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INFLUENCE OF PORTFOLIO EVALUATION IN COOPERATIVE LEARNING ON STUDENT SUCCESS

(İŞBİRLİKLİ ÖĞRENME SÜRECİNDE KULLANILAN PORTFOLYO DEĞERLENDİRMESİNİN ÖĞRENCİ BAŞARISI ÜZERİNE ETKİSİ)

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ABSTRACT

The effect of portfolio evaluation, which was implemented along with cooperative learning, was investigated in this research. Two experiment groups in addition to a control group were formed out of the 88 second year students of classroom teaching in the Faculty of Education. The course of "Planning and Evaluation in Teaching" was chosen as the course of practising teaching activities. This activity lasted 10 weeks. A 75-item multiple choice test was developed for the purpose of data collection. For the reliability of the scale, KR-20 (Kuder Richardson-20) reliability analysis was performed, and KR-20 reliability coefficient was found to be 0.78. The academic achievement test which was used to obtain research data was grouped in three dimensions (namely, programme and planning teaching strategies, methods and techniques, and measurement and evaluation) and the answers given to those were analysed separately, and conclusions were drawn. Independent groups t-test and one-directional variance analysis (ANOVA) techniques were employed in order to determine whether or not there were any significant differences between the experiment and the control groups' academic achievement tests. The issue of which groups had significant differences in variance analyses was identified through Bonferroni test. Research results showed that the group on which portfolio evaluation along with cooperative learning was applied was more successful than the other groups. In addition, the relationship between gender and achievement scores was examined for the experiment and the control groups, and no significant statistical differences were found.

Key words: cooperative learning method, portfolio evaluation, academic achievement.

ÖZ

İşbirlikli Öğrenme Yöntemi ile birlikte uygulaması yapılan portfolyo değerlendirmesinin etkilerinin araştırıldığı bu araştırmada, Eğitim Fakültesi Sınıf Öğretmenliği Anabilim Dalı 2. sınıfta öğrenim gören 88 öğrenciden 2 deney 1 kontrol grubu oluşturulmuştur. Öğretim etkinliklerinin gerçekleştirileceği ders olarak, Öğretimde Planlama ve Değerlendirme dersi seçilmiş ve uygulama 10 haftalık bir süreyi kapsamıştır. Verilerin toplanması amacıyla, çoktan seçmeli 75 sorudan oluşan bir test geliştirilmiştir. Ölçeğin güvenirliği için, KR-20 (Kuder Richardson-20) güvenirlik analizi yapılmış, analiz sonucunda testin KR-20 güvenirlik katsayısı 0.78 olarak bulunmuştur. Araştırma verilerini toplamak için kullanılan akademik başarı testi üç boyutta (Program ve Planlama, Öğretim Strateji, Yöntem ve Teknikleri, Ölçme ve Değerlendirme) gruplandırılmış ve bu boyutlara verilen cevaplar ayrı ayrı incelenerek analiz sonuçlarına varılmıştır. Deney ve Kontrol gruplarının akademik başarı testleri arasında anlamlı bir farkın olup olmadığını belirlemek için bağımsız gruplar t-Testi ve Tek Yönlü Varyans Analizi (ANOVA) teknikleri kullanılmıştır. Varyans analizlerinde anlamlı farkın hangi gruplar arsında olduğu Bonferroni testi ile belirlenmiştir. Araştırma sonucunda, İşbirlikli öğrenme yöntemi ile birlikte kullanılan Portfolyo değerlendirmesinin uygulandığı gruptaki başarının diğer gruplara göre daha yüksek düzeyde olduğu görülmüştür. Ayrıca deney ve kontrol gruplarında cinsiyet ile toplam başarı puanları arasındaki ilişki incelenmiş, istatistiksel olarak anlamlı farklılığın olmadığı görülmüştür.

Anahtar Kelimeler: işbirlikli öğrenme yöntemi, portfolyo değerlendirmesi, akademik başarı

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INTRODUCTION

Today, a view of education in which students have access, use and supply opportunities to systemize knowledge, and which offers situations where they can transform the knowledge into opportunities in accordance with their abilities and potential, is generally held.

Educators offer various models for effective teaching. One of these is the cooperative learning method, which was proposed by Slavin (1995). Cooperative learning is defined as a learning approach in which students form small mixed groups in the classroom environment and help each other to learn an academic subject with a common aim, and group success is usually rewarded in differing ways (Johnson & Johnson 1999; Gömleksiz, 1997; Kagan 1994; Slavin, 1995, 1996).

Johnson & Johnson (1999) and Lin (2006) argue that the aim of cooperative learning is to improve students' social and communicative skills, to increase their tolerance, and to raise their academic achievement. It has been proved in all the research into cooperative learning that cooperative learning makes innumerable contributions to learning outcomes (Güvenç & Açıkgöz, 2007). A great deal of research at the level of higher education has made it clear that through cooperative learning, students displayed such behaviours as higher academic achievement, reasoning, critical thinking, less disturbing behaviours, lower anxiety and stress, higher self esteem, forming positive and supporting relations between friends, developing objective self evaluation skills in the process of learning, and exhibiting positive attitudes towards topics (Johnson, Johnson & Smith, 1991; Johnson & Johnson, 2000; Quarstein & Petrson, 2001).

The process of evaluation must contribute to students' making more efforts. In addition to that, it must be able to evaluate both the learning process and the outcomes of this process in relation to the content (Tigelaar, Dolmans, Wolfhagen & Vleuten, 2005).

One of the most important benefits of cooperative learning in the learning process is that students can be assessed through standardised tests, and students can also evaluate both themselves and their group friends through alternative assessment methods with the help of their individual and group performances. Students participate in the evaluation process actively with the alternative evaluation methods used in the process of cooperative learning, and thus notice their insufficiencies clearly. With these evaluative methods, students have the opportunity to self-evaluate in a long period of study; in consequence, this provides more valid and reliable information to the teacher in the evaluation process.

Alternative evaluation techniques in the process of cooperative learning provide opportunities to consider students in a wider range than the standardised tests case; they also enable students to evaluate themselves, and

offer multiple alternatives. Such a process of evaluation puts forward more clear and understandable knowledge concerning the performance of students involved in differing learning environments ((Aseltine, 1993; Bolig & Day, 1993; Coleman, 1994; Gilman & McDermott, 1994; Madaus & Kelleghan, 1993).

A number of alternative assessment methods can be employed along with the cooperative learning method. One of the evaluation techniques is portfolio evaluation.

"Portfolio" is the process of purposeful material collection in which students identify their skills, strengths and weaknesses in relation to learning fields in a particular period of time (Barootchi & Keshavaz, 2002; Hamp-Lyons & Condon, 1993). Portfolios can be used to evaluate both teaching and outcomes in the long term. Work samples, lesson plans, feedback obtained from students and colleagues, etc. can be included in the portfolio files. Therefore, portfolio files can tell much about the teacher's and students' performance. Since the data are obtained over a long time and from a variety of sources, they offer more valid and more reliable conclusions about students (Moss, 1994).

Unlike standardised tests and high-risk examinations, portfolio evaluation facilitates objective evaluation of various activities of students by students. Portfolio evaluation is a vehicle that enables students to be evaluated in an authentic way in natural classroom environments (Smith, Brewer & Heffner, 2003).

Cook-Benjamin (2001) states that, by evaluating students with such authentic evaluation materials as the portfolio, impartiality stemming from the teacher and evaluation material will minimise. Cook-Benjamin also points out that students will evaluate themselves better and reflect on themselves better in this way. Lambdin and Walker (1994) conclude that, when the process of evaluation is used, students will improve their evaluation skills, and they will also become less dependent on their levels.

Owing to the fact that portfolio evaluation enables teachers to evaluate students in a holistic way rather than in separate parts, it makes more contributions to valid measurement than standardised tests do (Cook-Benjamin, 2001; Henkin, 1993; Lamdin & Walker, 1994).

The effects of portfolio evaluation in learning environments where the cooperative learning method was employed in the process of teacher education on students' academic achievement was researched in this survey.

Purpose of the Study

This research, applying the portfolio evaluation method along with cooperative learning (experiment 1), only the portfolio evaluation method (experiment 2), and the normal method (control 1), examines the academic achievement of the students in each group and seeks answers to such questions as:

1. Do the academic achievement final-test scores of experiment 1, experiment 2, and control group students - on whom portfolio evaluation in combination with cooperative learning, portfolio evaluation method, and normal method are applied – differ?
2. Do the academic achievement averages of experiment 1, experiment 2, and control groups differ according to sex?

METHOD

Research Model

A model with final test control group was employed in this research. At least two groups which are formed through impartial appointment are available in this research. One of them is used as the experiment group, and the other as the control group. Only post-test is given to the groups (measurement is performed at the end of the experiment). The symbolic representation of the model is as in the following:

Table 1. Symbolic Representation of Model Employed

G1	R	X	$O_{1.2}$
G2	R	X	$O_{2.2}$
G3	R		$O_{3.2}$

G1: The group on which portfolio evaluation method in the process of cooperative learning is applied.
G2: The group on which portfolio evaluation method is applied.
G3: The group on which normal method is applied (the one on which cooperative learning is not implemented).
X: Portfolio evaluation method.

In most experiments, the implementation of pre-test is either impossible or unnecessary. Forming the groups through unbiased appointment can be considered sufficient to assure the similarity prior to the experiment. The effect of "X" is established by the comparison of $O_{1.2,}$ $O_{2.2}$ and $O_{3.2}$ measurements (Muijs, 2004; Wiersma & Jurs, 2005).

Participants

This research was conducted on 81 students attending the classroom teaching branch of Ahi Evran University's Faculty of Education in the 2006-

2007 academic year Spring semester, within the framework of the course 'Planning and Evaluation in Education'. Two experiment groups and a control group were constructed randomly out of the 81 second year students of classroom teaching branch. The application of teaching activities lasted 10 weeks and included such dimensions as "Programming-Planning, Teaching Strategies, Methods and Techniques, and Measurement and evaluation".

Application Steps of Portfolio Evaluation Used in the Cooperative Learning Process:

In order to make contributions to the students' cognitive development, self-evaluation, learning levels and abilities, "group research" and "student product file" (portfolio), two of the cooperative learning techniques, were used together in the first experimental group. The application steps were as follows:

1. The course objectives were identified prior to the students' preparing product files. According to the objectives, topics were determined through brainstorming, discussions, etc with students. Then 7 heterogeneous groups of 4 were formed by considering such factors as sex, achievement marks, age, and the high school attended by the students.
2. The students were informed about the cooperative learning method and student product files for a week (5 hours) and sample work was given to the students. They were told that group reward, positive dependence, individual evaluatability, face-to-face interaction, and the evaluation of group processes were important in the cooperative learning process. Additionally, the students were informed about the fact that students' files were instruments of evaluation and about what could be included in the files (for instance, students' written homework, pieces of research, group homework, exams, evaluation scales, etc.).
3. They were informed about how to evaluate each step, and in the evaluation of files, such vehicles as graded scoring keys and checklists were used.
4. The practice continued 10 weeks, and the teacher acted as a guide to make orientations appropriate to the aim of the course during this period. Thus, the classroom activities and the students' files which were formed through student choices provided both the students and the teacher with suitable circumstances to self-evaluate.
5. Following the students' collecting data and uncovering the information, the conclusions were made into reports and the reports were presented in the classroom. The students were encouraged to make use of audio-visual aids and creative activities during the presentations.

6. The activities were put into practice under the following headings, all of which were in students' files:

a. Program and planning:

Educational plan, teachers' place and responsibility in the process of teaching plans development and application, objective setting, the staging of educational objectives in terms of content, teaching objectives and the teacher, planning of programme evaluation, annuals plans and how to prepare them, unit teaching and planning, daily plans and how to prepare them, steps of presenting a lesson and presentation.

b. Teaching strategies, methods and techniques:

Teaching strategy, the relationships between methods and techniques and teaching objectives, their roles, choice, teaching strategies through presentation, teaching strategies through discovery, teaching strategies through research-questioning, mastery learning.

c. Measurement and evaluation:

Varieties of evaluation, types of measurement, features of measurement, measurement techniques, planning measurement, statistical procedures on measurement results.

Measurement

A 120 item draft measurement tool which aimed at measuring the students' academic achievement was developed for the purpose of data collection, and this was given to the 96 students attending a higher grade as the test middling technique. The difficulty and distinguishing indices of each item on the measurement draft, as well as wrong and incomplete questions, were determined. Then, removing the items with low potential of distinguishing in the light of the measurement tools' experts, the number of of items was reduced to 75. In its final form, the KR-20 (Kuder Richardson- 20) reliability coefficient was found as .78.

Of the scale items - whose purpose was to measure the students' academic success - 17 were about programme and planning, 22 about teaching strategies, methods and techniques, and 36 were about measurement and evaluation.

Data Analysis

SPSS 11.0 (Statistical Package for Social Sciences) was used in the analysis of the data collected.

Independent t- test and single directional variance analysis (ANOVA) technique were used in order to determine whether there were any differences

between the averages of the experimental and control groups' academic achievement. The groups having significant differences according to variance analyses were determined with the help of Bonferroni test.

FINDINGS

The arithmetic average concerning the answers students gave to the achievement test ($\bar{x}$), standard deviation values (ss), independent groups' t test, and single directional variance analysis (ANOVA) results are shown in the table below:

Table 2. Post- test Achievement Averages of Experiment1, Experiment2, and Control Groups

	Experiment 1			Experiment 2			Control		
	N	$\bar{x}$	ss	N	$\bar{x}$	ss	N	$\bar{x}$	ss
Program and planning	27	11,37	2,021	31	10,96	2,330	30	9,50	2,080
Strategies, methods and techniques		13,59	2,390		11,77	3,190		11,50	2,991
Measurement and evaluation		26,00	3,137		24,61	3,451		22,50	5,581
General		50,96	5,867		47,35	5,811		43,50	9,175

The arithmetic average of experimental group 1 was found to be 50.96, that of experimental group was found to be 47.35, and it was found as 43.50 for the control group when the overall scores of the participating students were taken into account.

Table 3. Single Directional Variance Analysis Results Concerning the Post-test Achievement Scores of Experiment 1, Experiment 2, and Control Groups

	Source of variance	KT	sd	KO	F	p
Programme and planning	Intergroups	56,509	2	28,254	6,084	,003
	Intragroups	394,764	85	4,644		
	Total	451,273	87			
Strategies, methods and techniques	Intergroups	72,551	2	36,275	4,322	,016
	Intragroups	713,438	85	8,393		
	Total	785,989	87			
Measurement and evaluation	Intergroups	178,236	2	89,118	4,994	,009
	Intragroups	1516,855	85	17,845		
	Total	1695,091	87			
General	Intergroups	793,520	2	396,760	7,754	,001
	Intragroups	4349,560	85	51,171		
	Total	5143,080	87			

On examining the data in Table 3, it was found that there were significant differences between the groups in achievement test total scores in general [F= 7.754, p<.05]. When the data were examined to find from what dimensions this significant difference stemmed, it was discovered that it stemmed from the dimensions of programme and planning [F= 6.084, p<.05], strategies, methods and techniques [F= 4.322, p<.05], and measurement and evaluation [F= 4.994, p<.05].

In order to determine in which group's favour the significant difference was, the Bonferroni test was implemented and the data were commented on in Table 4.

Table 4. Bonferroni Test Results Concerning the Post-test Achievement Scores of Experiment 1, Experiment 2, and Control Groups

Bonferroni			(I-J)	ss	P
	(I) Branch	(J) Branch			
Programme and Planning	Experiment1	Experiment 2	,402	,567	1,000
		Control	1,870	,571	,005*
	Experiment 2	Experiment1	-,402	,567	1,000
		Control	1,467	,551	,028*
	Control	Experiment1	-1,870	,571	,005*
		Experiment2	-1,467	,551	,028*
Strategies, methods and techniques	Experiment1	Experiment2	1,818	,762	,058
		Control	2,092	,768	,024*
	Experiment2	Experiment1	-1,818	,762	,058
		Control	,274	,741	1,000
	Control	Experiment1	-2,092	,768	,024*
		Experiment2	-,274	,741	1,000
Measurement and evaluation	Experiment1	Experiment2	1,387	1,112	,647
		Control	3,500	1,120	,007*
	Experiment2	Experiment1	-1,387	1,112	,647
		Control	2,112	1,081	,162
	Control	Experiment1	-3,500	1,120	,007*
		Experiment2	-2,112	1,081	,162
General	Experiment1	Experiment2	3,608	1,883	,176
		Control	7,463	1,897	,001*
	Experiment2	Experiment1	-3,608	1,883	,176
		Control	3,854	1,832	,115
	Control	Experiment1	-7,463	1,897	,001*
		Experiment2	-3,854	1,832	,115

According to Table 4, there is a significant difference between experiment 1 and control groups in each dimension in favour of experiment 1 group. It can be concluded that the portfolio evaluation that was used in the process of cooperative learning in experiment 1 group had increased the rate of achievement more than normal teaching had done. It is also worth noticing

that although the students in experiment 1 group had higher achievement than the ones in experiment 2 group, this difference was not found significant.

No significant differences were found between experiment 2 group and control group apart from the dimension of programme-planning.

Table 5. Distribution of Experiment 1 Group Students' Achievement Marks According to Gender

Sub-dimensions	Gender	N	$\bar{x}$	ss	t	P
Program and planning	Male	14	11,21	2,259	-,410	,686
	Female	13	11,53	1,808		
Strategies, methods and techniques	Male	14	13,14	2,143	-1,015	,320
	Female	13	14,07	2,628		
Measurement and evaluation	Male	14	25,14	3,370	-1,509	,144
	Female	13	26,92	2,691		
General	Male	14	49,50	6,223	-1,367	,184
	Female	13	52,53	5,237		

On examining Table 5, it can be found that the arithmetic average of total achievement score for male students in experiment 1 group is 49.50 while this is 52.53 for female students. Examinations showed that there were no significant statistical differences between the total achievement scores and gender [t = -1,367; p>.05]. Examining the achievement test sub-dimensions with gender separately, it was found that the difference was not statistically meaningful despite the girls' higher average [programme and planning (t= -.410, p> .05), strategies, methods and techniques (t = -1.015, p>.05), measurement and evaluation (t = -1.509, p>.05)].

Table 6. Distribution of Experiment 2 Group Students' Achievement Marks According to Gender

Sub-dimensions	Gender	N	$\bar{x}$	ss	t	P
Programme and planning	Male	14	11,07	2,432	,155	,878
	Female	17	10,94	2,249		
Strategies, methods and techniques	Male	14	10,71	3,172	-1,734	,094
	Female	17	12,64	3,019		
Measurement and evaluation	Male	14	25,71	3,049	1,659	,108
	Female	17	23,70	3,584		
General	Male	14	47,50	6,272	,097	,923
	Female	17	47,29	5,485		

Table 6 shows that the arithmetic average of male students' total achievement scores in experiment 2 group is 47.50 and that of female students is $\bar{x}$ = 47.29. The relationships between the students' total achievement scores and gender were examined and no statistical significance was found [t = .097, p>.05]. Examining the achievement test sub-dimensions with gender separately, it was found that the difference was not statistically significant

[Programme and planning (t = .155, p> .05), strategies, methods and techniques (t = -1.734, p>.05), measurement and evaluation (t =, 097, p>.05)].

Table 7. Distribution of Control Group Students' Achievement Marks According to Gender

Sub-dimensions	Gender	N	$\bar{x}$	ss	t	P
Programme and planning	Male	17	9,17	1,810	-,973	,339
	Female	13	9,92	2,396		
Strategies, methods and techniques	Male	17	11,64	2,473	,303	,764
	Female	13	11,30	3,660		
Measurement and evaluation	Male	17	21,23	6,456	-1,446	,159
	Female	13	24,15	3,804		
General	Male	17	42,05	9,330	-,983	,334
	Female	13	45,38	8,977		

As can be found in Table 7, the arithmetic average of male students' total achievement scores in the control group is 42.05 whereas that of female students' is 45.38. The relationships between the students' total achievement scores and gender were examined and no statistical significance was found. Examining the achievement test sub-dimensions with gender separately, it was found that the difference was not statistically significant [programme and planning (t = -.973, p> .05), strategies, methods and techniques (t = .303, p>.05), measurement and evaluation (t= -1.446, p>.05)].

CONCLUSION

Whether or not portfolio evaluation when used in combination with cooperative learning had any effect on students' success in comparison to the portfolio evaluation method alone and the normal method was investigated in this research; and a significant difference was found between the groups in achievement test total scores in a general dimension. On examining the data in each dimension to find the source of significant difference, it was found that there was a significant difference between the groups working with the portfolio evaluation method in the process of cooperative learning and with normal teaching method in the dimensions of "programme and planning", "strategies, methods and techniques", and "measurement and evaluation" in favour of the former group. Yet, there were no significant differences between the groups working with only portfolio evaluation. Apart from that, the relationships between the students' total achievement scores and gender were studied and no statistically significant differences were found. All these results showed that portfolio evaluation when used in combination with cooperative learning was influential over academic achievement. However, the gender factor did not have a meaningful role in this process.

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DISCUSSION

Portfolio evaluation in the process of cooperative learning raised students' success whereas the use of portfolio evaluation on its own led to an increase in success with no statistically significant difference; which in turn demonstrates that portfolio evaluation is bound to be more efficient when used within the cooperative learning method. Therefore, the standard tests which are used to evaluate students' learning processes are supposed to produce more valid results in students' success when they are supported with other alternative evaluation activities.

Portfolio evaluation makes innumerable contributions in such issues as providing the practiser with facilities, being flexible, identifying the positive and negative environmental factors influential in the learning process, determining students' willingness to participate in activities, and orienting the activities accordingly (Apple, 2000; Smith, Brewer & Heffner, 2003). Lynch and Struewing (2000) state that, by evaluating students via alternative evaluation materials such as portfolio, bias will be lowered and students will improve their skill to evaluate themselves objectively.

Lucas-Lescher (1995) pointed out that the portfolio evaluation process made significant contributions to teacher-students dialogue and to maintaining this communication. In their research Lambdin and Walker (1994) concluded that, by including portfolio evaluation in learning environments, the communication between the teacher and parents rose to the maximum, and this increased students' success.

Portfolio evaluation process is a very important tool of evaluation that is used in teacher education programmes. Use of portfolios for teacher candidates helps them to play active roles in their own learning and to be more reflective in their teaching (Krause, 1996). Dutt-Doner and Personett (1997) argue that evaluating especially student teachers' success only according to their final exam results means not showing interest in their learning process. This, in turn, means focussing on whether they pass a course rather than seeing their various aspects.

Since students' individual and group performances were constantly evaluated in the process, more valid knowledge of their learning processes was obtained through cooperative learning. Thus, Cook–Benjamin (2001) suggested that partiality stemming from the teacher and the evaluation material will be lowered when students were evaluated through such authentic materials as portfolio. Lambdin–Walker (1994) concluded that when the portfolio evaluation process was used, students would improve their skills to evaluate themselves and would also become less dependent on their levels.

The literature review also showed that findings of similar research using the cooperative learning method in combination with alternative evaluation techniques supported our findings. Each research implied that

evaluating students in the process as a whole (in a holistic way) made it possible to obtain more valid results about student success, that students become more active in their process of learning, that bias resulting from the teacher and the evaluating material reduced, that students could monitor their learning improvement actively, and that parents took on more active roles in children's learning environments (McManus & Gettinger, 2001; Quarstein & Peterson, 2001; Rushton, 2005; Strom & Strom, 1998).

RECOMMENDATIONS

Standard tests which are frequently used in students' learning processes should be supported with alternative evaluation activities. Moreover, the use of the portfolio evaluation method along with cooperative learning method will facilitate identification of student differences as well as their individual development, and will make it possible to reduce bias and errors in evaluation to the minimum. This reduction will naturally occur with the use of cooperative learning in combination with portfolio evaluation. Additionally, if the information obtained from portfolios is used with standardised tests, this will provide students, parents and educational experts with more satisfactory information. Information coming from portfolios can be used to evaluate the effectiveness of education and of students' performance in the long term. In addition to this, with the help of the information that is obtained from students' documents, educational aims can be developed.

REFERENCES

Apple, S.J. (2000). Clarifying the preschool assessment process: Traditional practises and alternative approaches. *Early Childhood Education Journal*, 27, 219-225.

Aseltine, J. (1993). Performance assessment: looking at the real achievement of middle level students. *School in the Middle*, 3, 27–30.

Barootchi, N., & Keshavarz, M.H. (2002). Assessment of achievement through portfolios and teacher-made tests. *Educational Research*, 44, 279-288.

Bolig, E., & Day, J. (1993). Dynamic assessment and giftedness: the promise of assessing training responsiveness. *Roeper Review*, 16, 110–13.

Coleman, L. (1994). Portfolio assessment: a key to identifying hidden talents and empowering teachers of young children. *Gifted Child Quarterly*, 38, 65–9.

Cook-Benjamin, L. (2001). Portfolio assessment: benefits, issues of implementation, and reflections on its use. *Assessment Update*, 13, 6-7.

Dutt-Doner, K. M., & Personett, C. (1997, March). *Using portfolio to assess students in an undergraduate teacher education course: What did the students and instructor learn?* Paper presented at the Annual Meeting of the American Educational Research Association Chicago. (ERIC Document Reproduction Service No. 410247).

Gilmand, D.A., & McDermott, M. (1994). Portfolio collections: an alternative to testing. *Contemporary Education,* 65, 73–6.

Gömleksiz, M. (1997). *Kubaşık Öğrenme.* Adana: Baki Kitabevi.

Güvenç, H., & Açıkgöz, K.Ü. (2007). The effects of cooperative learning and concept mapping on learning strategy use, *Educational Sciences: Theory & Practice,* 7, 117-127.

Hamp-Lyons, L., & Condon, W. (1993). Questioning assumptions about portfolios. *College Composition and Communication*, 44, 176–90.

Henkin, R. (1993). Emerging feminist themes found in graduate students' portfolios written by women elementary school teachers. *Action in Teacher Education*, 15, 20–28.

Johnson, D,W., & Johnson, R.T. (1999). *Learning Together and Alone: Cooperative, Competitive, and Individualistic Learning.* Boston, MA: Allyn and Bacon.

Johnson, D. W., & Johnson F. (2000). *Joining Together: Group Theory and Skills.* (7th ed.) Boston: Allyn and Bacon.

Johnson, D. W., Johnson, R. T., & Smith, K. A. (1991). *Cooperative Learning: Increasing College Faculty Instructional Productivity.* ASHE-ERIC Higher Education Report, Nr.4. Washington, DC: George Washington University.

Kagan, S. (1994). *Cooperative Learning.* San Juan Capistrano: Kagan Cooperative Learning

Krause, S. (1996). Portfolios in teacher education: Effects of instruction on preservice teachers' early comprehension of the portfolio process. *Journal of Teacher Education*, 47, 130-39.

Lambdin, D.V., & Walker, V.L. (1994). Planning for classroom portfolio assessment. *Arithmetic Teacher,* 41, 318–324.

Lin, E. (2006). Cooperative learning in the science classroom: A new learning model for a new year. *The Science Teacher*, 34-39.

Lucas-Lescher, M. (1995). *Portfolios: Assessing Learning in the Primary Grades.* Washington, D.C.: NEA Professional Library.

Lyn, E.L., & Struewing, N.A. (2000). Portfolio assessment in the inclusive early childhood classroom. *Young Exceptional Children*, 5, 2-10.

Madaus, G., & Kelleghant, T. (1993). *The British experience with authentic testing.* Phi Delta Kappan, 74, 458–69.

McManus, S.M., & Gettinger, M. (1996). Teacher and student evaluations of cooperative learning and observed interactive behaviours. *The Journal of Educational Research*, 90, 13-22.

Moss, P.M. (1994). Can there be validity without reliability?. *Educational Research,* 23, 5–12.

Muijs, D. (2004). *Doing Quantitative Research in Education with SPSS.* California: Sage Publications.

Quarstein, V.A., & Peterson, P.A. (2001). Assessment of cooperative learning: A goal-criterion approach. *Innovative Higher Education*, 26, 59-77.

Rushton, A. (2005). Formative assessment: A key to deep. *Medical Teacher*, 27, 509–513.

Slavin, R.E. (1995). *Cooperative Learning.* London: Allyn and Bacon.

Slavin, R.E. (1996). Research on cooperative learning and achievement: What we know, what we need to know. *Contemporary Educational Psychology,* 21, 43-69.

Smith, J., Brewer, D.M., & Heffner, T. (2003). Using portfolio assessment with young children who are at risk for school failure. *Preventing School Failure,* 48, 38-40.

Strom, R., & Strom, P. (1998). Student participation in the evaluation of cooperative learning. *Community College Journal of Research & Practice,* 22, 265. Retrieved October 31, 2007, from Academic Search Complete database.

Tigelaar, D., Dolmans, D., Wolfhagen, I., & Vleuten, C. (2005). Quality issues in judging portfolios: implications for organizing teaching portfolio assessment procedures. *Studies in Higher Education*, 30, 595-610.

Wiersma, W., & Jurs, S. (2005). *Research Methods in Education.* New York: Pearson Education Inc.