Educational Sciences: Theory & Practice - 12(1) • Winter • 455-459

www.edam.com.tr/estp

Trends in Educational Research in Turkey: A Content Analysis*

Yüksel GÖKTAŞ[a]
Atatürk University

Funda HASANÇEBİ
Atatürk University

Behice VARIŞOĞLU
Atatürk University

Ahmet AKÇAY
Ağrı I. Çeçen University

Naci BAYRAK
Atatürk University

Mukadder BARAN
Hakkari University

Mustafa SÖZBİLİR
Atatürk University

Abstract

This study focused on educational research papers published from 2005-2009 in journals listed in SSCI and the ULAKBIM database in Turkey. Study types, research methods, investigated specific topics, used data collection tools, employed data analysis methods, and utilized types of samples and sampling methods were analyzed. A total of 2115 papers published in 19 Turkish educational research journals (5 of them listed in SSCI and 14 listed in ULAKBIM) were subjected to content analysis by using the 'Educational Research Papers Classification Form (ERPCF)'. The results showed that most of the studies belonged to the disciplines of instructional technology, science education, guidance and counselling, and mathematics education. Regarding the research methods, it was found out that quantitative studies predominated within educational research. Turkish educational researchers commonly used quantitative data collection tools and descriptive analysis methods. The most frequently studied samples participants were undergraduate students and teachers. The comparative results for the papers published in the journals listed in SSCI and ULAKBIM showed that there was no significant difference in terms of either the research methods employed or the data analysis methods used between the two indices.

Key Words

Educational Researchs, Educational Research Trend, Research Trend, Content Analysis.

There has been a proliferation of educational research papers published recently. Educational research plays a major role in influencing and informing educational practice. Some of these published studies have been the basis of educational reform, while others were conducted following reforms. In general, educational researchers utilize previous research to develop their conceptual and theoretical frameworks, and to provide qualitative (e.g., content analyses) and quantitative (e.g., meta-analyses) reviews of the literature, from which key findings are summarized (Karadağ, 2009). Mortimore (2000) suggested four tasks to undertake in educational research. These are to observe and record systematically, to analyze and draw out implications, to publish findings, and crucially, to attempt to improve educational processes and outcomes. Critiquing the quality of published research also helps other researchers and readers to make use of educational findings, and it tends to improve the quality of papers which are published (Karadağ, 2009).

Many research studies are done in areas independent from each other. The recent increase in the number of research papers has led to new problems to overcome. For instance, when the number of pa-

* This study was prepared in the 'Research Methods in Instructional Technology' and 'Academic Writing in Instructional Technology' graduate courses of Assoc. Prof. Dr. Yuksel Goktas and the first draft of it was presented at the 2010 National Science and Mathematics Education Symposium.

a **Yuksel GOKTAS, Ph.D.,** is currently an Associate Professor at the Department of Computer Education and Instructional Technology. His research interests include Web 2.0, technology integration and usage, instructional design, problem-based learning, and research methods. Correspondence: Assoc. Prof. Dr. Yuksel Goktas, Ataturk University, Kazım Karabekir Faculty of Education, Department of Computer Education & Instructional Technology, 25240 Erzurum/Turkey. E-mail: yukselgoktas@atauni.edu.tr Phone: +90 242 231 4047.

pers increases, it becomes difficult for researchers, particularly newcomers to a field, to access all the papers in a particular area of study. Even if they can access the papers, they may experience difficulties when attempting to read and comprehend so many of them. Falkingham and Reeves (1998) suggested using content analysis to summarize large amounts of published studies in particular subject fields, in order to help readers digest the material more easily. Several content analyses (Greene, 1998; Jenkins, 1997; Liao, 2007) were subsequently performed to highlight the trends in particular disciplines. For instance, Jenkins analyzed 4918 papers in school psychology, published in five different journals between 1964-1995 to illuminate potential, future research topics in that field.

Turkish researchers have also started to perform content analyses and meta-analysis studies (Arık & Türkmen, 2009; Çalık, Ünal, Coştu, & Karataş, 2008; Gülbahar & Alper, 2009; Sozbilir, Kutu, & Yaşar, (in press); Şimşek et al., 2008, 2009; Yıldız, 2004) to summarize the greatly increased amount of educational research papers published in the last ten years. Arık and Türkmen (2009) investigated papers published in educational journals in Turkey and also those listed in SSCI (*Social Science and Citation Index*®). Their results show that majority of those papers involved Educational Technology, and that descriptive studies were common. Another content analysis study was performed by Yalçın, Bilican, Kezer, and Yalçın (2009). This study focused on papers published in the *Hacettepe University Journal of Education*, which has recently been included in SSCI. Their results confirmed the previous study by demonstrating that quantitative studies were the most common type. Some content analyses were focused on particular subdisciplines of educational sciences in Turkey. Karasu (2009) specifically investigated single subject studies in Special Education and found that studies which used parametric statistical techniques produced more applicable findings. Erdoğmuş and Çağıltay (2009) investigated 248 Master's and doctoral dissertations in Educational Technology. They reached the conclusion that research studies in this area have been limited in scope, and have mostly been produced by only a few universities. In addition, they also found that these studies display several methodological weaknesses. Uzunboylu and Özçınar (2009) studied 1309 research papers published during 1990-2008 in the field of computer supported language instruction. Their results indicate an apparent increase in publications, starting from 1997 and reaching a peak in 2005. In a comparative study to compare the effectiveness of face-to-face instruction with internet-based distance education, Şahin (2005) investigated experimental studies carried out from 1994-2004. Tsai and Wen (2005) conducted a content analysis of 802 papers published in *International Journal of Science Education*, *Science Education*, and *Journal of Research in Science Teaching* from 1998-2002. They focused on authors' nationality, research designs, and titles. Following this study, Lee, Wu, and Tsai (2009) conducted a similar study on 869 papers published from 2003-2007 in Science Education journals indexed in SSCI. Lee et al. (2009) described their findings and also compared these with the results of Tsai and Wen (2005). They found that there was an increase in the number of papers published in non-English speaking countries, and also that most of the studies focused on learning. Sozbilir and Kutu (2008) conducted a similar review in Turkey, in which studies were subjected to a content analysis to identify issues and research trends in science education in Turkey. They analyzed research methods used, topics that frequently appeared in titles, and data analysis strategies employed in 413 papers published in 28 national journals. İncekara (2009) investigated 56 papers published in *Journal of Marmara Geography* from 1996-2008 and 24 papers in *East Geography Journal* from 1995-2008, in the field of Geography Education. İncekara's purpose was to identify the trends in Turkey and to compare these with international studies. A similar study of Mathematics Education papers was performed by Ulutaş and Ubuz (2008). They investigated papers published in *Eurasia Educational Research Journal*, *Hacettepe University Journal of Education*, *Elementary Education Online*, and *Education and Science*. Another study in Mathematics Education was conducted by Kayhan and Koca (2004), on research papers published from 2000-2002.

Content analysis studies which are supported by statistical findings help to effectively summarize the results of large numbers of research papers, which in turn facilitates reliable and valid generalizations in a research area (Sağlam & Yüksel, 2007). A content analysis of the educational research studies published in Turkish journals that are indexed by SSCI and the ULAKBIM database is still needed to fill a gap in this area in Turkey. Therefore, this study focused on educational research papers published from 2005-2009 in journals listed in SSCI and the ULAKBIM database in Turkey. Study types, research methods, specific topics investigated, data collection tools used, data analysis methods em-

ployed, and types of samples and sampling methods used were analyzed. This study was particularly designed to answer following research questions.

1. What are the trends in educational research papers published in the Turkish educational journals listed in the SSCI and ULAKBIM indexes from 2005-2009 in terms of types and methods of papers? How have the investigated parameters changed, according to these indexes?
2. Which topics are frequently studied in these research papers?
3. What data collection tools are frequently used? How have the investigated parameters changed, according to these indexes?
4. Which data analysis methods are frequently applied? How have the investigated parameters changed, according to these indexes?
5. What are the types and level of samples, and sample sizes in these research papers? How have the investigated parameters changed, according to these indexes?
6. How have the numbers of research questions/hypotheses changed in these research papers according to these indexes?

Method

Research Design

This is a content analysis study. Content analysis is commonly used in qualitative studies, and is described by Bauer (2003) as follows:

> While most classical content analyses culminate in numerical descriptions of some features of the text corpus, considerable thought is given to the 'kinds', 'qualities' and 'distinctions' in the text before any quantification takes place. In this way, content analysis bridges statistical formalism and the qualitative analysis of the materials. In the quantity/quality divide in social research, content analysis is a hybrid technique that can mediate in this unproductive dispute over virtues and methods (p.132).

In this study, content analysis indicates the systematic analysis of papers. This study provides a content analysis of the educational research papers published in Turkish journals listed in SSCI and the ULAKBIM database. This study will help to illuminate the trends and quality of recent educational research studies in Turkey.

Data Collection Tools

Each paper selected for analysis has been subjected to a content analysis by using the '*Educational Research Papers Classification Form* (ERPCF)'. ERPCF is a modified version of the "Paper Classification Form (PCF)," which was developed by Sozbilir et al. (in press). Expert help has been sought to establish the validity and reliability of the ERPCF.

The form is composed of eight components. These are descriptions of the papers, types of paper, discipline to which the paper belongs, the research method employed (quantitative, qualitative, mixed, or review), data collection tools, sampling (sampling, sampling procedure, number of samples), data analysis methods (quantitative or qualitative), and a final section that includes additional information about the papers.

Data Analysis

Following content analysis, all of the data were recorded in a database. Recorded data were transferred to SPSS 16.0 and the results were analysed. The results are presented in a descriptive manner as frequencies, percentage tables, and charts.

Content Analysis Procedure

During the content analysis process, two supervisors and five doctoral students worked together. In order to achieve a reliable classification of the papers, initially the authors worked together. Sets of the selected papers were classified. Disagreements were discussed and resolved, and then the rest of the papers were classified by collaborative work between the authors. Again, any disagreements were resolved with leadership by the two supervisors. The researchers followed the following steps:

a) Re-design the data collection tool according to the educational research papers.
b) Identify the journals to cover
c) Identify and select the educational research papers to include in the content analysis
d) Conduct the content analysis according to the form
e) Review the data from the analyzed content to control for transmission errors
f) Organize the data collected and write the results

Conclusion and Discussion

A total of 2115 papers published in 19 Turkish educational research journals (five of them listed in SSCI and 14 listed in ULAKBIM) were subjected to content analysis. The results showed that most of the studies belonged to the disciplines of instructional technology, science education, guidance and counselling, and mathematics education. It was also evident that research studies on philosophy education, religion education, and health education were rarely represented by published works in these Turkish resource indices. The reason for the predominance of science and mathematics education research papers would be the fact that science and mathematics were both taught at all levels of schooling, and therefore the sampling was quite wide. Educational research papers on guidance and counselling were also common, as this discipline focuses broadly on both individual and social problems, and also on research methods. This field is well established and has interested educational researchers for a long time.

Regarding the research methods, it was found out that quantitative studies predominated within educational research in Turkey. When the quantitative studies were investigated in detail, it was evident that the majority employed non-experimental research designs, though some utilized descriptive, survey, and quasi-experimental research methods. This result indicated that Turkish educational researchers mainly focused on the identification of issues and problems within educational topics, rather than focusing on developing solutions for them.

Turkish educational researchers commonly used quantitative data collection tools, such as questionnaires, and attitude/personality/ability/aptitude tests. Alternative data collection tools, interviews, and observations were rarely used in the surveyed studies. Questionnaires and tests were preferred, as they are easy to use and widely available tools (Baş, 2005). This finding is also consistent with the finding that quantitative studies were the most commonly used research method.

Regarding data analysis methods used, our findings showed that Turkish educational researchers mainly rely on a single data analysis method. Among the types frequently used were descriptive analysis, and presentation methods such as charts, frequencies, and percentage tables, together with central tendency measures such as mean, median, mode, and standard deviation. Inferential statistical analysis methods such as t-test, and variance analysis were often used. The common tendency to rely on only a single data analysis method indicates a deficiency and a lack of experience in research methods in educational studies.

The most frequently studied samples subjects were undergraduate students and teachers. This result showed that Turkish educational researchers mostly directed their research toward the tertiary (undergraduate) level, as this provides an easy to reach sample population and convenient sampling procedures.

The comparative results for the papers published in the journals listed in SSCI and ULAKBIM showed that there was no difference in terms of either the research methods employed or the data analysis methods used between the two indices. Quantitative papers using descriptive data analysis procedures were extensively published in each. This result reinforces the earlier observation that Turkish educational researchers frequently focus on the identification of issues and problems within educational topics, rather than focusing on developing solutions for them. This indicates a large limitation in recent educational research within Turkey.

This study focused on trends in recent Turkish educational research to help current and future researchers to identify the most widely studied areas and issues, and to note the gaps to be filled. Turkish educational researchers evidently have not acquired enough experience in the practice of different research methods, which might be useful for studying and overcoming many current educational research problems. In light of the above findings, the following suggestions are offered.

1. This study could be extended by examining papers published before 2005 in order to obtain a wider perspective.
2. This study could be extended to include papers published in international research journals to make more valid comparisons.
3. Turkish educational researchers need to go beyond the trend to rely mainly on quantitative research methods.
4. Educational research studies should be extended beyond science and mathematics education, and guidance and counselling to include areas such as Turkish education, environmental education, history and geography education, religion and ethics education.
5. The sample populations of research studies should be further diversified and enlarged to produce more valid and reliable results, and also to assert a greater impact on policy developers. Rather than using a convenience sampling pro-

cedure (i.e., a small population or limited range of subjects), researchers need to employ random sampling using larger samples that cover wider regional areas and more diverse subject populations. This will help to identify problems in a wider context.

6. Together with descriptive studies, there is also a need for more comparative, evaluation, qualitative and mixed methods studies. Mixed methods studies are particularly important, as they combine quantitative and qualitative studies to produce solutions for identified educational problems and issues.
7. In addition to enriching the research methods, data analysis and presentation methods need to be improved. Multiple data analysis methods need to be integrated into the studies.
8. Finally, educational research must be focused on important research problems, rather than only on the identification of various, less critical issues in education.

References/Kaynakça

Arık, R. S. & Türkmen, M. (2009). *Eğitim bilimleri alanında yayımlanan bilimsel dergilerde yer alan makalelerin incelenmesi*. Retrieved December 2009, http://oc.eab.org.tr/egtconf/pdfkitap/pdf/488.pdf.

Baş, T. (2005). *Anket nasıl hazırlanır, uygulanır, değerlendirilir.* Ankara: Seçkin Yayıncılık.

Bauer, M. W. (2003). Classical content analysis: A review. In M. W. Bauer & G. Gaskell (Eds). *Qualitative researching with text, image and sound* (131-151). London: Sage Publication.

Çalık, M., Ünal, S., Coştu, B., & Karataş, F. Ö. (2008). Trends in Turkish science education. *Essays in Education*, [Special edition] 23- 45.

Erdoğmuş, F. & Çağıltay, K. (2009, February). *Türkiye'de eğitim teknolojileri alanında yapılan master ve doktora tezlerinde genel eğilimler.* Akademik Bilişim Konferansı'nda sunulmuştur, Harran Üniversitesi, Ş.Urfa, Türkiye.

Falkingham, L. T. & Reeves, R. (1998). Context analysis- a technique for analysing research in a field, applied to literature on the management of R and D at the section level. *Scientometrics, 42*(2), 97-120.

Greene, J. P. (1998). *A meta-analysis of the effectiveness of bilingual education*. Retrieved January 13, http://www.languagepolicy.net/archives/greene.htm

Gülbahar, Y. & Alper, A. (2009). Trends and issues in educational technologies: A review of recent research in TOJET. *The Turkish Online Journal of Educational Technology – TOJET, 8*(2), Article 12.

İncekara, S. (2009). Uluslararsı alanda coğrafya eğitimi arastırmaları ve Türkiye'den örnekler: Mevcut durum ve gelecek yönler. *Doğu Coğrafya Dergisi*, *21*, 123-136.

Jenkins, R. A. (1997). *Thirty- two Years of History: Analysis of Five School Psychology Journals From 1964 to 1995 for Content Trends and Author Gender, Affiliation, and Frequency of Publications*. Unpublished Doctorate thesis, Kent State Unversity.

Karadağ, E. (2009). Eğitim bilimleri alanında yapımış doktora tezlerinin incelenmesi. *Ahi Evran Üniversitesi Eğitim Fakültesi Dergisi*, *10*(3), 75-87.

Karasu, N. (2009). Özel eğitimde delile dayalı yöntemlerin belirlenmesi: Tek denekli çalışma analizleri ve karşılaştırmaları. *Türk Eğitim Bilimleri Dergisi*, *7*(1), 143-163.

Kayhan, M. & Koca, S. (2004). Matematik eğitiminde araştırma konuları: 2000-2002. *Hacettepe Üniversitesi Eğitim Fakültesi*, 26, 72-81.

Lee, M.H., Wu, Y.T. & Tsai, C. C. (2009). Research trends in science education from 2003 to 2007: A content analysis of publications in selected journals. *International Journal of Science Education, 31*(15), 1999-2020.

Liao, Y. C. (2007). Effects of computer-assisted instruction on students' achievement in Taiwan: A meta-analysis. *Computers & Education*, 48, 216–233.

Mortimore, P. (2000). Does eucational research matter? *British Educational Research Journal, 26 (1),*5-24.

Sağlam, S. & Yüksel, İ. (2007). Program değerlendirmede meta-analiz ve meta-değerlendirme yöntemleri. *Dumlupınar Üniversitesi Sosyal Bilimler Dergisi*, *18*, 175-188.

Sozbilir, M. & Kutu, H. (2008). Development and current status of science education research in Turkey. *Essays in Education* [Special issue], 1-22.

Sozbilir, M., Kutu, H., & Yaşar, M. D. (Baskıda). Science education research in Turkey: A content analysis of selected features of papers published. In J. Dillon & D. Jorde (Eds). *The World of Science Education: Handbook of Research in Europe* (pp.xx-xx). Rotterdam: Sense Publishers.

Şahin, M. C. (2005). İnternet tabanlı uzaktan eğitimin etkililiği: Bir meta-analiz çalışması. *Akademik Bilişim 2005*, 02-04 Şubat, Gaziantep Üniversitesi.

Şimşek, A., Özdamar, N., Becit, G., Klıçer, K., Akbulut, Y. & Yıldırım, Y. (2008). Türkiye'deki eğitim teknolojisi araştırmalarında güncel eğilimler. *Selçuk Üniversitesi Sosyal Bilimler Dergisi*, 19, 439-458.

Şimşek, A., Özdamar, N., Uysal, Ö., Kobak, K., Berk, C., Kılıçer, T., & Çiğdem, H. (2009). İkibinli yıllarda Türkiye'deki eğitim teknolojisi araştırmalarında gözlenen eğilimler. *Kuram ve Uygulamada Eğitim Bilimleri Dergisi*, *9*(2), 115-120.

Tsai, C. C. & Wen, M. L. (2005). Research and trends in science education from 1998 to 2002: A content analysis of publication in selected journals. *International Journal of Science Education*, *27*(1), 3-14.

Ulutaş, F. & Ubuz, B. (2008). Matematik eğitiminde araştırmalar ve eğilimler: 2000 ile 2006 yılları arası. *İlköğretim Online*, *7*(3), 614-626.

Uzunboylu, H. & Ozcinar, Z. (2009). Bilgisayar destekli dil öğrenme çalışmalarında araştırma ve yönelimler: Bir meta-analizi çalışmasının sonuçları. *Eurasion Journal of Educational Research*, *34*,133-150.

Yalçın, N., Bilican, S., Kezer, F. & Yalçın, Ö. (2009). *Hacettepe üniversitesi eğitim fakültesi dergisinde yayımlanan makalelerin niteliği: İçerik analizi.* Retrieved December 6 2009, http://oc.eab.org.tr/egtconf/pdfkitap/pdf/488.pdf.

Yıldız, A. (2004). Türkiye'deki yetişkin eğitimi araştırmalarına toplu bakış. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi*, *37*(1), 78-97.

Ek 1.

Araştırmada Taranan Dergiler ve Dergilerdeki Makale Sayıları (2005- 2009)

Dergi Adı	Derginin Türü	2005	2006	2007	2008	2009	Toplam
EĞİTİM ARAŞTIRMALARI-EURASIAN JOURNAL OF EDUCATIONAL RESEARCH	**SSCI**	53	72	27	41	47	240
EĞİTİM VE BİLİM-EDUCATION AND SCIENCE	**SSCI**	30	39	32	35	55	192
HACETTEPE ÜNİVERSİTESİ EĞİTİM FAKULTESİ DERGİSİ-HACETTEPE UNIVERSITY JOURNAL OF EDUCATION	**SSCI**	52	45	47	55	32	231
KURAM VE UYGULAMADA EĞİTİM BİLİMLERİ DERGİSİ (KUYEB)	**SSCI**	19	28	42	31	29	149
TURKISH ONLINE JOURNAL OF EDUCATIONAL TECHNOLOGY (TOJET)	**SSCI**	48	28	27	23	27	153
AHİ EVRAN ÜNİVERSİTESİ EĞİTİM FAKÜLTESİ DERGİSİ	**ULAKBİM**	4	19	14	19	44	100
ABANT İZZET BAYSAL ÜNİVERSİTESİ EĞİTİM FAKÜLTESİ DERGİSİ	**ULAKBİM**	23	0	2	0	2	27
ANKARA ÜNİVERSİTESİ EĞİTİM BİLİMLERİ FAKÜLTESİ DERGİSİ	**ULAKBİM**	17	17	26	28	0	88
ÇUKUROVA ÜNİVERSİTESİ EĞİTİM FAKÜLTESİ DERGİSİ	**ULAKBİM**	0	16	10	0	21	47
ERZİNCAN ÜNİVERSİTESİ EĞİTİM FAKÜLTESİ DERGİSİ	**ULAKBİM**	7	14	14	6	0	41
GAZİ ÜNİVERSİTESİ TİCARET VE TURİZM EĞİTİM FAKÜLTESİ DERGİSİ	**ULAKBİM**	3	2	1	5	0	11
İNÖNÜ ÜNİVERSİTESİ EĞİTİM FAKÜLTESİ DERGİSİ	**ULAKBİM**	12	16	12	0	15	55
KASTAMONU ÜNİVERSİTESİ EĞİTİM DERGİSİ	**ULAKBİM**	38	43	51	37	53	222
MEHMET AKİF ERSOY ÜNİVERSİTESİ EĞİTİM FAKÜLTESİ DERGİSİ	**ULAKBİM**	1	9	0	0	5	15
MERSİN ÜNİVERSİTESİ EĞİTİM FAKÜLTESİ DERGİSİ	**ULAKBİM**	13	12	11	13	0	49
ONDOKUZ MAYIS ÜNİVERSİTESİ EĞİTİM FAKÜLTESİ DERGİSİ	**ULAKBİM**	17	15	17	8	16	73
PAMUKKALE ÜNİVERSİTESİ EĞİTİM FAKÜLTESİ DERGİSİ	**ULAKBİM**	15	21	20	28	16	100
ÇAĞDAŞ EĞİTİM DERGİSİ	**ULAKBİM**	35	40	44	42	42	203
TÜRK EĞİTİM BİLİMLERİ DERGİSİ	**ULAKBİM**	24	22	23	22	27	118
TOPLAM		410	458	420	393	439	2115