Meta-Analysis of Influential Factors on Research Application in the Ministry of Education

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Abstract

The current research uses meta-analysis method as a new research method to integrate research findings of application of research results. Fifteen researches in this field that were administered in ministry of education were collected from all regions of country. Nine researches have requirements for meta-analysis. The most significant research results were establishment & informational system (effect size=ES=0/6921), continuance of seminars of research findings (ES=0/6445), illustrate accurate priorities of research (ES=0/6891), reinforce technical dimension of methodologies (ES=0/5541) and research workshops for teachers (ES=0/4874) respectively.

Key words: Meta-analysis, Ministry of education,

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Introduction

Although educational researches have fundamental role in trimming and improving the education system difficulties, education decision-makers are in doubt about research position and role in compiling the policies and carrying these policies through. This is while roughly one thousand researches are conducted yearly in various levels of the research centers of the ministry of education across the country (The Research Councils of Provinces) and in a national level (The Education Research Center and the Research Centers of Vice-Minister of Ministry of Education). Despite all this, the question still remains, "Why is it that the difficulties and problems with the Education system are still not reduced even with the existence of all these conducted researches?" Most intellects believe that the answer should be seeked in the applicability of the research findings and its obstacles in the ministry.

The study findings by Lampert (1985), Wiresma (1991), and Borg and Gall (1996) have shown that teaching research in the education system and especially to teachers, is among the effective elements in applying the research findings through the learning-teaching process and in the class-room. The effective elements on applying educational researches are emphasized differently by different experts: Willinsky (2001) stresses having a applied plan in the research section of the Education system. Newer (2002) stresses on culture-building and setting up a scientific and research information system. Laatter (2004) considers three things with this regard: expansion and teaching of scientific researches, creating positive attitude in order to utilize scientific findings in education, and finally stabilization of the information system for educational researches and contact between researchers, universities, and the education system. Last but not least, Nicebet (2005) has recognized the effective elements to be in the two fields of 1. vocational expansion and teachers' training in research methodology and

research management expansion, and 2. governmental financial support for educational researches. Also Raid (2005) has pointed out 16 elements in applying educational researches, the most important of which include: The Education System's collaboration with universities and research centers, conducting research courses for teachers, including lessons in the school curriculum for becoming familiar with research methodology and providing easy-access conditions for the Education system members to the researches and publications.

A collection of researches and considerable articles have also investigated solutions and the obstacles for utilizing education research findings in the country. Here we point to the most important ones:

One of the effective solutions in utilizing research-findings for decision-makings and educational plannings is research-management and structure-modification of the research-system of the Ministry of Education. This is the belief seen in the works of the following researchers: Mehrm-Mohammadi (1991, 1998), Mansouri (1991, 1994), Sa'adati (1998), Bakhshi (2003), Roumiani (2003), Mohammadi (2004), and Alaghe-mandan (2002).

The findings of these researches, and the studies by Bazargan (1993, 2001), Nami (1998), Sa'adati (1998), Matin (1990), and Hasan-Zadeh (2003) have shown that the establishment and expansion of the research information system in the ministry of Education and in the provinces are effective elements in utilizing research findings in the Education system.

Also, the results of researches by Sa'adati (1998), Nami (1998), Shariat-Zadeh (2001), Reshad-manesh (2001), Roumian (2003), Bakhshi (2003), and Mohammadi (2003) have shown that the expansion of research culture, and being research-centered, and

research-report reading in all levels of the Education system have high relation with utilization of educational research findings.

Although independent researches have been conducted in the field of utilization of research findings in the ministry of Education, it has been tried in this research to investigate and combine the findings of the conducted researches by using one of the modern and solid research methods, called “meta-analysis”. Meta-analysis is in the field of research findings applications for the country's education system. This would be so that the most fundamental effective elements on the increased work with the research findings are exported, categorized, and analyzed with regards to the previous research results. In other words, the main issue here, which is meta-analytical or by the combination of previous research results (in the field of effective elements on the utilization of educational research findings), is to unify the conclusions by researches that have been conducted independently in order to gain more exact and concrete results.

The Statistical Population, The Sample, and The Sampling Method

The statistical research population consists of 15 conducted researches in the field of utilization of findings of the educational researches. These researches were conducted across the country. They were collected by going to, or writing to universities and the research centers of the ministry of Education. After clarifications in terms of technicality and the cognitive method, 9 researches were selected from among them that had the necessary scientific and methodological conditions (such as suitable reliability and validity, as well as proper sampling method & correct statistical method, and proper hypothesis and questions regarding the research question). These were selected and put to investigation.

Information Collection Tools

In order to gather the data of this research the check-list for research project selection was used. The research projects were selected for meta-analysis based on this check-list, which included the research methodological components (questions, assumptions, objectives, statistical society, sampling, research method, statistical method, and the validity and the reliability). The other tool for the research, was an organized interview with fifty of the managers and experts in the Education system regarding the blocking elements for the utilization of researches in the Education system. The validity of the interview was confirmed by five of the intellects and experts.

The data analysis method

So far, three fundamental approaches have been compiled and used for unification and combination of research results. Although there are a variety of schools regarding the conceptual framework (Rosentall, 1990) in meta-analysis thought, three of them have gained more common acceptance today. These are, the approaches by Hedjess & Ulkin (1998), Rosentall & Robin (1982, 1986) and that by Hunter, Smitdth, Jackson (1990). In this research, the approach by Hunter and Schmith is mostly used.

Research Findings

As we mentioned in the introduction, 22 research questions were categorized in this research in six main axes according to the theoretical and research methodological framework (Schmith & Hunter Method) and were analyzed. Their meta-analysis result divided based on each axis is as follows:

First Axis: Research Management

The results derived from table 2 showed that four elements, with various measure of effect analysis are significant in the level of $p<0.05$ and are related to the utilization of the research finding in Education system according to Kohan table in a medium range. These four elements include: the relationship between managers, decisions-makers, and researchers, with a measure of effect analysis of 0.3281, constant monitoring of the research process, with a measure of effect analysis of 0.2611, managers' positive attitude toward research with a measure of effect analysis of 0.3721, and the simplification of rules and regulations with a measure of effect analysis of 0.1927.

Second Axis: Research Information System

The results derived from table 3 showed that three elements, with various measure of effect analysis are significant in the level of $p<0.05$ and are related to the utilization of the research finding in Education system according to Kohan table in a high range. These three elements include: establishment of research information locations, with a measure of effect analysis of 0.6291, continuous running of conferences for offering the research findings, with a measure of effect analysis of 0.6445, and preparation of research abstracts and their publication with a measure of effect analysis of 0.5121. Also, the publication of research magazines and journals and the preparation and compilation of databases and practical film clips from the conducted researches are related to the utilization of the educational research findings in a medium range.

Third Axis: Research Education

The results derived from table 4 showed that three elements, with various measure of effect analysis are significant in the level of $p<0.05$ and are related to the utilization of the research finding in

Education system according to Kohan table in a measure of effect analysis. These three elements include: running research education courses and workshops for the managers and the experts, with a measure of effect analysis of 0.2426, running research education courses and workshops for the researches, with a measure of effect analysis of 0.2354, and running research education courses and workshops for the teachers with a measure of effect analysis of 0.4874, and the simplification of rules and regulations with a measure of effect analysis of 0.1927.

The Fourth Axis: Distribution of Research Culture

The results derived from table 5 showed that three elements, with various measure of effect analysis are significant (in the level of $p<0.05$) and are related to the utilization of the research finding in Education system according to Cohen table in a medium range. These three elements include: Expansion of the research centered culture, with a measure of effect analysis of 0.4781, Expansion of the culture for research reading, with a measure of effect analysis of 0.3211, and creating the belief that research is valuable with a measure of effect analysis of 0.2411.

The Fifth Axis: Strengthening Research Financial Resources

The results derived from table 6 showed that increase in research financial credits, with a degree of impact of 0.541 in the level of $p<0.05$, is significant and is evaluated suitable and high based on Kohan's table. This is in relation with the utilization of the research findings in the Education system. Also three elements have medium range that is in relation with the utilization of findings of educational researches. These three elements include: assigning especial financial credits for utilization committees, simplifying the rules and regulations on research finances, and increasing the financial ceiling for researches.

The Sixth Axis: The Research Technical and Methodological Aspects

The results derived from table 7 showed that three elements, with various measure of effect analysis are significant (in the level of $p<0.05$) and are related to the utilization of the research finding in Education system according to Kohan table in a measure of effect analysis. These three elements include: problem-finding and exact research priorities, with a measure of effect analysis of 0.6891, conducting research with the suitable methodological, with a measure of effect analysis of 0.5541, and the suitable validity and reliability of researches with a measure of effect analysis of 0.6121.

The last finding of this research is on the opinions stated by 50 of the managers, chief-managers, and experts in the Education system who talk in an interview in the field of preventative elements from utilizing researches in the Education System. According to the gained data from these interviews the most important preventative elements in utilizing the researches in the Education System include the following: Managers' and experts' lack of scientific abilities for utilization of research findings, distrust in decision-makers toward the research method and the correctness of its results, managers spending no time for utilizing researches, not having enough or suitable resources (financial, physical, or human) for making the research results operational, some one the research findings not being operational, the results and suggestions in the educational researches being dull. The following two tables are the results of the meta-analysis of the twenty-two research questions, which also include the preventative elements in utilizing the findings of the researches in the Education system.

Table 1 – The summary of results derived from the meta-analysis of the twenty-two research questions

(The value of each variable in relation with the utilization of the educational researches findings)

Row	Research Questions	The number of value of calculated effect N	The value mean EZr	Level of significance
Research management				
1	Managers', decision-makers', and researchers' relationship	4	0.3281	0.0128
2	Constant monitoring of the research process	3	0.2611	0.0121
3	Operational managers' positive attitude toward research	3	0.3721	0.001
4	Simplification of research rules and regulations	3	0.1927	0.0412
Creating the research information system				
5	Set-up of research information stations	6	0.6921	0.001

6	Preparation of research abstracts and publishing them	5	0.5121	0.001
7	Publishing research magazines and journals	5	0.4718	0.001
8	Continuous holding of conferences on the research findings	5	0.6445	0.001
9	Preparation and compilation of databases, CDs and practicality film clips from the conducted researches	3	0.3411	0.0171
Research Education				
10	Holding research education sessions and workshops, for managers and experts	4	0.2426	0.0171
11	Holding research education sessions and workshops for researchers	4	0.2354	0.0421
12	Holding research education	3	0.4874	0.001

	sessions and workshops for teachers			
Distribution of research culture				
13	Distribution of limited research culture	4	0.4781	0.001
14	Study and review culture and research-reading	3	0.3211	0.001
15	Creating the belief about research being beneficial	4	0.2411	0.0325
Strengthening research financial resources				
16	Increasing research financial credit	5	0.5411	0.001
17	Allocating financial credit for utilization of researches (Utilization Committees)	3	0.1971	0.041
18	Providing simplifications in the financial rules and	4	0.3914	0.001

19	regulations of research Increasing the credit ceiling for researches	3	0.2141	0.0481
The technical and research methodology aspect of the research				
20	Problem-finding and exact research-wise priorities	5	0.6891	0.001
21	Conducting research with the correct	3	0.5541	0.001
22	methodological Validity and reliability of researches	4	0.6120	0.001

Table 2 – The blocking elements for the utilization of the research findings in the ministry of Education (n=50)

Row	Blocking Elements	Distribution	Distribution Percentage
1	Lack of scientific ability in managers and specialists for using the research results	47	%94
2	Decision-makers' distrust	47	%94

	toward research method and its correctness		
3	Managers' lack of time spending for utilization of the researches	46	%92
4	Lack of access to necessary and enough resources (financial, physical, and human) for making the research results operational	46	%92
5	Lack of capacity for some of the research findings to be operational	45	%90
6	The educational research results and suggestions not being operational	45	%90
7	Unavailability of a suitable information system of educational research results.	44	%88
8	Having no motivation nor interest for studying the research results	42	%84
9	Managers' sufficing to results of meetings with specialists instead of reaching for researches results	42	%84
10	Lack of communication between decision-makers and researchers	42	%84
11	Weak quality of some of the	41	%82

	research results		
12	Offering no necessary education to managers and specialists in the field of utilization of research results	41	%82
13	Research culture not being rich and having no belief in research	40	%80
14	Research education not being penetrated among managers and decision makers	39	%78
15	Weakening of educational researches by some of the managers	39	%78
16	Some managers' negative attitude toward research	39	%78
17	Lack of relationship between the research subject and the managers' and decision-makers' needs	38	%76
18	Weakness in the culture for demanding research and being research central	37	%74
19	Decision-makers' and managers' distrust toward researchers	35	%70
20	Lack of access to educational researches findings	35	%70

Based on the mentioned findings, it is possible to offer six main suggestions and research solutions that are parallel with the six main axis of the following research, each of which includes more detailed descriptions:

a- Suggestions related to the research management; b- Suggestions related to the research inforamtion system; c- Suggestions related to the research training; d- Suggestions related to the distribution of the research culture; e- Suggestions related to the strengthening of the research financial resources; and f- Suggestions related to the technical and research methodological aspects.

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