Kuram ve Uygulamada Eğitim Bilimleri • Educational Sciences: Theory & Practice - 11(2) • Spring • 703-707

Developing a Writing Anxiety Scale and Examining Writing Anxiety Based on Various Variables

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Abstract

There are two main aims of this research. The primary aim is to develop a reliable and valid anxiety scale to determine writing anxiety levels of prospective teachers. The secondary aim is to determine what variables explain anxiety levels of students to what extent, by determining whether writing anxiety levels of prospective teachers significantly varied in terms of various variables. The study consisted of 202 junior students from Departments of Classroom Teaching, Elementary School Mathematics Teaching and Turkish Language Teaching at a Turkish university in the spring term of 2008-2009 academic year. The data were collected using Writing Anxiety Scale which was developed by the authors to measure writing anxiety levels of students and personal forms to describe personal traits of the students. The data were analyzed by SPSS 13.00 and LISREL 8.70 package programs. As a result of the exploratory factor analysis, it was found out that there was a single dimension. Besides, 49% of the total variance in the 35-item-scale was measuring was explained by the scale items. Confirmatory factor analysis was used to confirm the construct obtained by exploratory factor analysis. There were not statistically significant correlations between writing anxiety levels of university students and gender and educational background of parents. As a result of stepwise regression analysis, used to determine the predictive variables of writing anxiety levels in terms of personal traits, it was seen that out-of-school writing practice, in-class writing activities by 1-8 grade teachers, amount of time spent watching television, and gender were significant predictive variables and those variables explained only 9.5% of writing anxiety

Key Words

Writing Anxiety, Regression Analysis, Confirmatory Factor Analysis.

Reading and writing skills in mother tongue are learned beyond acquisition. As these two skills have many things in common, it seems sensible to suggest these skills develop parallel to each other and affect one another positively or negatively. However, individuals gain reading skills in academic life followed by effective written text production skills, yet it is known that many students cannot gain effective written text production skills (Enginarlar, 1994; Huber & Uzun, 2001; Ruhi, 1994). This case might be mainly caused by the fact that written text production is complex by nature and requires plenty of cognitive procedures (Grabe & Kaplan, 1996). Related studies make a reference to the fact that writing anxiety occurs because of language complexity in general and complexity of writing as a skill in particular (Balemir, 2009; Bruning & Horn, 2000; Schweiker-Marra & Marra, 2000).Thus, it will be a great mistake to assume writing process is only cognitive. In other words, the effect of anxiety as an affective property in writing process must not be ignored. Because, according to Cheng, Horwitz and Schallert (1999), there is a relationship between foreign language classroom anxiety and foreign language writing anxiety

Students with writing anxiety find all the stages of writing process extremely demanding and challenging. In addition, they feel anxious about the perception of the outcome of writing process. Hence, such an anxiety appears to be the fear of negative evaluation (Madigan, Linton, & Johnson, 1996). Some factors, such as classroom, teacher,

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exam, and personality traits, lead to anxiety (Young, 1991). As a result, anxiety adversely affects written text production. Many studies in the literature have also noted that (Daly, 1977, 1978; Faigley, Daly, & Witte, 1981; Hurd, 1985; Veit, 1980). Therefore, anxiety is a critical and decisive notion in language learning process and writing process.

The aim of studies on writing anxiety is to measure writing anxiety in second language learning and writing anxiety in mother tongue. For instance, Writing Apprehension Test, WAT, developed by Daly and Miller, is frequently used to measure writing anxiety. The test constitutes of 26 items (Cheng, 2004). Another instrument, Writing Anxiety Questionnaire, developed by McKain (1991), was designed to measure writing anxiety in first language learning. Writing Anxiety Scale developed to measure writing anxiety in mother tongue designed by Petzel and Wenzel (1993) consisted of nine sub-scales; "sympathy, expression, evaluation, motivation, organization, procrastination or gestation, self-esteem, technical skills and writing anxiety. Recently, a new writing anxiety scale consisting of 22 items has been developed by Cheng (2004) to measure writing anxiety in second language learning.

As mentioned above, writing anxiety is a critical factor in writing process. As a result, it is essential to determine writing anxiety levels of students in Turkish language learning and the factors which cause such an anxiety. In this context, Yaman (2010) developed a measurement tool for writing anxiety levels of 2nd graders (in elementary schools) whose native language was Turkish. However, the scale is not eligible for writing anxiety levels of prospective teachers as it was originally developed for 2nd graders. Consequently, developing a new measurement tool to determine writing anxiety levels of prospective teachers is essential and predictive factors of writing anxiety must be defined.

There were two main aims of the research. The primary aim was to develop a reliable and valid anxiety scale to determine writing anxiety levels of prospective teachers. The secondary aim was to determine what variables explained anxiety levels of students to what extent, by determining whether writing anxiety levels of prospective teachers significantly varied in terms of various variables (gender, educational background of parents and etc.).

Method

The research consisted of 202 junior prospective teachers of Ondokuz Mayıs University, Faculty of Education, Departments of Classroom Teaching, Elementary School Mathematics Teaching and Turkish Language Teaching in the spring term of 2008-2009 academic year. Data were collected utilizing Writing Anxiety Scale developed by the authors to measure writing anxiety levels of students, and personal forms to describe personal traits of the students.

In order to assess the construct validity of measurement tools, different techniques such as factor analysis were used (Erkuş, 2003). Construct validity shows a scale's degree of ability to measure the theoretical structure. (Tavşancıl, 2002; Tezbaşaran, 1997). Also, construct validity can be defined as a process to find out the meaning of scores obtained from a scale. To assess the construct validity of the scale exploratory and confirmatory factor analysis were used.

First of all, Exploratory Factor Analysis (EFA) was used. Before the main analysis, Kaiser-Meyer-Olkin (KMO) Bartlett's sphericity tests results were examined in order to assess if the dataset is suitable for doing factor analysis. The results showed that Bartlett's sphericity test was statistically significant ($p<.001$) and KMO value was 0.95. This value is expected to be higher than 0.60 (Tabachnick & Fidell, 2001). If it is more than 0.90 it means that data are very suitable for factor analysis. (Leech, Barrett, & Morgan, 2005). While doing factor analysis, principle component analysis methods was chosen. Second Confirmatory Factor Analysis (CFA) was done in order to assess the defined structure.

Independet Samples T test was used to determine whether writing anxiety levels of students vary in terms of gender and Kruskal Wallis H test was used to determine whether writing anxiety levels of students vary in terms of educational background of parents, for the secondary aim of the research. Stepwise Multiple Regression Analysis was used to define the factors which affected writing anxiety levels of students. In this process Büyüköztürk' statements were used (2010).

Results

The results in accordance with the primary aim of the research were as follows:

In the process of developing scale, student writen compositions about writing anxiety and related lit-

erature (Baloğlu, Koçak, & Zelhart, 2007; Cheng, 2004; Horwitz, Horwitz & Cope, 1986; Petzel & Wenzel, 1993) were reviewed. As a result of EFA, it was seen that there was a single dimension scale and 49% of total variance which the 35-item-scale measured was explained by the scale items. CFA was used to confirm the construction obtained by EFA to determine to what extent the scale items measured the construction. The CFA analysis was performed in two stages. Firstly, the results of fit statistics and modification index of the model obtained by CFA were examined without any restrictions in the model. Accordingly, the fit statistics at the first stage were as follows: X^2 =1856.01, N = 2109 p<0.05, Root Mean Square Error of Approximation (RMSEA) = 0.10, Standardized Root Mean Square Residual (S-RMR) = 0.064, Goodness of Fit Index (GFI) =0.65, Adjusted Goodness of Fit Index (AGFI) = 0.61, Comparative Fit Index (CFI) =0.96, Incremental Fit Index (IFI) =0.96, Normed Fit Index (NFI)= 0.94, Non-Normed Fit Index (NNFI)= 0.96. Modification indexes were evaluated in order to make the factor construction tested by the fit statistics more concordant with the data. When the results of modification were examined, it was shown that there were various suggestions for covariance definition among error variances of each observed variable (item). The suggestions were for between items 10 and 3, items 26 and 17, items 27 and 18, items 27 and 24, items 31 and 24 and items 33 and 32. Secondly, the following values were calculated according to the results of CFA; X^2 = 1476, df = 554 and p= 0.000. The X^2 results which tested model data fit showed data was not fit for the model, because value X^2 was found significant (p<0.05). When the other fit indexes which were used to evaluate model-data fit built by CFA were examined, it was seen that (NFI=0.95), (NNFI = 0.97) and (CFI= 0.95) indexes were good and (RMSEA=0.09), (SRMR=0.061) and X^2 /df criterion were within agreeable limits (2.66), (GFI=0.70) and (AGFI=0.66) were below agreeable limits. Finally, when the Akaike information criterion of the model (AIC = 1628<1955) and the constant Akaike information criterion (CAIC =1260<3940) were examined, the model appeared to be fitting.

Reliability coefficient obtained by Cronbach alpha formula, an internal consistency method of the measurement tool, was found as 0.93. As a result, reliability and validity of the developed measurement tool were ensured.

The results in accordance with the secondary aim of the research were respectively as follows:

As a result of independet samples t-test which was used to determine whether writing anxiety levels significantly varied in terms of gender, it was seen that writing anxiety levels of the students included in the study did not significantly vary in terms of gender (t(200) = 1.280, $p>0.05$). The mean of writing anxiety levels of the female students was $\overline{X}$= 101.40, whereas it was $\overline{X}$= 95.67 for the male students.

Kruskal Wallis H test was used to determine whether writing anxiety levels of students/prospective teachers significantly varied in terms of educational background of mother, as the group variances were not homogeneous. As a result of analysis, it was seen that writing anxiety levels of university students/prospective teachers did not significantly vary in terms of educational background of mother (X^2 (3) = 4.030 $p>0.05$). In other words, educational background of mother did not have an effect on writing anxiety levels.

As a result of Kruskal Wallis H test used to determine whether writing anxiety levels of students significantly varied in terms of educational background of father, it was seen that writing anxiety levels of university students did not significantly vary in terms of educational background of father (X^2 (2) = 0.338 $p>0.05$). Educational background of father did not have an effect on writing anxiety levels.

Stepwise regression analysis was used to define significant predictive variables of writing anxiety levels of students. In the analysis, the dependent variable was anxiety scale scores and the independent variables were as follows: out-of-class writing practice, frequency of writing activities by 1-8 grade teachers, the daily amount of time spent watching television, gender, educational background of parents, the number of books students had, the average number of books students read a month, frequency of reading newspapers, daily television watching time, the amount of time students spent using computers per week.

In regression analysis, to what extent the independent variables explained writing anxiety levels of prospective teachers was examined. The analysis was performed in four stages and in regression equation, the first predictive variable was writing practice, the second predictive variable was writing activities, the third predictive variable was the amount of time spent watching television and the fourth predictive variable was gender. It was seen that only 9.5% of the dependent variable variance was explained by those four variables. The fact that

only 9.5% of writing anxiety levels of prospective teachers was explained by the independent variables showed 90.5% of writing anxiety levels was explained by other variables.

Discussion

Field experts and experts of measurement and evaluation were consulted for the validity of the measurement tool which was developed to measure writing anxiety levels of students/prospective teachers. EFA and CFA were used after the scale was applied to the study group. As a result of EFA, it was seen that there was a unidimensional scale, and 49% of total variance/variability which the 35-item-scale measured was explained by the scale items. The single dimension measurement tool was similar to the writing anxiety scale for 2nd graders (in elementary schools) developed by Yaman (2010). CFA was used to confirm the construction obtained by EFA to determine to what extent the scale items measured the construction. As a result of analysis, it was seen that all the fit values were within agreeable limits. Reliability coefficient obtained by Cronbach alpha formula, an internal consistency method of the measurement tool, was found as 0.93. As a result, reliability and validity of the developed measurement tool were ensured.

There were not statistically significant bivariate correlations among writing anxiety levels of university students, gender and educational background of parents. Although female students were relatively more anxious than the males, there was not a statistically significant difference. However, as Plotnick (2009) and Karataş (2010) suggested, female students were more anxious than male students, because they were more sensitive to feedback such as final grades and examination results. As it is clear, the case did not apply to writing anxiety. On the contrary, writing anxiety is higher in males than females (Zorbaz, 2010).

As a result of stepwise regression analysis used to determine the predictive variables of writing anxiety levels in terms of personal traits, it was seen that out-of-school writing practice, in-class writing activities by 1-8 grade teachers, amount of time spent watching television, and gender were significant predictives and those variables explained only 9.5% of writing anxiety. It was concluded that out-of-school writing practice and in-class writing activities by teachers reduced writing anxiety levels of students, and as the amount of time spent watching television increased, writing anxiety levels of students also increased. The fact that there was a negative correlation between writing practice and writing activities showed as student writing practice and teacher writing activities increased, writing anxiety levels of students decreased. This finding was parallel to the negative correlation between writing anxiety levels of prospective teachers and writing activities found by Claypool (1980). Moreover, Schweiker-Marra and Marra, (2000) indicated that pre-writing activities in writing process (Planning) reduced higher writing anxiety levels of students. The finding also supported other study results which showed that writing activities were critical in reducing writing anxiety levels. As Aikman (1985) stated, developing student writing skills by doing right activities, and thus focusing on in-school and out-of-school writing practice might play an important role in minimizing writing anxiety.

It was striking that educational background of parents, frequency of reading newspapers, the number of books students read a month, the number of books students had rather than coursebooks, were not significant predictive variables. In a study, Yaman (2010) showed that there were significant differences between writing anxiety levels of elementary school students in terms of the number of books students read a month. Yet, for this research, it was contradictory that this variable was not an important predictive variable in explaining writing anxiety levels of university students. The fact that only 9. 5% of writing anxiety levels was explained by the independent variables; and variables such as frequency of reading newspapers and the number of books students read a month were not important predictive variables showed other variables affected writing anxiety. In a study by Öztürk and Çeçen (2007), it was suggested that portfolio tasks in classroom setting in foreign language teaching reduced writing anxiety levels of prospective teachers and it would positively affect prospective teachers' teaching activities in the future.

Further predictive studies are needed to determine other variables which affect writing anxiety levels of prospective teachers. One of the variables explaining writing anxiety is writing activities by 1-8 grade teachers. Since it is an important predictive variable, in-class writing activities and out-of-class writing practice for elementary school students with a high level of writing anxiety might be focused on.

References/Kaynakça

Aikman, C. (1985). *Writing anxiety—barrier to success.* Indiana, US (ERIC Document Reproductive Service No. ED 262 191).

Balemir, S. H. (2009). *Yabancı dil konuşma kaygısının nedenleri ve yabancı dil konuşma kaygı düzeyi ile dil yeterlilik düzeyi arasındaki ilişki.* Yayımlanmamış yüksek lisans tezi, Bilkent Üniversitesi, Eğitim Bilimleri Enstitüsü, Ankara.

Baloğlu, M., Koçak, R. ve Zelhart, P. (2007). İstatistik kaygısı ve istatistiğe yönelik tutumlar arasındaki ilişki *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi, 40* (2), 23-39.

Bruning, R., & Horn, C. (2000). Developing motivation to write. *Educatioana Psychologist,* 35 (1), 25-37.

Büyüköztürk, Ş. (2010). *Sosyal bilimler için veri analizi el kitabı* (12. bs). Ankara: Pegem Akademi Yayıncılık. Cheng, Y. S. (2004). A measure of second language writing anxiety: Scale development and preliminary validation. *Journal of Second Language Writing*, *13*, 313-335.

Cheng, Y. S., Horwitz, E. K., & Schallert, D. L. (1999). Language anxiety: Differentiating writing and speaking components. *Language Learning, 49* (3), 417-446.

Claypool, S. H. (1980). *Teacher writing apprehension: Does it affect writing assignments across curriculum?* (ERIC Document Reproduction Service No: ED 216 387).

Daly, J. A. (1977). *The effects of writing apprehension on message encoding.* (ERIC Document Reproduction Service No: EJ171426).

Daly, J. A. (1978). Writing apprehension and writing competency. *The Journal of Educational Research, 72* (1), 10-14.

Erkuş, A. (2003). *Psikometri üzerine yazılar.* Ankara: Türk Psikologlar Derneği Yayınları.

Enginarlar, H. (1994). Öğrenci kompozisyonlarında bağdaşıklık sorunları ve paragraf yapısı. *Çağdaş Türk Dili, 77-78*, 34-36

Faigley, L., Daly, J. A., & Witte, S. P. (1981). The role of writing apprehension in writing performance and competence. *Journal of Educational Research, 75* (1), 16-21.

Grabe, W., & Kaplan, R. B. (1996), *Theory and practice of writing*, London: Longman.

Horwitz, E. K., Horwitz, M. B., & Cope, J. A. (1986). Foreign language classroom anxiety. *Modern Language Journa*l, *70*, 125-132.

Huber, E. ve L. Uzun (2001) Metin türü ve yazma edimi ilişkisi: Bilimsel metin yazma edimi. *Dilbilim Araştırmaları* içinde (s. 9–35). İstanbul: Boğaziçi Üniversitesi Yayınevi.

Hurd, R. (1985). *The effect of audience specification on writing anxiety, performance, and sensitivity to audience* (ERIC Document Reproductive Service No. ED 269 767).

Karataş, Z. (2010). Bilişsel davranışçı teknikler kullanılarak uygulanan müdahale programının ergenlerin sürekli kaygı puanları üzerindeki etkisi. *Çağdaş Eğitim, 35* (377), 7-14.

Leech, N. L., Barrett, K. C., & Morgan, G. A. (2005). *SPSS for intermediate statistics: Use and interpretation* (2nd ed.). NJ: Lawrence Erlbaum Associates, Inc.

Madigan, R., Linton, P., & Johnson, S. (1996). The paradox of writing apprehension. In C., M. Levy & S. Ransdell (Eds.), *The science of writing, theories, methods, individual differences, and applications* (pp. 295-307). Mahwah, NJ: Lawrence Erlbaum Associates.

McKain, T. L. (1991). *Cognitive, affective, and behavioral factors in writing anxiety*. Unpublished doctoral dissertation, Catholic University of America, Washington, D.C.

Öztürk, H. ve Çeçen, S. (2007). The effects of portfolio keeping on writing anxiety of efl students. *Journal Of Language And Linguistic Studies, 3* (2), 218-236.

Petzel, T. P., & Wenzel, M. U. (1993). *Development and initial evaluation of a measure of writing anxiety*. (ERIC Document Reproduction Service No: ED 373072).

Plotnick, R. (2009). *Psikolojiye giriş*. İstanbul: Kaknüs Yayınları.

Ruhi, Ş. (1994). İlköğretim öğrenci kompozisyonlarındaki bağdaşıklık sorunları. *Çağdaş Türk Dili, 77-78*, 24-26.

Schweiker-Marra, K. E., & Marra, W. T. (2000). Investigating the effects of prewriting activities on writing performance and anxiety of at-risk students. *Reading Psychology, 21*, 99–114.

Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Boston: Ally and Bacon.

Tavşancıl, E. (2002). *Tutumların ölçülmesi ve SPSS ile veri analizi*. Ankara: Nobel Yayın Dağıtım Ltd. Şti.

Tezbaşaran, A. (1997). *Likert tipi ölçek geliştirme klavuzu* (2. bs). Ankara: Türk Psikologlar Derneği Yayını.

Veit, R. (1980). *Reducing anxiety in writing instruction* (ERIC Document Reproductive Service No. ED 199718).

Yaman, H. (2010). Writing anxiety of Turkish students: scale development and the working procedures in terms of various variables. *International Online Journal of Educational Sciences*, *2* (1), 267-289.

Young, D. J. (1991). Creating a low-anxiety classroom environment: What does language anxiety research suggest? *The Modern Language Journal*, *75* (4), 426-439.

Zorbaz, K. Z. (2010). *İlköğretim okulu öğrencilerinin yazma kaygı ve tutukluğunun yazılı anlatım becerileriyle ilişkisi.* Yayımlanmamış doktora tezi, Gazi Üniversitesi, Eğitim Bilimleri Enstitüsü, Ankara.

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