A CRITICAL REVIEW OF A SET OF MASTER'S THESES AS MANIFESTATION OF RESEARCH LITERACY AMONG UNIVERSITY STUDENTS IN IRAN

Mahnaz Akhavan Tafti[i],
Mansoor Ali Hameedy,
Maryam Mohsenpour,
Farkhonde Taheri Ghaletak
Alzahra University,
Iran

Abstract:

From a constructivist point of view, the identification of any shortcomings in the educational process would be the first step towards its reconstruction and improvement. Although, to do so require an evaluation of the whole system and its processes and products. However, an evaluative analysis of its products can help identify some of the deficiencies and ways of overcoming them. To this end, given the realities of the Iranian scene in regard to graduate studies, a set of master's theses in educational psychology was evaluated in terms of having the very basic characteristics of a research report in both structure and content. Given that previous research has shown major shortcomings in these respects, it was suspected that the mushrooming of institutions granting graduate degrees, and the increase in admissions, may have exacerbated the problem. The current findings show that the shortcomings have increased both in scope and depth, implying that the quality of both teaching and learning how to research has declined.

Keywords: critical review, master's theses, educational psychology, research literacy

1. Introduction

Higher education in the constructivist perspective is where the learning and developments of previous periods reach a climax of fruition, and people become professionals with varying levels of expertise. Competencies are expected as the manifestations of undergrad and graduate degrees that are granted to those who complete such programs. Although the very process of university education deserves thorough evaluation studies in order to improve its quality, its products are also worthy of study, as they are the very part and parcel of the process. Among these products, theses

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[i] Correspondence: email makhavan@alzahra.ac.ir

figure prominently as they are documents exhibiting the attitude and expertise of not only their student authors, but those of at least two faculty members as well. Any and all the shortcomings that may arise while taking the courses would reappear in these documents if not remedied earlier. Such quality related problems are frequent in all universities to some extent, and Iranian schools of higher education are not an exception. In Iran, graduate Students comprise more than 50% country's researchers (Ghanbari, 2007), of which nearly 76% are MA students (Nilee, Nasr, & Akbari, 2007). The relation between academic research and teaching quality is one of the most fundamental issues of higher education. Many universities encounter different challenges for getting grants and funding from government and businesses for their research (Anbari, Jadidi, 2013; & Farhadpoor, 2016). However, these constrained facilities are largely provided for engineering, medical, and basic sciences and less frequently available for students in the arts, humanities and social sciences (Farmanbar, & Asgari, 2005; Azizi, 2008).

Iranian system of higher education has a rather short history of development, as it is not even a century old. Tehran University was established in 1934 as the 1st Iranian institute of higher education aiming at mostly training civil servants to work for the newly set up system of government. In the past 86 years the number of state and private universities and institutes of higher education has increased close to 3000, with a mean annual increase of 34 (Iranian Ministry of Science, Research and Technology, 2018). Such an expansion is anomalous which raises the question as to whether the quality of higher education has improved correspondingly. Facts speak loud and clear: not all graduates are employed; not all who are work in their field of studies; from those work in the related field, not all perform adequately at the workplace. Apparently, there are those who work adequately and can be considered as the desired products of the higher education system. However, when it comes to the other products, i.e. graduate theses, the question is what percentage of these documents exhibits the scientific characteristics that a research report should have?

2. Review Methods

Our review of the theses in educational psychology was conducted using a three-phase data collection and analysis: initial quality assessment; content analysis; and a Meta review of the previous findings. For the 1st phase, we set out a search through the databases of all schools of Education/and Psychology at Tehran's state universities and Irandoc- the database, -where all the university and higher education institutions' theses and dissertations are registered and documented- which yielded 379 theses completed by MA students in the field, from 2013 to 2016. We then randomly selected 3 schools which resulted in 189 theses, of which 90 theses were further randomly sampled for the review. A researchers' made checklist with 7 criteria and 30 specifiers was used that helped us systematically extract key segments that are required for MA theses. Detailed results are presented in the co-author's thesis (Taheri Ghaletak, 2017). In the 2nd phase, to further demonstrate the strengths and weaknesses of the selected reports, we organized

the initial sample into three subject areas relevant to the specialties of the assessors. Using a dialogical process similar to inter-coder reliability, one thesis was selected to be reviewed by all the assessors and to be discussed in the group to develop a framework to proceed with the reading and evaluating of the allocated sample. Drawing on the content analysis of different sections of the reviewed theses, emergent codes were incorporated into the overall content patterns. Report of which is already published (Akhavan Tafti, Taheri Ghaletak, & Mohsenpour, 2019). The 3rd phase comprises the interpretation of the findings of the prior two phases described above to help a critical understanding of educational research within Iranian academic contexts. What follows is the representation of graduate students' research quality as manifested in their theses after the end of more than 18 years of academic learning.

3. Analyses of the Reviewed theses

3.1 Some Observations and Reflections

Research reports are usually organized into sections/chapters in order to demonstrate the systematic approach taken to the topic at hand, and help the reader to follow the arguments made, and tasks performed, by the researcher. The title and the first two sections are of great importance, as they usually clarify where the author comes from and where she/he is heading to. The title needs to be a succinctly creative and expressive phrase that includes the main constructs and what has been done to them in order to remedy a problem in a general or specific situation. The titles of the reviewed studies are all indicative of what has been done (i.e. study, comparison, evaluation, etc.) to the mentioned constructs. This is mostly because a mold is being used in writing titles and not that much creativity is involved. Titles are confused with topics or subjects and are written first. When students are asked to declare their area of interest for thesis or dissertation research, they all come up with a title, usually constructed ungrammatically, using the popular mold instead of identifying an area or sub-area related to their major field of study. That is why some of the titles do not match the reports' contents that well. For example, many studies have the word *evaluation* in their title, yet they are rather opinion surveys than evaluation. Titles, with all their inaccuracies, serve another function when writing the first section/chapter of the report as this section includes a statement of purpose that further indicates a difficulty in learning the difference between an action and its goal.

The first chapter/section of a report/paper is generally expected to say that which needs to be said first: what the research problem is and from what perspective is seen, how significant it is and to what research questions it leads. That is why it is usually named 'Introduction', 'Statement of the problem', or 'Theoretical framework'. In some studies this chapter is called 'Generalities', and in many other studies reviewed, it is called 'Identification of the research' which could be taken to mean introduction, and has sub-sections titled 'Statement of the problem', 'Significance', 'Research questions/hypotheses', and 'The aim of the study'. The first sub-sections are all void of a

problem or a clear-cut theoretical foundation; instead an amalgamation of personal views and research findings taken as fact is given. The second sub-sections on the significance and necessity of the research are diverted to those of the subject or the area of study and not the study itself. Nevertheless, they are hardly convincing as they have no documented local evidence supporting the existence of a problem. Although a problem has failed to be identified, it, instead, has been reduced to questions with questionable origin that are repeated in the following sub-sections. The other two sub-sections contain re-phrasings of the study's title.

In fact, the titles have served as a guide to, not only how to express the aims of the study, but also to formulate research questions and research hypotheses as well. It is customary in Iranian research in education and psychology to use the title in a sentence that states the goal of the study too. If the title is 'The study of attitudes ….', or 'Comparison of …' then the goal sentence would read: 'The goal of the research is to study the attitudes …..', or 'The goal of the study is to compare ….'. Only in few studies the aim is something beyond the actual doing of the study, i.e. it is said to be "helping the students learn better". In other words, in most of the studies, the stated purpose of doing research is just doing research, and not solving a problem or improving a situation. Perhaps that is why in the first sub-section of this chapter there are no research problems to be found despite the fact that they are all titled "Statement of the Problem". Problems, that are complex, harmful, and significant situations in need of attention and resolution, are reduced to questions that are not even that thoughtful. To formulate a research question the title is used again because it is again customary to simply turn the goal statement into a question or vice versa: If the title is 'Comparison of …., or 'The relationship between …' and "The goal is to compare …", or 'to find the relationship…', then the question becomes: Is there a difference/relation between …? This is quite useful, because to state the research hypothesis all that the author has to do is to move the question word to make it a declarative sentence: There is a difference/relation between …. However, more frequently, questions asked are simple ones, like what/how is … There are occasions when hypotheses are given with no questions asked and no regards for what a hypothesis is and the role that questions and previous research ought to play in formulating it. It can be said that the confusion between title and topic, work and its goal, problem and question, and between question and hypothesis stems from difficulty in learning what research is and the distinct roles that theories, facts, and previous research findings play in it, as evident in the second chapter/segment of the reviewed studies.

The second chapter in almost all of the reviewed studies is called 'Theoretical foundation and previous research' and constitutes the major portion of the whole report. That is because it contains material taken from textbooks and research reports' abstracts abundantly available. Yet, the philosophical/theoretical foundation of most of the studies is not clearly stated. In many studies, more than half of the (e.g. 70 pages of a 120-page) report are dedicated mostly to a presentation of different theoretical perspectives on the main construct/variable without any expressed selection that would constitute the

study's foundation. Review of related research in most studies contain restatement of a number of study abstracts that are divided into two groups of domestic and foreign, with no reason given for this categorization, just as there is no critical reviewing. What is striking is that the findings of all previous research are taken as facts, in need of no scrutiny or justification in pursuing the same question as the cited study. Almost none of the reviewed studies have engaged in due critical reviewing of previous studies, yet they all have used previous research to justify their own study and its findings. Such indices of research problems are not confined to the first two sections of these reports as the other segments too are indicative of similar difficulties.

Chapters 3 to 5 dealing with methods, findings, and results, of the reviewed studies exhibit further indications of difficulty in learning to research. In almost all reports the third chapter is called either 'Method' or 'Science of method' instead of Methods in order to refer to the ways that: i) data are collected, ii) data sources are identified and chosen, iii) data-collecting instruments are selected/constructed and tested, and iv) the collected data are processed (analyzed). In most, if not all, Iranian research reports when speaking of method, the type of research is identified: i.e. it is said that the method is 'applied'; 'descriptive'; etc. In most reports, authors lecture extensively on the topic of research methodology/method to make this chapter, which is usually not that voluminous, a bit longer. In some studies that are referred to as 'applied' and 'quasi-experimental', the sessions in which the program is taught are clearly explained. However, few studies wherein skills are taught have follow-ups to see whether the learning has lasted beyond the teaching period. There are, of course, those that are called qualitative research, or are considered to be partly qualitative and partly quantitative (the so called mixed), yet all speak of their research samples and populations, indicating the tendency to generalize their findings. The language used hints at the foundation being positivistic. Nevertheless, selection of their data sources is not in any way aimed at being representative of populations that are rarely defined clearly or comprehensively. However, besides the shortage/lack of control and representation, the validity of research instruments, and their reliability, merit further consideration.

Even those studies that may have paid attention to the data sources being representative of a clearly defined population, representativeness of constructs and data collection settings is ignored, jeopardizing the external validity of the findings further. Another indication of the fact that external validity, i.e. generalizability, is a concern in all these studies is when the researcher in one of the final segments of the report speaks of 'limitations' which is supposed to be a list of belatedly discovered factors that limit the generalizability of the findings. Yet the fact that such a segment is included, on the one hand, and then degenerated to a list of excuses that actually undermine reader's perception of the researcher's competence, and the findings validity, on the other, can be taken as yet another indication of learning not having taken place in research courses due to some learning difficulties. Such indicators are not solely limited to these segments of research reports that deal with the validity of findings through control and representation.

The validity of findings, especially their internal validity, can be easily questioned, as the extent of control while gathering data is ambiguous or less than what it should be. As a result, the external validity is decreased further, in addition to the decrease due to lack of representation, not only at the data source level, but at the construct and setting levels as well; although in some of the research reviewed, external validity is of no concern because of their implicitly mentioned philosophical foundation. Data gathering procedures are seldom mentioned in Iranian research reports, as it is perhaps feared, by some, that others may duplicate the study. It seems that replication, and replicability, are not considered to be of any value. Many research proposals are rejected simply because a reviewer considers them as being repetitious, just as some members of journal editorial boards reject articles that they deem to be repetitive. Those authors who do refer to the data collection settings in their papers do not do so for the sake of paving the way for replication, nor are they sensitive to underlining the internal validity of their findings. As a result, they are skimpy and inadequate. Ironically, there are studies in which the experimental work consists of teaching or training sessions, yet they are not detailed, as if the when, where, who, and the how of doing so are irrelevant. Such an irony is also detected when representation and external validity are considered vis-a-vis the philosophical foundation of the study.

Although in some of these studies, the researchers have constructed their own instruments, the majority of them, have utilized measures that are "imported" from abroad. Neither the validity, nor the reliability, of a translated instrument is that of the original and needs to be addressed and assessed after translation. Validity of an instrument is rooted in the theoretical foundation of the study wherein the research constructs are defined. In the absence of clarity on this foundation the validity of all instruments in these studies is questionable, even though some report a rather high index of validity on the original version of their instruments. In studies wherein instruments are constructed, report that the validity of their instruments is verified by 'experts'. In other words, no attempt is reported as having been made at assessing their validity through other more reliable procedures that they should have learned in their measurement courses. It seems that different ways of estimating validity are misinterpreted as being different types of validity. Same studies confuse consistency of items' validity within an instrument with the reliability of its validity, when they report Cronbach's alpha. Even in so called 'qualitative' studies, where participants are interviewed, this interaction is called 'instrument', overlooking the fact that what can be given depth in interviews is the set of questions that are asked (i.e. the questionnaire), and in being so is the very instrument of doing interviews. Going through the questions asked in these reports, despite the long lecture given on types of interview, it becomes apparent that most are simple questions with no follow up that can be answered by a simple yes/no. In addition to the variety of apparent difficulties in learning to construct and use research instruments for collecting data, the steps that are taken after data collection, i.e. the contents of chapters 4 and 5 in these reports, also contain hints of difficulty.

Chapters 4 and 5 are devoted to data analyses (findings) and discussion of the findings. Thanks to statistical packages and consultants, chapter 4's are usually full of tables and graphs spat by the computer or produced by the author/consultant, giving an appearance of higher degree of sophistication to this chapter that is absent in the previous ones. However, what seems to be questionable is the appropriateness of statistical treatment of the data. As such treatments are conditioned upon a set of assumptions/conditions that are not necessarily met. Parametric Statistics requires representative samples that are absent in most of the reviewed studies. Furthermore, the assumption of data being at the interval level of accuracy is on shaky grounds given the constructs at hand, and the quality of instruments used in collecting data. Although some studies have gone a long way, and through what can be called an extensive exercise in Statistics, to show that other assumptions are held. There are studies that have used 'single group t-test' wherein the mean of the so called 'sample' is compared to that of the unknown population. Almost half of the reviewed studies have used ANCOVA to show the difference between groups, while their sample is not assigned randomly or is representative. In studies wherein correlation analyses are conducted, in addition to the level of data accuracy, the absence of a robust theoretical base wherein the relationship between the constructs is explained and predicted undermines the undertaken task. What stands prominent in these studies is the absence of non-parametric statistics, as if they are not learned due to perhaps negative attitude rather than difficulty in substance. The essence of chapter 5's is not that difficult to grasp either, yet apparently the difficulty in having learned what its content and function is persists.

The last segment of a research report (chapter 5) is where the author interprets the findings, i.e. creatively gives meaning to them by relating them to the theoretical foundation, and to the findings of previous research. However, in order to do so an overview of research is initially given, and then at the end its belatedly discovered shortcomings are identified in order to suggest further research on, and around, the topic explored in the report. In the reviewed studies, almost all of these chapters are labeled 'Discussion and conclusion', yet no discussing is done, as doing so requires creativity and getting out of the box; something that affects the concluding remarks as well, rendering them predetermined or simply meaningless. What these chapters mostly are is a recount of what is said in previous chapters, especially in chapter 4, with not much insight added in order to explain the findings or their compatibility or lack thereof, with the previous research. What is added to these restatements of previous chapters is a segment labeled 'limitations' and another called 'suggestions'. As for the limitations, many have mentioned 'small sample size, specificity of the group of respondents, and not being an experimental study' as its 'limitations'. Given that the underlying principle for having a segment on the limitations in generalization, as a positivistic, is not learned/valued where appropriate, and the word 'generalization' has been dropped, what does constitute the content of these segments in the reviewed studies is a set of excuses or the choices that have consciously been made at the start of the study. The suggestions, too, do not stem from the study itself, or if they do, they do from the same set of excuses given earlier: 'do

this study with girls', 'do this study with a follow up', etc. There are those studies in which suggestions in regards to the use of the study's results are given and by doing so show a measure of uncalled for self-confidence; all indications of difficulty in learning to research which includes learning to think critically and recognize the shortcomings of one's own work in order to improve it. Such indicators are even seen in the last segment of a research report.

The last segment of a research report, the 'References', wherein the sources cited in the report are further identified so that the reader could look them up if so desire. It would be logical and simple enough, to have an alphabetical list of the cited sources arranged by the author(s)' last name and the year of publication, just as previously was referred to in the text. The reviewed studies have two of such lists: one for domestic sources, and the other for sources published abroad. Furthermore, sometimes the lists are both alphabetical and numerated. The sources from abroad are in English, as most of them are American. Yet, when cited within the text, the name of the author is mostly written in Farsi alphabet which of course helps with the text consistency. However, the English spelling of the names, along with the English translation of some of the words, common or otherwise, used in the text, are numbered and foot noted. As a result, not only the text consistency is diminished, but a considerable amount of space is wasted since these footnotes are short single liners that collectively take a lot of space, and of course add to the volume. Neither the word translations, nor the English spelling of the names is necessary as they are usually misspelled, redundant, and do not serve any constructive purpose. They are redundant because the names are respelled the same way in the separated references section, and the Farsi words express the meaning adequately in and of themselves if chosen carefully and consistent with the intended message and do not need to be crutched, unless, of course, the accuracy of translation is in doubt. Such skepticism, however, is not evident, not only in the review of the literature segment, but in the referencing of translated sources as well. If an inexperienced and unknowledgeable person decides to translate a work written by Piaget, for instance, the end product would undoubtedly contain many misrepresentations of Piagetian thinking. Yet the general tendency among Iranians is to refer to Piaget as their source when citing that inaccurate translation, with no responsibility for the inaccurate translation. Apparently it has been difficult to learn that when citing from a text that has been read, it is the author of that very text that ought to be mentioned in the text, along with the year of publication, and then fully identified in the reference section. The author of a translated text is the translator, and not the one who has written the original text. Another inconsistency/irony is that the citation of a translated text always includes the year of publication in Iranian calendar, along the non-Iranian name of the author, with occasional parenthetical mentioning of the translator's name. The inaccuracies and inconsistencies, along with the redundancies and casual tendencies in writing research reports, could be taken as signs of difficulty in learning in general, and learning to research and to write research reports in particular, especially if discussed in a broader context.

4. Conclusion

In most universities research experiences are the core components of students' curricula that help them grasp the relations between teaching, research and learning.

A more in-depth or constructivist look at these studies reveals that attitudes towards research, just like those towards learning, are not that constructive, i.e., transcription and translation is emphasized, but the significance of comprehension and restatement of what is read, in one's personal language, is almost unseen. The same is true of what is taught in research methodology courses; as if concepts are memorized and accumulated and then reproduced in theses and dissertations, as these are considered vessels with different compartments to be filled with predetermined jargoned content. In other words, there seem to be difficulty in learning research, especially when the complexity and other similarities of these two activities, i.e. learning and researching, are considered.

Learning and researching are very similar activities, if looked upon constructively. They are both acts of constructing new structures of knowledge, values, and actions. As such, not only they have the same philosophical/theoretical, i.e. constructivism, and hence, methodological bases, but manifest identical characteristics. They are both complex group activities requiring organization, criticality, and accuracy, among other common characteristics. Yet they are different in only one respect, and that is in respect to the very nature of structures being constructed, i.e. their newness. When learning, we construct structures of knowledge, values, and actions that are new to us as individual learners, yet when researching, we construct such structures that are new to all and every one of us as members of the human society. The two sides of the same coin, they seem to be, as we have to learn to learn and research, and what a better way than through research making both better. The coin of improvement and advancement has an inner core, inseparable from its outer faces, i.e. learning and researching, inseparable themselves. Surveys of academics reveal a range of intentions in planning for higher education curricula, only some of which address the higher order and critical thinking skills associated with research or independent learning. This may indicate a lack of deep reflection on the purpose of conducting research, but may also be due to the prevalence of a hierarchical view of the process by which one makes the transition from student to researcher (Wilson, Howitt, Wilson, & Roberts, 2012).

The reviewed research show, more than anything else, the observable behavioral dimension of attitudes towards learning, and researching which is the manifestation of their affective and cognitive dimensions. It is the changing of the latter two dimensions that constitute the challenge facing us as learners and learning-assistants (i.e. teachers and researchers). The attitudes need to be improved in order to further approximate that which has been called a 'scientistic' attitude, i.e. the attitude maintained by a scientist (Hameedy, 2007). A scientist compassionately, critically, creatively, and constructively approaches the universe in order to improve it and its interactions with us.

Constructivism as a philosophy is not that commonly known by Iranian scholars, since the old philosophy of positivism with the basic assumption of humans being receptive (*tabula rasa*), and for this reason valuable, is quite wide spread, ever so unknowingly. The history of philosophy of science is rarely covered in research methodology courses, and graduates are hardly aware that the work they are reporting in their theses or dissertations is, not only based on certain assumptions and values (i.e. philosophy), but has a basic viewpoint and a theoretical framework as well that their awareness of them could help with their improvement. As times have changed, philosophies, viewpoints, and theories have improved. Constructivism embodies contemporary philosophy, viewpoint, and theories that are all improved versions of yesteryears' philosophies (positivism, etc.), viewpoints (Behaviorism, Cognitivism, etc.), and theories developed thereof (Hameedy, 2013). The reviewed studies are cognitivist at best, when it comes to their viewpoint, although few passingly mentioned constructivism and others claim to be 'qualitative' without equating this term with constructivism. However, even these very few studies, when it comes to the theory that they are based on, lose their distinction, as the word theory too is used differently in these and other Iranian writings.

The word theory is often taken to mean opinion in Farsi vernacular because the two commonly used Arabic words referring to these two concepts are very similar (*nazariyeh & nazar*), just as are the two words for assumption and hypothesis (*farz & farziyeh*) which are often confused as well. Perhaps, as a result, in the "Statement of the Problem" segments of the reviewed reports the use of theories, in order to identify the research problem, is absent; just as the problem itself and the citing of local facts to back up the existence, relevance, and importance of the research problem that could have been predicted by the theoretical foundation are missing. What is present in these sections occasionally, and surprisingly, are personal opinions and facts relating to the contexts that the references are taken from (e.g. American sources) or findings of other 'research', some from abroad, taken as supporting facts. This perception of research background is perhaps why the second segment/section/chapter of the Iranian research articles/ papers/ reports, at least in Education and Psychology, are mostly an accumulation of materials taken directly from textbooks and journal articles without much organization or any critical reviewing. Again it can be concluded that there seem to have been a difficulty in learning how to think critically, and how to use a critical reviewing of previously conducted research in generating research hypotheses, instead of simply turning simple questions into simple statements and calling those hypotheses. In the absence of a concerted effort by those involved in research and research education, aiming at improvement of attitudes and updating philosophical/theoretical frameworks, word misuses and inaccuracies continue while difficulties in different forms of learning persist.

Compliance with Ethical Guidelines

Ethical issues have been completely observed by the authors.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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