the detoriation of the balance between teachers' work and private lives. According to Hobfoll's Conservation of Reserves Theory, disruption of this balance can cause employees to be constantly exposed to stress and experience burnout (Yener, 2018). Additionally, Maslach and Jackson (1981) stated that excessive workload and the resulting stress are one of the most important dimensions of professional burnout. Bandura (1977), on the other hand, argued that "self-efficacy" is one of our own resources that will minimize both stress and burnout.

Fernández-Suárez et al. (2021) stated that teachers' inadequacies in technology integration were in parallel with their perceptions of professional burnout. Similarly, a variety of other research stated that teachers who feel inadequate about technological literacy are more likely to experience professional burnout (Avcı & & Seferoğlu, 2011; Durak & Seferoğlu, 2017). Further analysis and studies on the professional burnout of special education teachers showed that teacher experience, increasing load of paperwork, stress related to job requirements, student disability, role conflict, role ambiguity and administrative support were determinant factors of professional burnout (Brunsting et al., 2014; Fore. et al., 2002; Park and & Shin, 2020). There is now a growing interest about looking into the relationship between the professional burnout of special education teachers and their technological self-efficacy when the issues such as the increasing use of technology in special education and the increase in the expectations for teachers to prepare digital learning materials despite their low level of readiness in this regard are considered as a whole. For these reasons, this study aimed to reveal the relationship between special education teachers' Web 2.0 rapid content development self-efficacy belief (W2RCDSB) levesl and their professional burnout levels. The results obtained would contribute to guiding the efforts of making action plans to reduce the professional burnout of special education teachers.

The aim of this research is to reveal the relation between Web 2.0 rapid content development self-efficacy belief (W2RCDSB) levels and professional burnout levels of special education teachers. In order to achieve this aim, answers to the following questions were sought:

1. What are the W2RCDSB and professional burnout levels of special education teachers?
2. In terms of several variables (gender, age, field of graduation and professional seniority);
2.1. Is there a significant difference between W2RCDSB levels of special education teachers?
2.2. Is there a significant difference between professional burnout levels of special education teachers?
3. Is there a relation between special education teachers' W2RCDSB levels and their perception of professional burnout?

RESEARCH METHOD

Research Model

This research, which aims to determine the relation between W2RCDSB level and professional burnout level of special education teachers, is in correlational model. The purpose of correlational models is to determine the presence and/or degree of co-variance between two or more variables. The findings do not present a true cause-effect relationship, but if the status of one variable is known, it can help in estimating the other (Karasar, 2012, p. 81).

Research Group

While forming the study group of the research, convenient sampling method, which is one of the non-random sampling methods, was preferred. The Covid-19 pandemic had an effect in choosing this method. As suggested by Büyüköztürk et. al. (2010), the researchers formed the sample starting from the most accessible respondents until they reached a group of the size they needed. The research population consists of special education teachers who practically work with children with special needs in Turkey. The forms and scales created with the Google Form tool were delivered to the teachers via social media, prioritising the special education teachers in the province where the researchers live. 90 volunteers formed the sample of the study. The data collection process was terminated when the number of surveys completed over the Google Form remained unchanged for two weeks. Information about the research group is given in the Table 1.

Table 1. ***Frequency and Percentage Table of Demographic Characteristics of Participants***

Independent variables	Groups	n	%
Gender	Female	67	74.5
	Male	23	25.5
	Total	90	100
Age	20-30	53	58.8
	31 and above	37	41.2
Graduated Program	Special Education teaching	71	78.8
	Other	19	21.2
Professional Seniority	0-5 year	41	45.5
	6 and above	49	54.5

As seen in Table 1, 74.5% of the study group consisted of female teachers and the remaining 25.5% were male teachers. While 78.8% of the teachers graduated from one of the special education departments, 21.2% were from a different field. 58.8% of the teachers were between the ages of 20-30 and 45.5% were in the first five years of their professional life.

Data Collection Tool

“Personal Information Form”, “Web 2.0 Rapid Content Development Scale for Determining Self-Efficacy Beliefs” and “Maslach Burnout Inventory” were used to collect research data to calculate the teachers' burnout status. Ethical permission of the research was obtained from the Ethics Committee of the Faculty of Education of Firat University with the date and number of 04.01.2021/E-97132852-302.14.01-1233 before starting the study.

Personal Information Form

The personal information form was developed by the researchers and consisted of questions regarding the demographic characteristics of teachers (gender, age, department graduated, length of service).

Web 2.0 Rapid Content Development Scale for Determining Self-Efficacy Beliefs

The “Web 2.0 Rapid Content Development Scale for Determining Self-Efficacy Beliefs” developed by Birişçi et al. (2018) was used to determine teachers' content development self-efficacy beliefs with Web 2.0

tools. It was stated that the Kaiser-Meyer-Olkin (KMO) value of the scale used was 0.96, the chi-square test statistic result obtained as a result of Bartlett's test was significant (χ 2 =4355.23, , p<.01) and the internal consistency coefficient was α= 0.955. Confirmatory factor analysis results showed that the scale had three sub-dimensions. As a result of the analysis of the data; the first sub-dimension was determined as "preparation (α=0.94)", the second sub-dimension as "presentation (α=0.85)" and the third sub-dimension as "evaluation (α=0.87)". The scale consists of 21 items in total and has a five point scale ranging from very inadequate (1) to very adequate (5). The internal consistency coefficient results of this research are as follows; Preparation (α=0.97), Presentation (α=0.97), Evaluation (α=0.72).

Maslach Burnout Inventory

In order to identify teacher burnout, Maslach Burnout Inventory (MBI), which was developed by Maslach and Jackson (1981) and later adapted into Turkish by Ergin (1992), for which the validity and reliability study was done by Sucuoğlu and Kuloğlu (1996) , was used in this research. There are three sub-dimensions in the inventory: "Emotional Exhaustion" (EE), "Personal Accomplishment" (PA) and "Depersonalization" (D). The inventory consists of 22 items and is graded as Never (1), Rarely (2), Sometimes (3), Often (4), Always (5). While the answer options in the original scale were seven degrees, it was adapted to Turkish with five degrees.

Sucuoğlu and Kuloğlu (1996) carried out the teacher sample reliability and validity studies of MBI with teachers working with special needs children. In this study, the Cronbach-Alpha coefficients of the reliability results of MBI were calculated as .82, .73 and .60 for the sub-dimensions (EE, PA and D), respectively. It is seen that the reliability coefficients obtained by using the split-half technique are .77, .75 and .42 for the sub-dimensions (EE, PA and D), respectively. In the validity study of the scale, the total burnout scores of 311 teachers were calculated and the correlation between the total scores and the subscale scores was examined. Calculations showed that the total score and sub-dimension correlation coefficients were .85 for EE, -.62 for PA, and .59 for D. The internal consistency coefficient of this research is as follows: Emotional Exhaustion (α=o.87), Depersonalization (α=0.70) and Personal Accomplishment (α=0.73). As a result, it was stated that MBI is a valid and reliable scale for determining teacher burnout. In the study of Sucuoğlu and Kuloğlu (1996), the expression "People I come across because of my job" in the Turkish version of Ergin (1992)'s MBI scale was changed to "my students".

Total score and sub-dimension scores are obtained in the calculation of MBI. While the sub-dimension scores are scored from 1 to 5 depending on the participation levels of the teachers for EE and D, the reverse [Never (5), Always (1)] scoring is made for PA. The reason for this is that EE and D items are composed of negative expressions and PA items are positive statements. The scores obtained from the MBI are classified as low, medium and high.

Analysis of Data

SPSS 22.0 program was used in the analysis of the data obtained from the Personal Information Form and the scales. Descriptive statistical calculations were used to answer the first research question. In order to answer the second research questions, the normality test was conducted intially to determine whether the dependent variables showed a normal distribution in the groups. According to the results of the normality test, it was seen that the distributions of "W2RCDSB level" were normal in all independent variables, but on the contrary, the distributions of "professional burnout level" were found to be not normal. For this reason, in order to conclude whether independent variables make a significant difference on W2RCDSB levels, independent samples t-test from parametric tests were conducted and Mann Whitney U test, one of the nonparametric tests, were used for analyzes regarding the Occupational Burnout level. For the answer to the third research question, the Pearson correlation coefficient was calculated.

FINDINGS

In this part of the research, which aimed to investigate the relation between Web 2.0 rapid content development self-efficacy belief (W2RCDSB) level and professional burnout level of special education teachers, teachers' W2RCDSB levels and professional burnout levels were described. Then, whether the scores obtained from this analysis differed significantly according to teachers' gender, age, field of graduation and professional seniority was looked into. Finally, the relation between W2RCDSB level and professional burnout level was revealed.

Findings Regarding the Level of W2RCDSB and the Level of Professional Burnout

The minimum (min.), maximum (max.) scores, and arithmetic mean($\bar{x}$) and standard deviation(SD) scores of teachers from W2RCDSB Scale and Maslach Burnout Inventory sub-dimensions are given in Table 2.

Table 2. ***Analysis Results of Teachers' Level of W2RCDSB and Professional Burnout Level***

Scale	Sub Dimensions	n	M.	Max.	$\bar{x}$	SD
W2RCDSB	Preparation(13 item)	90	1	4.90	2.77	.98
	Presentation (4 item)	90	1	5	3.03	1.01
	Evaluation (4 item)	90	1	7.5	2.94	1.08
	Total	90	1	4.92	2.85	.89
MBI	Emotional Exhaustion(9 item)	90	9	39	18.20	5.92
	Personal Accomplishment(5 item)	90	8	23	15.51	3.39
	Depersonalization (8 item)	90	5	20	7.77	2.76
	Total	90	0	51	19.48	9.7

According to Table 2, it is seen that the mean score value obtained from W2RCDSB is at a moderate level ($\bar{X}$=2.85). Accordingly, the average score of the self-efficacy perception sub-dimension for using Web 2.0 tools in the course preparation process was calculated as 2.77, and the mean score of the participants in the presentation sub-dimension was calculated as 3.03. The self-efficacy perception average score of the participants in using Web 2.0 tools for evaluation was found to be 2.94. According to the results obtained, it can be said that the participants have a moderate level of W2RCDSB in all sub-dimensions of the scale and throughout the scale.

When the professional burnout levels of the teachers are examined, it is seen that they perceive the highest burnout in the Emotional Exhaustion sub-dimension. This is followed by Personal Accomplishment and Depersonalization sub-dimensions, respectively. The mean scores obtained from the sub-dimensions of the scale are interpreted as the teachers' perception of low levels of burnout in the sub-dimensions of Emotional Exhaustion ($\bar{x}$=18.20), Personal Accomplishment ($\bar{x}$=15.51) and Depersonalization ($\bar{x}$=7.77). The high standard deviation in the sub-dimensions of the Maslach Burnout Inventory is remarkable. This situation can be interpreted as the teachers' perceptions of burnout are very different from each other.

Findings in Terms of Gender, Age, Graduate Program and Professional Seniority Variables

In the table below, the results of the Independent Samples T-test and Mann Whitney U test for the Professional Burnout level are given to determine conclude the independent variables make a significant difference between the W2RCDSB levels.

Table 3. ***Analysis Results of Teachers' W2RCDSB and Professional Burnout Levels on Independent Variables***

Independent variables	Groups	N(%)	W2RCDSB					MBI			
			x̄	S	sd	t	p	Sum of squares	Mean Square	U	p
Gender	Female	67(74.5)	2.8	.95	54.38	1.21	.22	45.13	3023.5	745.5	.81
	Male	23(25.5)	3.02	.67				46.59	1071.5		
Age	20-30	53(58.8)	2.7	.86	88	1.9	.05	49.39	2617.5	774.5	.09
	31 +	37(41.2)	3.0	.90				39.93	1477.5		
Graduated Program	Special Education Teacher	71(78.8)	2.8	.87	88	.9	.33	44.35	3148.5	592	.41
	Other	19(21.2)	3.0	.98				49.82	946.5		
Professional Seniority	0-5 year	41(45.5)	2.7	.85	88	1.1	.25	45.54	1867	1003	.99
	6 +	49(54.5)	2.9	.92				45.47	2228		

When the findings in Table 3 are examined, it is seen that the variables of gender, age, graduated program and professional seniority do not differ significantly on teachers' W2RCDSB level and professional burnout level.

Findings Regarding the Relationship Between Level of W2RCDSB and Level of Professional Burnout

Pearson correlation coefficient analysis was conducted to find the relationship between special education teachers' W2RCDSB level and professional burnout level. The results show that there is a low level of negative and significant relationship between the level of W2RCDSB and the level of professional burnout ($r=0.244$, $p<.05$). This result can be explained by the fact that as teachers' self-efficacy beliefs for using Web 2.0 tools in lessons increase, their perceptions of professional burnout decrease.

DISCUSSION, CONCLUSION AND SUGGESTIONS

Based on the research findings, it can be said that special education teachers have a medium level of W2RCDSB. It is seen that this result of the research is similar to the study of Eser (2020), in which the same scale was applied to teacher candidates. In a similar study, Say and Yıldırım (2020) looked into the W2RCDSB level of teacher candidates from different departments. The results of the research showed that science, primary school and English teachers had a high levels of W2RCDSB, preschool teachers have a medium level of W2RCDSB and mathematics teachers have a low level of W2RCDSB. The finding that Turkish teachers who create digital stories in order to develop material in Turkish lessons have high W2RCDSB levels is one of the similar studies on this subject. In the related literature, particularly in a study conducted by Baran and Bilici (2015) on TPACK, it is stated that the studies are mostly carried out with teacher candidates and that the studies for special education teachers are insufficient. Although creating content using Web 2.0 tools does not mean TPACK, it is stated in various studies that the studies on the use of technology in the field of special education are limited (Kurt & Kurtoğlu-Özen, 2020). Among the reasons for this situation, it can be thought that special education is mostly under the influence of behavioral theory or that the contributions of technology to the field have not yet been understood.

When teachers' perceptions of professional burnout are examined, it is seen that they perceive the highest burnout in the “Emotional Exhaustion” sub-dimension of Maslach Burnout Inventory. In the study, it was concluded that the teachers perceived more burnout in the Personal Accomplishment and Depersonalization sub-dimensions respectively, after the Emotional exhaustion sub-dimension. While this ranking is similar to the study of Karacan (2012), it differs from the studies of Dağseven-Emecen and Saraç (2020), Çiftçi (2015), Işıkhan (2018), Işıktaş (2016) and Girgin and Baysal (2005). In these latter of the studies, it is stated that teachers perceive the highest burnout in the “Personel Accomplishment” sub-dimension. It is noteworthy that the standard deviation of the sub-dimensions was high in this study. The existence of many variables that affect professional burnout and the level of exposure of teachers to them can explain this finding. In the literature, it is stated that many factors such as the perception of socio-economic level,

appreciation by superiors, choosing the profession voluntarily (Karacan, 2012), adequate communication and cooperation with colleagues (Dağseven-Emecen & Saraç, 2020), anxiety (Gönüldaş, 2017), professional self-perception (Kuşcu, 2020), well-being (Soner & Yılmaz, 2020), quality of working life (Bozgeyikli, 2016) and life satisfaction (Yavuz, 2019) are associated with professional burnout.

The characteristics of teachers such as age, gender, graduated program and professional seniority did not indicate a significant difference on the level of W2RCDSB. Although there are studies (Akkoyunlu & Orhan, 2003; Durmuş & Başarmak, 2014; Erdemir, Bakırcı & Eyduran, 2009) showing that gender makes a significant difference on teachers' self-efficacy levels in the studies on using Web 2.0 tools and integrating them into teaching; our computer and internet usage habits, whose change in the last ten years is supported by the data of the Turkish Statistical Institute (2021), may have caused the gap between men and women to narrow down. Arabacıoğlu and Dursun (2013) argued that having computer and internet knowledge or using them does not require a skill that would be caused by differences in gender. As a matter of fact, in studies which involved pre-service teachers and used the same scale (Eser, 2020; Onbaşılı, 2020; Say & Yıldırım, 2020), the result that gender did not indicate significant difference on W2RCDSB level is similar to the findings of this research.

There are many studies in the literature to shed light the professional burnout level of special education teachers. The results obtained from these studies show that special education teachers perceive burnout at different levels in professional burnout and its sub-dimensions (Saraç, 2018). Whereas some studies showed that variables such as gender (Arslan & Arslan, 2004; Karacan, 2012), graduated field (Dağseven-Emecen & Saraç, 2020), professional seniority (Karacan, 2012) did not indicate significant differences on the level of professional burnout, it is possible to come across studies in the opposite direction (Gönüldaş, 2017; Karahan & Uyanık-Balat, 2011). In their study, Park and Shin (2020) shared the meta-analysis results of 41 studies on the professional burnout levels of special education teachers between 1983 and 2018. According to the part of the research that examines the effect of variables belonging to teachers on the level of burnout, it was concluded that the variables of age, gender, education level, and professional seniority were not effective on burnout levels. The reason for this can be explained by the existence of many factors affecting professional burnout, as stated above. With all these results, when the data obtained are analyzed at the level of arithmetic averages, it is seen that teachers who have 15 years or more experience in their profession and teachers who have graduated from a different field other than special education and classroom teaching use Web 2.0 tool in their lessons. The results also show that teachers ranged between the ages of 20 to 30 perceive more burnout. This result can be interpreted as that the inexperience in the first years of teaching may have an effect on the perception of burnout. Studies argue that as the professional experience of teachers increases, their professional commitment increases and accordingly, professional burnout decreases (Erçen, 2009). At the same time, the fact that teachers who graduated from a different program did not receive adequate training on special education teaching and its methods which in turn, may cause a higher burnout perception. Çetin (2004) found in his study that teachers working in the field of special education but graduated from a different field experience more difficulties than teachers with a special education degree.

One of the aims of the research was to reveal the relation between W2RCDSB level and professional burnout level of special education teachers. In the analysis made for this purpose, a significant and negative relation was determined between teachers' W2RCDSB level and professional burnout level. This result can be explained as the level of professional burnout decreases as the W2RCDSB level of teachers increases. Similar studies examining this relationship directly have not been found in the literature. However, studies using the sub-dimension of using technology and the Vocational Competence Scale can be guiding in this regard. In these studies (Çiftçi 2015; Gönüldaş, 2017; Yellice-Yüksel, Kaner, & Güzeller, 2011) examining the relation between the professional competence and professional burnout levels of special education teachers, it was concluded that professional competence was negatively and significantly related to the level of professional burnout. At this point, in some experimental studies (Durusoy, 2011; Onbaşılı, 2020; Taşlıçay-Arslan & Demirkan, 2019) aiming to introduce Web 2.0 tools to teacher candidates, it was mentioned that the self-efficacy of teacher candidates who learn Web 2.0 tools increased. Park and Shin (2020) meta-analysis research results emphasized that the most important variable that can be effective in reducing the burnout

levels of special education teachers would be self-efficacy. The multiple regression analysis results of Alhassan (2017) and Pan and Franklin (2011) show that teacher self-efficacy is a strong predictor of integrating Web 2.0 tools into teaching activities. From this point of view, integrating Web 2.0 tools into teaching can play an important role in reducing professional burnout as a factor related to both professional competence and self-efficacy.

In conclusion, this research stresses the importance of Web 2.0 tools in the making of action plans towards reducing speacial education teachers' perceptions of their professional burnout levels. It suggests that conducting more studies to increase the knowledge and skills of special education teachers about Web 2.0 tools and publishing the results would make a useful contribution to the discussions.

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