

Full Length Research Paper

Solutions for the problem of academic procrastination according to Prospective Teachers

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The present study aimed to present suggestions to solve the problem of students' academic procrastination and to determine the effectiveness of these suggestions. A quantitative approach was adopted in the research, which was based on a survey model. The sample used in the study included a total of 691 freshman and senior students majoring in departments at the Faculty of Education of AhiEvrans University. Data were collected using the data collection instrument termed "Suggestions to Prevent Procrastination Behavior", which comprised of thirty one items and five factors. The data were analyzed using arithmetic means, standard deviation, t-test, ANOVA and Turkey HSD test. It was seen at the end of the study that the students responded maximally to the suggestions on "fostering active participation and individuality" factor and minimally to the suggestions on "outer control practices" factor. The effectiveness levels of the suggested practices were higher in female students by gender, fourth year students by class level, and pre-school teacher education (PSTE) department students by department.

Key words: Academic procrastination, solutions, candidate teacher.

INTRODUCTION

It has been shown in various studies that study habits have a decisive effect on academic achievement (Elvers et al., 2003; Ferrari and Pychyl, 2000; Zarick and Stonebraker, 2009). Procrastination behaviour, which is described as one of the negative studying habits, has been addressed as a personality trait in some of the studies (Balduf, 2009; Zarick and Stonebraker, 2009) and in terms of its negative impact on learning by others (Deniz et al., 2009; Johnson et al., 2000; Nonis and Hudson, 2010; Özsoy et al., 2009).

Procrastination, which is defined as voluntary, yet irrational delay of an intended course of action (Johnson et al., 2000; Klassen and Kuzucu, 2009), is evaluated as a socio-psychological phenomenon involving estimation errors in time management and optimism (Pychyl et al., 2000). Academic tasks that students put off include completion of assignments and projects, and exam and course preparation (Pychyl et al., 2000; Orpen, 1998; Paden and Stell, 1997; Zarick and Stonebraker, 2009).

Scher and Osterman (2002) define procrastination as "a substantial hindrance to academic success". Research shows that there is a correlation between the frequency

and quality of academic procrastination of students and some negative factors like extension of academic semesters, failure in exams and withdrawal from courses due to failure (Balkis, 2006; Ferrari and Scher, 2000; Johnson et al., 2000; Scher and Osterman, 2002). Özsoy et al. (2009) reported that the literature contained a large body of research showing that students with good studying habits, attitudes and use of time have better academic achievement. Balduf (2009) analysed the reasons for the failure of the students who could not achieve success at college based on the views of the students and reported that the value attributed to lack of motivation and achievement objectives were determined as key factors in previous studies. Balduf (2009) determined that three main factors, which are time management, self-discipline problems and motivation played a role. According to Balduf (2009), the students who fail to plan and manage time and therefore cannot complete their academic tasks in a timely manner have a higher tendency of failure. In their experimental study, Nonis and Hudson (2010) found that there was a positive relationship between working time, capability of using

time and academic performance. It was reported that there were many other experimental and applied research studies, which obtained similar results. Based on these results, it can be suggested that the students with low motivation, who lack time planning and management skills and who have poor self-discipline have a higher probability of experiencing academic failure since they cannot perform their academic tasks in a timely and regular manner.

It has also been found that procrastination behavior results in not only loss of time, but also some psychological and mental problems like a decline in self-respect and self-efficacy, anxiety, stress and depression (Pychyl et al., 2000). Klassen and Kuzucu (2009) reported that academic procrastination might cause frayed nerves. Klassen et al. (2008) reported that the literature contained studies, which determined that academic procrastination caused negative cases such as low self-confidence, high depression level, social anxiety, insensitivity and behavioral rigidity and in that case became one of the main causes of academic failure (Lee, 2005; Ferrari and Scher, 2000, etc).

However, there are also studies arguing that academic procrastination behavior exercises a positive effect on academic achievement. As cited in Zarick and Stonebraker (2009); Schraw et al. (2007) found that a considerable proportion of students believed that the last-minute pressure they were exposed to because of procrastinating tasks had positive effects on them and that they learned better in procrastination situations. Another study quoted by Zarick and Stonebraker (2009) is that conducted by Pychyl who examined students who did their assignments on time and those who put off doing their assignments and found that the latter group of students produced higher quality work.

Accordingly, it can be said that although there are some findings in the literature indicating that academic procrastination behavior has a positive effect on academic success, it is widely accepted that it generally has a negative impact.

An examination of the research about academic procrastination reveals that a considerable portion of these studies is marked by an attempt to identify the variables associated with procrastination habit/behavior. It was found in the concerned studies that procrastination was associated with variables such as motivation, self-regulation deficiencies, self-confidence, perfectionism, resoluteness/irresoluteness and worry (Balduf, 2009; Elvers et al., 2003; Johnson et al., 2000; Nonis and Hudson, 2010; Orpen, 1998; Paden and Stell, 1997; Scher and Osterman, 2002). The results of this study revealed that as self-regulation, self-sufficiency and self-respect levels (Özsoy et al., 2009; Klassen and Kuzucu, 2009), use of time and planned behavior (Pychyl et al., 2000; Lee, 2005), motivation level (Balduf, 2009; Nonis and Hudson, 2010; Deniz et al., 2009), fear of failure at a certain level and anxiety (Pychyl et al., 2000; Ferrari and

Scher, 2000; Scher and Osterman, 2002) increased, a decrease was observed in procrastination behavior of the students. In addition, it was found that variables such as the feeling of perfectionism (Johnson et al., 2000), the status of ignoring the work and finding it easy (Deniz et al., 2009) and obscurity (Zarick and Stonebraker, 2009) increased the tendency of academic procrastination. Another group of studies, on the other hand, focused on some personality traits and behavior observed in procrastinators. These traits include over-confidence, perfectionism, dependence on external conditions or need for outer control, fear of making a mistake, irresoluteness and lack of time-management skills (Ferrari and Scher, 2000; Klassen et al., 2008; Klassen and Kuzucu, 2009; Pychyl et al., 2000; Zarick and Stonebraker, 2009).

A similar situation is observed when the studies carried out in Turkey are examined. Yorulmaz (2003) addressed the relationship between procrastination behaviors on one hand and variables like self-esteem, anxiety, feelings of shame, guilt, or depression and perfectionist tendencies on the other. Balkıs (2006) studied the relationship between procrastinating tendencies and thinking and decision-making styles of candidate teachers, while Çakıcı (2003) concentrated on general and academic procrastinating behaviors of high school and university students. In addition, Balkıs (2006) studied how academic procrastination behaviors were correlated with the lower dimensions of such behaviors like motivation, time management and self-testing. Furthermore, Çetin (2009) examined the ideas of education faculty students about academic procrastination behaviors and how they correlated with gender, academic success, department and residential status. Kağan (2009), on the other hand, attempted to identify the variables that explained academic procrastination behaviors of students from different faculties. Apart from these, Özsoy et al. (2009) studied metacognition, study habits and attitudes; Deniz et al. (2009) explored the relationship between academic procrastination, control focus and emotional intelligence and Klassen and Kuzucu (2009) addressed the levels of motivation and academic procrastination of adults in Turkey. The results of this study, which was carried out in Turkey support the results of the studies conducted in other countries.

It is seen that although a host of studies have been conducted in Turkey and abroad about academic procrastination, there are not many studies focusing on the identification of solutions to prevent this important and widespread problem. It is noted that studies more commonly attempt to provide some suggestions based on the variables associated with the problem. The present study, however, aims to come up with concrete suggestions to solve the problem. In addition, this research was conducted on students of the Faculty of the Education, it is believed that the findings and results of research can be guiding for primary and secondary

Table 1. Distribution of the sample group by department, grade level and gender variables.

Department	Grade Level						General Total
	1 st Year			4th Year			
	M	F	Total	M	F	Total	
Classroom Teacher Education (CT)	11	39	50	22	24	46	96
Science Teacher Education (STE)	16	30	46	10	24	34	80
Social Sciences Teacher Education (SSTE)	25	23	48	28	19	47	95
Pre-School Teacher Education (PSTE)	3	37	40	0	31	31	71
Mathematics Teacher Education (MTE)	13	31	44	13	23	36	80
Psychological Counseling and Guidance (PCG)	19	41	60	15	22	37	97
Turkish Language Teacher Education (TLTE)	16	29	45	17	32	51	96
Computer and Instructional Techniques Teacher Education (CITE)	18	28	46	11	19	30	76
TOTAL	121	258	379	118	194	312	691

school students, as well as students of other faculties and high schools, and can provide a preliminary idea for further studies on the said groups.

The main problem addressed in this study is to determine the suggestions that can prevent academic procrastination behaviors of the students of the faculty of education (candidate teachers) and the extent to which the students respond to these suggestions. Therefore, it can be said that the present study is different from other literature studies and is important on its own right. The main objective of the present study was to determine the suggestions to decrease academic procrastination behaviours of prospective teachers enrolled in faculties of education based on their ideas and to determine to what extent they are affected by these suggestions. As a result, we aimed to help academic staff lecturing in faculties of education in preventing their students' procrastination of their academic tasks. In this framework, the research tries to answer the following questions:

1. To what extent are the students at the Faculty of Education affected by the applications of prevention of procrastination behaviour regarding academic tasks?
2. Do the students' ideas vary depending on their gender, departments and the amount of time (class levels) spent in the Faculty of Education?

METHODOLOGY

This study is a piece of descriptive, quantitative research. It is based on a survey model. Descriptive research and survey models are focused to describe an existing situation (Balci, 2009; Gorsuch, 1983). In this framework, it was attempted to describe the suggestions for preventing academic procrastination and the ideas of the students of the Faculty of Education about the effectiveness of these suggestions.

Study universe and sample

The universe of the study consists of a total of 1364 students who

are freshmen and seniors in various departments at AhiEvan University, Faculty of Education. Of these students, 723 were freshmen and 641 were seniors. The study sample was comprised of 691 students, including all the students in the departments with a single section (Preschool, Mathematics, Psychological Counseling and Guidance, Computer and Instructional Technologies Teacher Education) and students in two randomly-chosen sections in multi-section departments (Classroom Teacher Education (CTE), Science Teacher Education (STE), Social Sciences Teacher Education (SSTE) and Turkish Language Teacher Education (TLTE)). The reason why the study universe and sample were constituted from first and fourth year students is to lay out clearly how the time spent in the faculty of education changed the students' ideas about the effectiveness of the suggestions. The distribution of the sample group by class level, department and gender is summarized in Table 1

Data collection

Research data were collected using "Personal Information Form" and "Scale of Suggestions for the Prevention of Academic Procrastination" data collection as an instruments developed by the researcher. The personal information form consisting of four questions was employed to collect data about the independent variables of the study. The "Scale of Suggestions for the Prevention of Academic Procrastination" consisted of 31 items gathered under 5 factors. For each item in the survey, there are five choices which are (0) "no effect", (1) "little effect", (2) "moderate effect", (3) "considerable effect" and (4) "huge effect".

The items of the scale were based on literature analysis and the answers of prospective teachers to open-ended questions. Prospective teachers were asked the following question: "What do you suggest the students should do to avoid procrastinating in academic tasks such as homework, project preparation and preparation for exams?" The written suggestions of prospective teachers and the suggestions in the literature were combined and an item pool was formed. The pool was analyzed by educational sciences and linguistics experts and necessary corrections were made. Later, options were written next to directives and items and the scale was given in its final form to the students at the Faculty of Education in the sampling group (prospective teachers). The scale consisted of a total of 46 questions in its final version.

The scale which consisted of 46 items was administered to 691 students at the Faculty of Education (prospective teachers).

Table 2. Construct validity and internal consistency values of the data collection instrument.

Factor	No. of items	Cumulative eigenvalue	Extracted variance	Cronbach alpha
Fostering active participation and individuality practices (FAPIP)	10	6.712	21.651	0.811
Reinforcement and punishment practices (RPP)	7	3.302	10.652	0.756
Guidance practices (GP)	7	1.835	5.921	0.752
Outer control practices (OCP)	4	1.570	5.063	0.630
Responsibility assignment practices (RAP)	3	1.347	4.344	0.702
Total	31	---	47.632	0.872

Collected data was transferred to a statistics program (SPSS 15.0 for Windows) for analysis. Firstly, validity and reliability analyses were performed on the collected data using SPSS 15.0. To ensure the construct validity of the survey used as the data collection instrument, the data were first subjected to Kaiser Meyer Oklin (KMO) and Bartlett test analyses and KMO was calculated as 0.879 and Bartlett as $p < 0.001$. Accordingly, it became clear that it was possible to carry out a factor analysis on the data (Balci, 2000; Gorsuch, 1983; Kline, 1994).

In the process of developing the data collection instrument, principal component analysis was employed to test whether the survey was one dimensional and it was seen that the items can be collected under five factors. In order to finalize the factors, the varimax orthogonal rotation technique was repeated by examining factor loadings and extracted variance averages for the items. In the process, a total of 15 items whose factor loadings were below 0.30 and which were found in more than one item were omitted and ultimately, it was seen that the 31 items left were categorized in five factors. These five factors explained 47.63% of the total variance. An average extracted variance above 40% is considered sufficient in survey development efforts in behavioral sciences (Büyükoztürk, 2002).

For the reliability of the data collection instrument, Cronbach alpha values were calculated individually for each item and for the general survey. As a result, the number of items, cumulative Eigen value, extracted variance percentages and Cronbach alpha reliability coefficients is summarized in Table 2.

Data Analysis

The data compiled by the "Survey of Suggestions for Preventing Academic Procrastination" were subjected to arithmetic mean, standard deviation, t-test, variance analysis and Turkey HSD tests and the results obtained thereof were interpreted.

Since the responses of the students were obtained on a five-point scale in data analysis, the arithmetic mean intervals were calculated using the formula;

$$\text{Arithmetic - Mean - Interval} = \frac{\text{Interval - Number}}{\text{Option - Number}} = \frac{4}{5} = 0.80$$

Arithmetic mean value intervals and their interpretations can be summarized as follows:

0.00 to 0.80	no effect	} (5-1=4/5=0.80)
0.81 to 1.60	little effect	
1.61 to 2.40	moderate effect	
2.41 to 3.20	considerable effect	
3.21 to 4.00	huge effect	

An independent sample t-test was used to determine the effect of suggested solutions in the form of scale items varied according to

gender and grade level of the prospective teachers. The ANOVA test was used to analyze the variation according to their departments of study. If the ANOVA test showed a significant difference, the Turkey HSD test was used to determine the cause of this idea. In the tests conducted for data analysis, $p < 0.05$ was considered significant.

RESULTS

Findings concerning the effectiveness of fostering active participation and individuality practices in solving academic procrastination

Table 3 shows the extent to which students responded to the suggestions on "fostering active participation and individuality" factor could enable them to abandon academic procrastination behavior and is represented by values in $\bar{X} = 2.73$ to 3.11 range. Among these suggestions, students said that they were affected maximally by the use of teaching methods that would ensure their active participation in the lesson and minimally by seeking help from psychological counseling and guidance services and that they were "considerably" affected by each and every suggestion. The mean response level of students to the suggestions in this factor was found to be $\bar{X} = 2.98$ (considerable effect).

Findings concerning the effectiveness of reinforcement and punishment practices in solving academic procrastination

Table 4 demonstrates that the students' response level to the suggestions in the "reinforcement and punishment practices" factor might lead them to abandon academic procrastination behavior which ranged between $\bar{X} = 1.49$ and 2.30. Among these suggestions, the one that was reportedly the most effective on the students was being posed occasional bonus questions, while the one reportedly the least effective was being punished by the teacher due to their failure to fulfill their responsibilities. The mean level of students' being affected by the suggestions in this factor was established to be $\bar{X} = 1.98$ (moderate).

Table 3. The extent to which students responded to fostering active participation and individuality practices in abandoning their academic procrastination behavior.

Suggested solution	N	\bar{X}	Sd	Effectiveness level
Use of teaching methods that will ensure students' active participation in the lesson	686	3.17	0.96	Considerable
The provision of opportunities in the school to easily use library and Internet resources	686	3.11	0.98	
Student's having a study room of his/her own	686	3.08	1.10	
The provision of opportunities for students to ask questions and express their opinions about the course	685	3.00	1.01	
Students' receiving feedback about the research and tasks they carry out	683	2.97	1.00	
Ensuring that the course is relevant to daily life and problems	677	2.95	1.10	
Attaching importance to originality and avoidance of cheating in the assignments	685	2.93	1.01	
Summarizing or repeating in a question-answer form of the topics addressed each week	659	2.90	1.05	
Taking account of the students' suggestions regarding the methods of course delivery	685	2.83	1.05	
Seeking help from psychological counseling and guidance services	688	2.73	1.09	
Mean (\bar{X})	618	2.98	0.62	Considerable

Table 4. The extent to which students responded to reinforcement and punishment practices in abandoning their academic procrastination behavior.

Suggested Solution	N	\bar{X}	Sd	Effectiveness level
Occasionally asking bonus questions	687	2.30	1.16	Moderate
Awarding prizes to students who take notes. ask and answer questions in the lesson	682	2.14	1.25	
Devising practices that will enhance competition among students	679	2.12	1.27	
Organizing contests with bonus prizes in the classroom about the topics of the course	683	2.10	1.23	
Giving oral warnings to students who do not attend or participate in classes and who do not complete their assignments regularly; punishing these students (with deduction of points. criticism. etc.) if the undesirable situation persists	685	1.91	1.25	
Praising students who work continuously and regularly in the presence of their peers	684	1.78	1.35	
Teacher's punishing the student in case the latter fails to his/her responsibilities	683	1.49	1.31	Little
Mean (\bar{X})	659	1.98	0.81	Moderate

Findings concerning the effectiveness of guidance practices in solving academic procrastination

It is seen in Table 5 that the students' level of response to the suggestions in the "guidance practices" which may help them quit their academic procrastination behavior is in the range

between $\bar{X}=1.75$ and 2.65. The students reported the highest effect for being informed by their teacher about study methods and the lowest effect for the teacher's asserting his/her authority among these suggestions. Similarly, the students' mean response level to the suggestions in this factor was determined to be $\bar{X} = 2.33$ (moderate).

Findings concerning the effectiveness of outer control practices in solving academic procrastination

Table 6 demonstrates that the range in which the students' responses to the suggestions in the "outer control practices" factor varied is between $\bar{X} = 1.46$ and 2.16. The students reported that the

Table 5.The extent to which students were affected by guidance practices in abandoning their academic procrastination behavior.

Suggested solution	N	\bar{X}	Sd	Effectiveness level
Teacher's informing the students about methods of studying	684	2.65	1.12	Considerable
Teacher's providing examples from his/her study habits and experiences to encourage students to study regularly	682	2.57	1.11	
Reminding students that lessons can be easily learned by studying regularly	686	2.44	1.23	
Telling students that high grades are not important if the lesson goes unlearned	683	2.42	1.32	
Reminding the students regularly that the questions are so difficult that they cannot be studied overnight or in the exam week	687	2.28	1.25	Moderate
Reminding the importance of and giving advice about timing	683	2.25	1.27	
Teacher's making students feel his/her authority	684	1.75	1.26	
Mean (\bar{X})	664	2.33	0.78	Moderate

Table 6. The extent to which students were affected by outer control practices in abandoning their academic procrastination behavior.

Suggested solution	N	\bar{X}	Sd	Effectiveness level
Giving pluses or minuses to students by asking questions related to previously discussed topics	689	2.16	1.26	Moderate
Teacher's giving the impression that s/he may administer an exam any time and frequently administering exams	689	1.88	1.37	
Asking difficult questions requiring extensive knowledge in the exams	676	1.76	1.40	Little
Comparing students with their classmates in terms of their success and failure	682	1.46	1.42	
Mean(\bar{X})	667	1.81	1.00	Moderate

most effective suggestion in this factor was being given pluses and minuses after being asked questions from the previously discussed topics and the least effective one was being compared to their classmates in terms of their success and failure. The students' response rate to the suggestions in this factor was determined to stand at $\bar{X} = 1.81$ (moderate).

Findings concerning the effectiveness of responsibility assignment practices in solving academic procrastination

As seen in Table 7, the students' levels of response to the suggestions in the "responsible assignment practices" which aimed to help them

abandon their academic procrastination behaviors varied between $\bar{X} = 2.02$ and 2.25. Among these suggestions, the one that was reported most effective was being randomly asked questions and the least effective one was being assigned daily and weekly tasks. The mean response rate of students to the suggestions in this factor was $\bar{X} = 2.16$ (moderate).

Students' ideas about the effectiveness of suggested practices for the solution of academic procrastination problem with regard to the factors

Table 8 shows that the students' levels of response to the groups of suggestions that may

enable them to leave their academic procrastination behaviors ranged between $\bar{X} = 1.81$ and 2.98. Students reported that they were affected maximally by the suggestions under "fostering active participation and individuality" practices and minimally by the suggestions under "outer control practices".

How students' ideas about the effectiveness of suggested solutions changed on the basis of gender

In Table 9, the arithmetic means of female students' response levels were higher than those of male students in all factors, except for the "reinforcement and punishment practices" factor

Table 7. The extent to which students responded to responsibility assignment practices in abandoning their academic procrastination behavior.

Suggested solution	N	\bar{x}	Sd	Effectiveness level
Teacher's asking questions randomly and to every student during lessons	679	2.25	1.28	
Randomly asking different students to do the end-of-lesson recaps	678	2.21	1.28	Moderate
Assigning daily/weekly tasks to students	685	2.02	1.20	
Mean (\bar{x})	666	2.16	0.99	Moderate

Table 8. The levels of students' responses to solution practices with regard to lower dimensions.

Factor	N	\bar{x}	Sd	Effectiveness level
Fostering active participation and individuality practices	618	2.98	0.62	Considerable
Guidance practices	664	2.33	0.78	
Responsibility assignment practices	666	2.16	0.99	Moderate
Reinforcement and punishment practices	659	1.98	0.81	
Outer control practices	667	1.81	1.00	

Table 9. How students' ideas about the effectiveness of suggested solutions changed with respect to gender.

Factor	Gender	N	\bar{x}	Sd	Effectiveness level	t	df	p
FAPIP	Male	211	2.87	0.72	Considerable	-3.261	614	0.001
	Female	405	3.04	0.56				
RPP	Male	228	2.00	0.84	Little	.405	656	0.685
	Female	430	1.97	0.79				
GP	Male	229	2.29	0.75	Moderate	-1.140	660	0.255
	Female	433	2.36	0.79				
OCP	Male	227	1.69	0.95	Moderate	-2.383	663	0.017
	Female	438	1.88	1.03				
RAP	Male	226	2.15	1.02	Moderate	-.181	662	0.857
	Female	438	2.17	0.98				

However, the difference between the response levels of female and male students was significant in favor of female students in "fostering active participation and individuality" and "outer control practices" factors ($P < 0.05$), but not in the others ($P > 0.05$).

How students' ideas about the effectiveness of the suggested practices changed depending on their department

Table 10 shows that the levels of students' being affected by the suggestions aimed at preventing academic procrastination on the basis of their departments changed in the "reinforcement and punishment practices" factor ($F_{7-651} = 5.123$; $P < 0.001$), but not in the others. The Turkey HSD test conducted to find out the source of this difference revealed that it was

due to the change in the response levels of students in the STE and SSTE, PSTE and PCG departments as well as those in the CITE and SSTE, PCG and PSTE departments.

Findings concerning the response levels of the students to the suggestions in the "Reinforcement and Punishment Practices" factor according to their departments are presented in Table 11. As seen in Table 11, the evaluation of the students' ideas about the effectiveness of the suggestions in the reinforcement and punishment factor which aimed to prevent academic procrastination behaviors ranged between $\bar{X} = 1.70$ and 2.20 depending on the students' departments. PSTE students were affected the most and STE students were affected the least by the suggestions in this factor.

Table 10. Anova and Tukey HSD Test Analyses of the level of change in the students' ideas about the effectiveness of suggested solutions.

Factor		Sum of squares	df	Mean square	F	p	Turkey HSD Test
FAPIP	Between groups	3.280	7	0.469	1.211	0.295	-----
	Within groups	236.145	610	0.387			
	Total	239.425	617				
RPP	Between groups	22.338	7	3.191	5.123	0.000	STE with SSTE, PSTE, PCG; CITE with SSTE, PCG and PSTE.
	Within groups	405.503	651	0.623			
	Total	427.841	658				
GP	Between groups	7.688	7	1.098	1.838	0.077	-----
	Within groups	391.899	656	0.597			
	Total	399.587	663				
OCP	Between groups	12.904	7	1.843	1.893	0.068	-----
	Within groups	640.687	658	0.974			
	Total	653.591	665				
RAP	Between groups	7.045	7	1.006	0.999	0.431	-----
	Within groups	663.713	659	1.007			
	Total	670.758	666				

Table 11. Students' ideas about the effectiveness of the solutions suggested under the reinforcement and punishment practices factor on the basis of their departments.

Factor	Department	N	\bar{X}	Effectiveness level	SD
Reinforcement and punishment practices (RPP)	Pre-School Teacher Education (PSTE)	69	2.20	Moderate	0.81
	Social Sciences Teacher Education (SSTE)	89	2.19		0.84
	Psychological Counseling and Guidance (PCG)	95	2.14		0.70
	Turkish Language Teacher Education (TLTE)	85	2.06		0.74
	Classroom Teacher Education (CT)	94	1.89		0.83
	Mathematics Teacher Education (MTE)	78	1.85		0.76
	Computer and Instructional Techniques Teacher Education (CITE)	74	1.74		0.83
	Science Teacher Education (STE)	75	1.70		0.77
	Total/Mean	659	1.98		0.81

Table 12. T test analysis of the level of change in the students' ideas about the effectiveness of the suggested practices based on their being either the 1st or 4th year students.

Factor	Class level	N	\bar{X}	Sd	Effectiveness level	t	df	p
FAPIP	1st year	340	2.92	0.69	Considerable	-2.654	616	0.008
	4th year	278	3.06	0.52				
RPP	1st year	364	1.91	0.84	Moderate	-2.391	657	0.017
	4th year	295	2.06	0.75				
GP	1st year	366	2.38	0.86	Moderate	1.764	662	0.078
	4th year	298	2.27	0.66				
OCP	1st year	369	1.80	1.06	Moderate	-.498	665	.0618
	4th year	298	1.84	0.92				
RAP	1st year	370	1.95	1.07	Moderate	-6.481	664	0.000
	4th year	296	2.43	0.80	Considerable			

How the students' ideas about the effectiveness of the suggested practices changed depending on the students' being in their 1st or 4th year

Table 12 demonstrates that students' being either at the beginning (1st year) or at the end (4th year) of their time at the Faculty of Education caused significant changes in the extent to which they were influenced by the suggestions in the "fostering active participation and individuality", "reinforcement and punishment practices" and "responsibility assignment practices" factors ($P < 0.05$), while there was no significant change in the other factors ($P > 0.05$). Regarding the factors where there is a significant change, 4th year students are seen to be affected by the suggestions in these factors to a greater extent than 1st year students ($P < 0.05$). Another important aspect of Table 12 is that suggestions in the "guidance practices" factor affects 1st year students, while others affect 4th year students more than the others.

Consequently, it can be argued that as a result of the experiences they have had in the Faculty of Education, students respond more to the suggestions in the factors other than "guidance practices". In other words, "guidance practices" are more effective on the students who have recently started studying at the Faculty of Education, while other factors were effective on the final year students.

DISCUSSION

Within the framework of abandoning academic procrastination behavior, the students studying in the Faculty of Education (teacher candidates) are *moderately* influenced by the suggestions encapsulated in "guidance", "responsibility", "reinforcement and

punishment" and "outer control" practices, and considerably influenced by the suggestions in "fostering active participation and individuality" practices. This situation may be interpreted as the students generally responding to the practices geared towards reducing academic procrastination behavior. In other words, it may be asserted that academic procrastination habits and behaviors, which have been proven with research to have negative effects on students' academic success and mental health and their negative effects, can be reduced by taking some measures. It is commonly noted in the literature that one of the factors playing a central role in the students' study habits and attitudes is teaching proper study habits or breaking improper habits (Balduf, 2009; Balkis, 2006; Effert and Ferrari, 1989; Lee, 2005; Orpen, 1998; Paden and Stell, 1997; Zarick and Stonebraker, 2009). Accordingly, it is reasonable to assume though practices intended to make students abandon or at least reduce their academic procrastination behaviors will bring about beneficial consequences. To put it in another way, students' academic procrastination behaviors should not be regarded as set in stone, but as behaviors that can be modified through appropriate measures and, accordingly, interventions through such measures should be continued in this framework.

Students are affected maximally by suggestions on "fostering active participation and individuality" dimension and minimally by the suggestions in the "outer control practices" dimension. Thus, students are moved more by assuming active roles in the activities and feeling that their individuality is taken account of, but less by outer constraints and controlling interventions. This situation is also supported by the fact that the second less effective dimension after outer control practices is reinforcement and punishment practices and is consistent with the literature findings. Given that timely and proper

completion of academic tasks is evaluated as a learning responsibility by the students, it is frequently stated in the literature that one of the most effective ways of helping individuals gain a feeling of responsibility is assigning responsibilities to them, but also that the individual's capabilities should be taken account of in responsibility assignment (Johnson et al., 2000; Orpen, 1998; Solomon and Rothblum, 1984; Zarick and Stonebraker, 2009).

However, in a study including students, Balkis (2006) found that the scores of academic procrastination tendencies of those who reported to be influenced by external sources were higher than the scores of those who reported to be influenced by internal sources. Moreover, Lee (2005) argued that the responsibility of a student to exercise self-control and control on his/her performance shifted from the parents and teachers to the student him/herself over time and the university years were the time when this shift reached a peak. Prociuk and Breen (1974) obtained similar results in their study (Özsoy et al., 2009). Therefore, it can be said that the strategies to be most frequently used in the struggle against students' academic procrastination behaviors include assigning tasks to them, making use of activities where they will assume more active roles in the learning-teaching process and taking account of their individual characteristics and expectations.

Female students are affected to a higher extent than male students in all factors with the exception of "reinforcement and punishment practices". This may be interpreted as female students being more inclined to abandoning or reducing procrastination behaviors than male students. Besides, it may be that female students who have a socially less active life and also lead a more steady life display fewer academic procrastination behaviors. Accordingly, it may be preferable to use the suggestions in the factors other than "reinforcement and punishment practices" more frequently on female students and the suggestions in "reinforcement and punishment practices" on male students.

When the literature is examined, it is seen that there are varying findings about the effect of gender on procrastinating in academic tasks (Zarick and Stonebraker, 2009). Özsoy et al. (2009) reported that the literature contained tens of studies suggesting that female students were better than male students in terms of use of time and studying habits. Furthermore, in study on prospective teachers, Balkis (2006) found that male prospective teachers had a significantly higher tendency of academic procrastination than female prospective teachers. Çetin (2009) found a similar result. Based on these findings it can be suggested that males are worse than females in terms of studying habits and capability of time management. However, in the literature there are no research findings regarding which strategies help students abandon procrastination behavior and how, and also regarding how the effectiveness of strategies differs with gender. It can be said that different studies are

needed to determine the measures that can contribute to female and male students altering academic procrastination behaviors.

In this research, it was found that the difference between female and male students was significant in favor of female students on "fostering active participation and individuality" and "outer control practices" factors, but not significant in the other factors. This finding may be interpreted as female students being influenced by active participation in the activities and having their personal characteristics taken account of, as well as outer control explanations and guidance, to a greater extent than male students. Thus, it can be argued that it will be more useful to resort to the suggestions covered under these two factors in order to eliminate academic procrastination behaviors in female students.

The students' level of response to the suggestions intended to prevent academic procrastination with regard to their departments exhibited a change in the "reinforcement and punishment practices" factor ($F_{7-651}=5.123$; $P<0.001$), but not in the other factors. This significant change results from the differences in the response levels of the students in the STE and SSTE, PSTE and PCG departments, as well as those in CITE, SSTE, PCG and PSTE departments. Furthermore, students of the PSTE department were affected maximally and STE department students were affected minimally by the suggestions in this factor. In general, it can be argued that students of the departments which admit students on the basis of their verbal and equal weight scores (PSTE, SSTE, PCG, CTE) are influenced by the suggestions in the factors more than the students of departments which admit students according to their science and mathematics scores (STE, MTE, CITE). This general tendency may be explained by the fact that departments that admit students on the basis of their verbal and equal weight scores have more courses whose content is predominantly psychological, as well as courses that emphasize social life and interaction. However, it should be noted that further research is needed to justify this conviction. Additionally, it may be said that making more use of the strategies under the "reinforcement and punishment practices" factor may prove useful for students of PSTE, SSTE, PCG and CTE.

Fourth year students are affected more than first year students by the suggestions in the factors other than the "guidance practices" factor. The difference between these two groups of students is at a significant level in the "fostering active participation and individuality", "reinforcement and punishment practices" and "responsibility assignment practices" factors, but not so in the others. This situation may be interpreted as 4th year students being more sensitive and open to the measures that can be taken to prevent procrastination behaviors. To put it in another way, it can be argued that learning experiences in the Faculty of Education lead students to behave more sensitively in eliminating procrastination

behaviors. This sensitivity may have resulted from the fact that 4th year students have more experience in terms of education and learning, they have gone through more failure and psychologically negative situations due to their past procrastination behaviors, and they suffer more anxiety as they approach a very important examination (KPSS: the state's civil servant hiring exam) in their lives with certain deficiencies in their learning. It can be stated that this result is consistent with the results of previous studies which found that test anxiety and fear of failure brought academic procrastination and caused failure (Zarick and Stonebraker, 2009; Pychyl et al., 2000; Klassen and Kuzucu, 2009).

CONCLUSION AND SUGGESTIONS

Analysis of the literature reveals that there is a large body of research on the effects of grade level on the procrastination tendencies of students. It was observed that different results were obtained in the previous studies. Balkis (2006) reported that when compared to 1st grade students, 4th grade students enrolled in Faculty of Education had a higher tendency of showing academic procrastination. On the other hand, Çetin (2009) found that there was no difference between academic procrastination tendencies of students according to grade level. However, there was no study in the literature to determine how the students would be affected from certain applications to abandon procrastination behaviour and whether this affect would vary according to grade levels. Accordingly, it can be stated that it is necessary to conduct different studies to determine measures which will contribute to the students' abandonment of academic procrastination behaviours.

Nevertheless, it can be recommended to rely more on the practices covered under the "guidance" factor in the case of first year students and the practices under the "fostering active participation and individuality", "reinforcement and punishment" and "responsibility assignment" factors in the case of students in higher class levels.

In any case, as often stated in the literature, taking measures to overcome low motivation, inadequate self-regulation, poor self-discipline, inadequacy in time-planning skills can also make significant contributions to decreasing academic procrastination behaviour. In this framework, it can be beneficial to take measures such as making the students do exercises to develop these capacities, giving them responsibilities about the tasks they can fulfil, creating positive examples, teaching them the ways to cope with stress and anxiety, making motivating explanations and giving feedback showing the relationship between their failure and procrastination behaviours.

In addition, although the issue of academic procrastination is usually evaluated among the negative study habits in the literature and is shown through

different research studies to be a problem common to all people, there are not many studies addressing the solution to this problem. In this respect, it can be recommended to conduct similar studies focusing on parallel problems in different populations like primary and secondary school students, students of faculties and high schools other than the Faculty of Education, and graduate students. Besides, the people whose opinions are sought may include teachers, school administrators and parents as sources of information in such studies.

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