Cross-Cultural Comparison, Comparability and Equivalence in Comparative Research Design

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ABSTRACT— *The field of comparative education continues to be influenced by contemporary events in the United States as well as elsewhere in the world, particularly in the developing world. The tradition of comparative research provides a basis for cross-cultural comparisons in the social sciences. In the context of cross-cultural research, the comparative method involves comparing two or more naturally occurring cases, which differ substantially. However, comparativists caution that in order to achieve reliable results, the researcher must make sure that the cases being compared meet two criteria: comparability & equivalence.*

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1. INTRODUCTION

Researchers consider a comparative study is having two or more groups in culturally different settings to allow for realization of a "convergence" (Farell, 1979, as cited in Raivola, 1985, p.364). Comparative research has proven to be an efficient strategy for attaining understanding of social realities. Making comparisons among countries, cultural groups and/or time-frames allow researchers to differentiate between universal and particular phenomena. Comparative research also makes possible identification of the influence of environmental factors on individual values, opinions, and behaviors. For these reasons, unsurprisingly comparative research occupies a high position on the international research agenda.

Comparative education is defined as "the intersection of the social sciences, education and cross-national study" (Noah & Eckstein, 1969, p. 191). Comparative education is field which developed to conduct studies related to the educational systems of other countries (Kelly, Altbach, & Arnove, 1982, p.505). Bereday (1964) provided further explanation of the definition by asserting that comparative education is analytical examination of educational systems in other countries by having an "intellectual purpose" whose main goal is to search for lessons that can be learned from the different educational practices in diverse countries. Therefore, the field of comparative education transcends multiple disciplines (e.g., political science or sociology) to investigate educational systems in developed and developing countries, and the studies urge intellectual questioning of our educational systems and to examine the effect of the societal values in our attitudes about our way of educating our students (Kubow & Fossum,2003).

During the 1960s and 1970s, Noah and Eckstein attempted application of the scientific method in the comparative education field as a way to enhance its' credibility as a field of study. This application is significant for assuring the relevance and benefit of the comparative education to educational policy planners, administrators, and funders (Trethewey, 1976). Nevertheless, many scholars argued that the scientific method is not the answer to establishing credibility for research of comparative education, since researchers should not ignore the human and the socio-cultural nature that could challenge the predictability (King, 1968, p.62). Therefore, King projected that comparative education research should consider "both rationality and half-rationality of those who inhabit schools and those who study them" (King as cited in Kubow & Fossum, 2003, p.12).

In this paper, I discussed: (1) Cross-cultural comparison, (2) Comparability, (3) Equivalence, (4) Implications of "Comparability" and "Equivalence," and (5) Convergence and Divergence concepts.

As a result of technological innovations, the world has become as a connected global village, and the emphasis of comparative and international educational research is attaining new dimensions. The use of technologies overcomes the physical borders among the countries; the economic changes affect the relationships among developed and developing countries, and the consumption of the human resources from developing countries increases (brain drain) . Developing countries face difficulties (e.g., lack of stable democratic, political systems, poverty, and corruption) and

aspire toward stabilization and development. The developing countries lack the progressive materials, but retain richness of cultures and costumes, which make the economic, political, and social practices insightful. As a result of the closeness of the world, virtually, events in the west, due to knowledge and information flow influence practices in developing countries. For example, the Western idea of sufficient teaching and learning practices influences educational systems in developing counties. Notably, comparative and international educational research attempts to transcend Western-centric ideas, and focus on organic cultural and traditional practices in other parts of the world for a better understanding of educational practices.

The field of comparative education values critical inquiry for assessing issues or dilemmas, to allow "bringing the interested inquirer into a deeper examination of tension among society, development,and education and the roles that citizen, either directly or indirectly, play in the educative process" (Kubow & Fossum,2003,p.6).

It is important to consider the different countries educational perspectives to be able to identify the primary factors that influence the educational practices in these countries especially in looking at similar issues within the context of these countries (Kubow & Fossum, 2003). This identification is significant especially if some missing factors have potential application to development of the educational system in these countries.

Raivola (1985) offered insight into the concept of comparison by advocating that the purpose of comparison is not only for the purpose of constructing an explanation, but also for bracketing references to which varying observations relate. The purpose of comparative education is to understand how two systems are relevant to each other and analyzing its individuals' influence on these systems (Triandis, Berry, 1981). Another function of comparisons of international education is encouraging inter-cultural understanding and collaboration (Crossley, Broadfoot, 1992). Three facets represent the purposes of comparative education: scientific, pragmatic, and global. The first facet creates a theory of the relationship between schools' systems and larger communities. The second facet lends and borrows educational practices .The third facet creates mutual understanding among nations. Therefore, the purpose of comparative educational research is to expand the study of social sciences to include non-western countries and avoiding only western centric concepts and research (Arnove, Torres 2007).

One important feature of a comparative study is its centering on cross-cultural and cross-national perspectives of education. Culture plays a prominent role in education and investigation of educational matters must consider "culturally determined needs, objectives, and conditions" (Raivola , 1985 , p.362). Therefore, according to Trethewey (1976), comparative education "may take the form of study of responses in other societies to problems that appear very (much) similar like the ones that you recognize in your own educational system" (p.2). Exploring the educational value system of other countries through comparative methodology allows evaluating one's own culture and educational values (Kubow & Fossum, 2003). Therefore, constructive steps can improvise in one's own education system, as Epstein (1983) suggested, comparative education can be useful for improvement. Epstein asserted that comparative education not only provides deeper understanding through the process of critical questioning, but also contributes to practical benefits derived from the comparative study of educational systems of other countries.

The concept of comparison is significant because its definition indicates "a process of studying two or more things to see how they are alike or different – gives attention to certain aspects through the co-presence of the others" (Eckstein, 1983). Hence, the process of comparison is vital in educational research as it challenges researchers to be less judgmental of foreign educational systems that might form the basis of a restricted, limited, and localized point of view. In other words, comparative education enables researchers to view and analyze educational issues not only from the perspective of the home culture, but also open the scope to include diverse cultural factors.

Policy and politics associate with education in many ways. Another prominent feature of comparative education is how the field urges researchers to analyze the policy and the political aspects of matters by asking, "What kinds of educational policy planning, and teaching are appropriate for what kind of society?" (Kubow & Fossum, 2003, p.6). The discussion on policy reveals significant information, such as the appropriateness of applying certain educational policies in a particular society or country and underlying factor for implementation. Therefore, researchers learn to be aware of the political interplay that impacts the educational system of the society or the country being studied.

A comparative study of a specific educational issue is one way to examine this educational issue in depth, because the comparative method offers broader perspectives and sharpens the focus of the educators or researchers from diverse countries who view similar issues and strategies employed to address the similar issues but from different cultural, social, and political contexts uniquely based the idiosyncrasies of each country (Kubow & Fossum, 2003).

2. CROSS-CULTURAL COMPARISON

Culture is a critical issue in comparative educational research due to its various characteristics among communities and its impacts on teaching and learning processes. Cross-cultural comparison in educational research identifies particular cultural values when analyzing individual communities' value systems. Furthermore, cross-cultural comparison "demands that a theoretical concept be expressible by a different operational counterpart, with its culture-specific features, for each culture under comparison" (Raivoli, 1985, p. 364). Therefore, the core function of cross-cultural comparison is to reveal institutions and their functions that are nonexistent within some other culture (Raivola, 1985, p.364). In explaining the concept of cross-cultural comparison in education, Farell (1979) argued that "each hypothesis concerning education calls for cross-cultural treatment" and emphasized that "a claimed relationship holding

true in a given community is not particularly useful unless the nature of that relationship is understood." (Farell, 1979, as cited in Raivola, 1985, p.365) Comparative research illustrates the ethnocentric nature of an issue. Cross-cultural comparison assists studying issues heuristically, which "enables terms to be more precisely formulated, helps in the classification of phenomena, and points to testable hypotheses." (Raivola, 1985, p.365) Nevertheless, in conducting an international cross-cultural comparison, a conscious effort must consider that assumptions, cultural backgrounds, and systems of values could induce prejudice and cultural bias in the process of gathering and analyzing data. A systematic basis for the comparison reduces the potential for this prejudice in cross-cultural research.

The aspect of culture is a vital factor that requires consideration when conducting a comparative study. For that reason, Raivola (1985) maintains that it is "out of the question for researcher from a foreign culture to penetrate the relationship using only statistical methods" (p.373). Hamlyn (1974) suggested that to achieve some degree of comprehension of foreign culture, researchers should: (a) acquire inductively derived knowledge of human beings and their environments, (b) assume identities of those undergoing study (i.e. empathetic observation), (c) make observation of external properties and attempt to determine, subjectively, what significance the external properties they have for those under study, and last (d) implement general (theoretical) knowledge, objectively, to the observations acquired (as cited in Raivola,1985,pp.373-374). Therefore, no phenomenon is too diverse to escape comparison, and researchers must adopt comparative studies as opportunities to explore their subjects, not only from personal cultural perspectives, but also from the stance of other people in other countries who experience similar situations. In fact, the field of comparative education is crucial for analyzing educational issues or phenomena in a cross-cultural context.

Osborn (2004) criticized comparative and international studies by arguing that some of studies do not give full consideration to culture. The recommendation is to analyze the historical antecedents of phenomena in education to elucidate a clear image of these phenomena (Phillips, 2006). Therefore, borrowing successful educational policies and practices from one country and applying them to another country is critical. The problem is that sometimes comparative educationists try to combine policies and practices to achieve "convergence" without considering the independent variables that affect comparability and equivalence (Dale, 2005). Comparativists must attend to the units of analysis and the experiences at the macro- (national) level with the micro- (local) level when conducting comparative and international studies (Phillips, 2006). Comparative educationists must investigate the practices in local settings and understand the local community's perceptions of these practices. Therefore, "comparability" and "equivalence" issues are significant in comparative and international education research. In this regard, this study explains the terminology as applicable to comparative and international research and the implications for the current study.

3. COMPARABILITY

Comparability in comparative and international educational research explains a situation that occurs "when two measures are expressed in the same units thus making possible direct comparison" (Good cited in Raivola 1985, p. 362). Applying this meaning of comparability indicates that study of components of phenomena should appear at the same level. For example, when examining similar income levels and their effects on providing education in different countries, comparative and international research attempts to understand comparable policies and practices to assist practitioners' understanding of the local community (Binder, 2009). Triandis and Berry (1981) explained comparability to be "…when a common underlying process exists can there be the possibility of interpreting differences in behavior? When such dimensional identity or common underlying process is demonstrated, then comparability is established" (p. 8). Therefore, comparative and international educational research is important because "…multilevel approaches can provide important insights into the multiple dimensions of schooling in highly stratified societies for various stakeholders" (Bajaj 2010, p.177).

Research comparing diverse cultures is multifaceted due to the complex nature of the cultures themselves. The meaning of comparability, as Warwick and Osherson (1977) demarcate, includes primary questions essential to completing cross-cultural research. The foremost question is whether or not the possibility exists to compare, scientifically, various social and/or cultural systems and units. Warwick and Osherson proceeded by dividing the question into three explicit parts: (a) Do the concepts under comparison correspond? This question emphasized that specific concepts have identical definitions, but the construing of the meanings may be different in different contexts. In other words, this part of the primary questions that essential to completing cross-cultural research relates to correspondence between the ideas under comparison based on a "general-specific continuum," definition given to concepts and "linguistic and operational formulation" of the concepts. Warwick and Osherson indicated instances of concepts of "formal education" which identify different conditions in different cultures. (b) How is the correspondence of measurements to be assessed? In this matter, Warwick and Osherson (1977) expect researchers to question the valid indicators for adopted or potentially adoptable concepts since most concepts often have bonds with culture. The instance used to exemplify this question is on the concept of "age," which, in some cultures, has a purely chronological perception,, while in some other cultures age is a socially normative factor. Another example of valid indicators for concepts in various cultures is "care," which has culturally diverse interpretations. In Asian cultures, spanking indicates care; however, such an act might be child abuse in Western cultures. (c) Can the problem of how concepts are linguistically expressed be resolved? The features of culture and language, inextricably linked occur from semantic fuzziness even within the same culture, and obviously among various cultures. Some terms might not exist to refer to a

similar concept in different cultures. Hence, Warwick and Osherson (1977) cautioned researchers to be conscious of this facet, particularly in attempts to translate international documents into diverse languages. Warwick and Osherson recommended the assistance of bilingual or multilingual experts for this task and also the use of repeated translations, back and forth, in order to limit vagueness. These questions associated with the "equivalence" concept, which is a "property of a specific cross-cultural comparison" (Vijver & Leung 1997, p.9), and will be discussed in the following section.

4. EQUIVALENCE

The meaning of equivalence is "a function of characteristics of an instrument and of the cultural groups involved" (Vijver & Leung, 1997, p.9). The purpose of equivalence is making comparisons by creating individuality/uniqueness levels of the studied instrument and the groups. Generating the instrument equivalence is significant because instruments in research demarcate indicators that capture different characteristics of a concept, phenomenon, or systems in cultures.

Nowak (1977) identified five kinds of relationships that must become a foundation for the comparison of issues or phenomena in comparative educational research. These kinds rely on the concept of equivalence or correspondence. These relationships are: (a) Observations and judgment of phenomena occur in the same way in different cultures (cultural equivalence). (b) The objects of comparison (people or institution) are part of a higher level of systems that have earlier definition as equivalents (contextual equivalence). (c) The objects have the same role in the functioning of the system (functional equivalence). (d) Phenomena correlate empirically in the same way with the criteria of variables (correlative equivalence). (e) Phenomena under comparison derive from the same source, namely the same conceptual class (genetic equivalence). The comparative and international education literature identifies other equivalences, but Triandis and Berry (1981) specified three basic types of equivalence: (a) Functional Equivalence, (b) Conceptual equivalence, and (c) Metric equivalence.

4.1 Functional Equivalence

Functional Equivalence reflects a comparison between people or institutions. Triandis and Berry (1981) described functional equivalence as the presence of a similar problem that establishes behavior with a similar purpose. For instance, in different cultures, mothers try to comfort their children when they cry by feeding them or carrying them. In this situation, the similar problem is children crying, which generates a behavior with a similar response (i.e. mothers' reaction to comfort children). Another example that indicates functional equivalence is, "if an Arab boy enters a mosque in his sandals or a Finnish girl the primary school classroom in her rubber boots, the teachers will immediately instruct the offenders to take them off. The students have offended against norms of two completely different kinds, however, and the measures taken by the teachers after their initial reactions may differ from others, considerably" (Raivola ,1985, p. 368). These examples indicate that, the objects of comparison act from the same role in the systems to achieve functional equivalence. For example, a comparison might encompass college students' experiences with social and academic challenges in the United Arab Emirates with college students' experiences with academic challenges in the United States. Comparative studies in two or more cultures would include the same level of teachers, students, socio-economic backgrounds, and genders of the students and teachers. Therefore, sampling is critical in comparative and international educational research. Researcher should d avoid using "non-comparable or low-quality sampling frames; differing procedures for selecting the sample, oversampling of some groups and under sampling of others; high, or varying, non-response rates" (Osborn ,2004, p. 271).

4.2 Conceptual equivalence

Conceptual equivalence indicates a representation of common ground between theory and phenomenon. Triandis and Berry (1981) advised, "Researchers must search for and discover the local meaning of concepts within the cognitive systems of the people and groups being compared. Only if common meaning is discovered, can comparison legitimately take place." (p.9) This indicates the need to find equivalent meaning among studied concepts in different cultures. This type of equivalence, called "cultural equivalence," suggests the "comparative analysis should focus attention on the isomorphism of the elements of the systems" (Raivola, 1985), as demonstrated through proof, which contains stories, rules, and the norms of the specific culture. For example, to understand the meaning of comforting children in different cultures, mothers can describe the common ground as comforting their children. The proof could be done by observing or interviewing the mothers.

Osborn (2004) discussed equivalence of measurement as referring to the equivalence of indicators that capture different aspects of a concept in diverse cultures. For instance, discussing sex and gay/lesbian topics is taboo in some cultures. In this case, comparative study is inappropriate because the sex and gay/lesbian matters could have open discussion in one culture but ignored in another culture. For example, if a scenario elicits answers from respondents in one culture, considering the same scenario to elicit responses from participants in other cultures is essential. In addition, Raivola (1985) discussed "genetic equivalence" that refers to the same source, which establishes a phenomenon or concept. For example, concept of education in the United Arab Emirates has its foundation in Islamic norms; however, education in the United States tends to be oriented toward either Judeo-Christian customs or democratic values. The same

source cannot analyze education for both countries; therefore, a comparative study is not possible. This example signals that education as a concept creates genetic equivalency problems when defined in diverse cultures such as the United Arab Emirates and the United States.

4.3 Metric equivalence

Metric equivalence refers to practical correlation in which validity and reliability values are the underpinnings for demonstrating comparisons. Triandis and Berry (1981) portrayed metric equivalence as "psychometric properties of two (or more) sets of data from two (or more) cultural groups exhibiting essentially the same coherence or structure" (p.10).Variables that occur in two or more cultures qualify for study. Moreover, Crossely and Watson (2003) mentioned limitations from raw data, which "may be misleading if they are compared with data from another system where an entirely different set of background information would be needed to explain their figures" (p.42)

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