

Reducing Cultural Boundaries: Initiatives in Quality Assurance, Curricular Reform and Test Adaptation

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Abstract: This paper explores many of the underlying forces that have encouraged societies to become increasingly pluralistic and global in outlook. In the past, methods of in-country quality assurance have presented boundaries for students and professionals. An array of efforts to reduce cultural boundaries through various methods of quality assurance are reviewed in this paper. These include mutual recognition agreements between countries, transnational certification programs, recognition of substantial equivalency of programs and accreditation systems, curriculum reform, and test adaptation.

Key words: quality assurance, cultural boundaries, test adaptation

1. Introduction

In the United States there are several forms of quality assurance that can have an impact on a student seeking to become a graduate of an accredited program or institution and a practicing professional. One form is an assessment or test of progress of the student through the various stages of the educational system (e.g. National Assessment of Educational Progress, NAEP). Another type of assessment is high stakes admissions testing for entry into the higher educational system (e.g., SAT, ACT, GRE).¹ A specialized accreditation of a program in a profession or other academic discipline (e.g. ABET, APA, AACSB)² is another form of quality assurance. Accreditation is also available to an institution offering degrees in academic programs in the professions and other disciplines (e.g. North Central Association). Finally, certification and licensure are important forms of quality assurance. Certification can be provided by a non-governmental body or professional organization that grants recognition to an individual for meeting certain pre-determined qualifications. Licensure is the process by which an agency of the government grants permission to persons who meet predetermined qualifications to engage in a given occupation or to use a particular title [1].

As societies become increasingly pluralistic in nature and global in their outlook, questions have begun to arise concerning the fairness and equity of these measures of quality and competency assurance. A cultural boundary could be defined as any attribute of a culture that inherently limits the equivalency, and fairness, of tests or other forms of quality assurance. Such attributes may include social forms or behavioral and educational traits, or customs specific to a particular racial, ethnic, social, or religious group. When one thinks about these in terms of tests such cultural boundaries are referred to as context variables [2].

The cultural boundaries represented by these context variables may inhibit equivalence of test scores when compared across cultures. They are also problematic when considering other kinds of quality assurance. One may even find that cultural differences exist within a given country, as well as between countries. The greater the difference in context variables, the greater the difficulty in achieving meaningful comparisons of test scores, or other forms of quality assurance, across cultures. The term *cultural distance* may best express the extent of these differences.

2. Initiatives that reduce cultural boundaries of quality assurance

Many initiatives have been put into place in an effort to reduce cultural distance between quality measures. Some of the most significant efforts have involved the mutual recognition agreements (MRAs) that are designed to prevent discrimination against professionals who wish to practice in a country that has membership in an international trade agreement. The North American Free Trade Agreement (NAFTA) and the World Trade Organization's (WTO) General

¹ Scholastic Assessment Test, American College Test, Graduate Record Examinations

² Accreditation Board of Engineering and Technology, American Psychological Association, American Association of Colleges and Schools of Business

Agreement on Trade and Tariffs (GATT) “require that the licensing of professionals be based on fair, objective, and transparent criteria to ensure competence and the ability to provide a service. NAFTA calls for the elimination of citizenship and permanent residence requirements for the licensing of professionals. Criteria such as education, experience, and examination are to be used, but not in a way that is more burdensome than necessary to ensure the quality of a service. The agreements do not impose specific international standards for a given profession” [3]. The intent, therefore, is to narrow the cultural distance between countries providing licensure and certification to professionals.

In the area of specialized program accreditation there have been some focused efforts by professional associations and transnational certifying associations that concern themselves with equivalency of curricular content and agreement on standards between countries. The ABET determination of “Substantial Equivalency” of engineering programs outside the United States and its territories is one example of this type of effort. The transnational certification process developed by the Global Alliance for Transnational Education (GATE) is another monumental effort on this front [4]. In addition, there now exists an agreement between the engineering accrediting organizations of Australia, Canada, Ireland, Hong Kong, New Zealand, the United Kingdom, and the United States to mutually recognize one another’s accrediting system. This agreement is known as the Washington Accord. The essential feature of the accord is that it involves countries that have educational systems similar to one another [4]. Hence, the cultural distance between these countries is not as great as it could be because of similarity among educational systems.

Achieving similarity in educational systems is one way to reduce cultural boundaries. Another more specific way to do so involves increasing the similarities of the actual curricular standards. One of the best examples of this is the development of a model curriculum that minimized the educational barriers to mobility for nurse anesthetists. The focus in the curriculum was on blending both professional and technical expertise with issues concerning diversity and cultural differences [5]. This was one of the six short-term outcomes of a project entitled “Nurse anesthesia educational requirements and mobility between North American Free Trade Agreement (NAFTA) countries”. This project was funded by a FIPSE (Funds for the Improvement of Post Secondary Education) grant from the US Department of Education.

In the area of assessment of educational progress, one of the most ambitious and well-known examples of an effort to compare across countries is the Third International Mathematics and Science Study (TIMSS). In this remarkable effort, conducted by the International Association for the Evaluation of Educational Achievement (IEA), forty-five countries created math and science tests in over thirty languages. These were used as the basis for comparison for math and science skills across those countries [6].

The use of high stakes admissions tests is a common practice in most North American and European countries as a means of quality assurance for entry into a higher educational system. Having versions of the commonly used admissions tests that have been adapted for use in a different culture or language is important. Prominent examples of efforts in this area include preparation of Spanish versions of the SAT and an admissions test known as PAEG.

3. Driving forces behind efforts to reduce cultural boundaries

The principal driving forces for efforts to reduce cultural boundaries have expanded and intensified within the past twenty-five years. This period has seen the full impact of the transforming events underlying these driving forces. Such events include the end of the Cold War, world wide immigration movements of major proportions, new and rapidly growing information and communication technologies, rapid development of international business, and the enormous increase in study abroad [7].

One of the important driving forces for the reduction of cultural boundaries with respect to quality assurance has been the influence of the increasing globalization of educational systems. This has been promoted by international trade agreements (e.g., NAFTA, APEC, MERCOSUR), which permit movement and trading of professional services between countries. This was in fact the subject of the 1999 annual conference of The Center for Quality Assurance in International Education [1,8]. Ascher discussed in detail the links between the international trade agreements and their provisions to prevent discrimination against foreign professionals [3]. The underlying driver for this force are the industries’ interest in removing government- imposed barriers to trade and investment in goods and services. As previously mentioned, NAFTA and GATT wish to ensure that licensing of professionals to practice in another

member country is based upon competence, not nationality, and upon objective and transparent criteria that are not more burdensome than necessary to ensure the quality of the service.

Teichler explained the role of the European Union (EU) in the removal of barriers to student and professional mobility [9]. Specifically, he noted the central role of the umbrella SOCRATES program and subprogram ERASMUS in transnational student educational programs. In addition, the EU established the COMETT program to promote cooperation between education and industry, with the later LEONARDO program becoming the umbrella program for linking vocational education to industry. These programs were the driving forces for substantial curricular change.

Another important driving force is the increased growth in cross-cultural research to produce international and global curricula. This has been particularly intense in the behavioral and social sciences such as psychology, sociology, management, marketing, and political science [3]. Researchers in psychology recognized almost twenty-five years ago that for the discipline to evolve into a valid and global one, it had to incorporate the data, perspectives and paradigms from an ever-widening circle of cultures and ethnic groups.

Certainly another driving force for reducing cultural boundaries of tests and other forms of quality and competency assurance is the world wide awareness of greatly increased access to higher education that now exists. An assessment of the issue of access to higher education on a global level was made at the December 1998 symposium "Global Challenge and National Response", sponsored by the Rockefeller Foundation and convened by Dr. Patti McGill of the Council on the International Exchange of Scholars (CIES). The papers were co-published by the Institute of International Education (IIE) and the Boston College Center for International Higher Education as the IIE Research report 29 [10]. In this publication they make several important points. First, "while it may not yet be possible to think of higher education as a global system, there is considerable convergence among the world's universities and higher education systems." Second, "higher education systems have also been moving from elite to mass to universal access, as Martin Trow pointed out in the 1960's." Third, "in North America, much of Europe, and a number of East Asian Countries, academic systems approach universal access." Finally, "in some countries access remains limited." The papers in this publication treat the issues of access from country and regional perspectives throughout the world. These include financial and cultural barriers. UNESCO has played a particularly important role in increasing worldwide awareness to this driving force.

A related driving force is the recent increased interest and demand for adaptation of tests for use in multiple languages and cultures. In recognition of the timeliness of this driving force, the International Conference on Test Adaptation was held at Georgetown University in 1999 under the sponsorship of the College Board, Educational Testing Service (ETS), and the International Test Commission (ITC). As noted by Hambleton, "there is considerable evidence to suggest that the need for multi-language versions of achievement, aptitude, and personality tests is growing." He cites the desire for inter-country comparisons of the efficiency of science and math studies that drove the TIMSS project. He further cites studies to prepare Spanish versions of the American Council on Education's General Educational Development (GED) test, the U.S. Department of Education's National Assessment of Educational Progress (NAEP), and the College Board's Scholastic Assessment Test (SAT). Of more relevance to the power of the driving force of test adaptation, Hambleton states that "some cross-cultural researchers have even

suggested that a high percentage of the research in their field is flawed to the point of being invalid because of poorly adapted tests.” The need for test adaptation only increases as international exchanges of tests become more common, credentialing exams are adapted into multiple languages, and interest in cross-cultural research continues to grow. The Educational Testing Service (ETS) has heard these same needs from both the North American and international communities, and intends to respond appropriately.

4. Cross Cultural Curricular Reform

The importance of similar educational systems has already been noted as an important factor in decreasing cultural distance. In the same way, similarity of curricula of the educational institutions of culturally different groups within and between countries is extremely helpful in reducing cultural boundaries. One of the most ambitious efforts in cross cultural curricular reform took place in the very intense FIPSE supported project, the Nurse Anesthesia Educational Requirements and Mobility between NAFTA Countries, previously mentioned [5]. As Frels states, this reform is “based on the principle that a significant obstacle to mobility of professionals across geographic borders is the differences between countries in credentialing requirements such as licensing and certification. Because professional licensure and certification are generally dependent upon completion of an approved course of study in an institution of higher learning, mobility is generally based on academic preparation.” Achieving this curriculum entailed a focus on both professional expertise as well as the issues of human diversity and cultural differences.

Another important methodology for cross-cultural curricular reform was employed in the de-nationalization of the curricula in the ERASMUS program. As reported by Teichler, the student surveys of 1988, 1989 and the 1990’s showed “major contrasts between curricula, teaching and learning modes, examination practices, administrative procedures as well as the social environment and institutional cultures between their host and their home institution of higher education” [9]. An aggregation of the responses showed that the students “appreciated the academic quality in Denmark, Germany, and the Netherlands; the student-centered and communicative approaches of the educational system in the United Kingdom and Ireland; and the customs and traditions in Spanish and Portuguese Societies.”

5. The Accreditation Board for Engineering and Technology’s (ABET’s) “Substantial Equivalency”

In the United States accreditation is a non-governmental peer review process that ensures educational quality across the programs of various institutions. Institutions volunteer to periodically undergo a review process in order to show evidence that minimum criteria are being met. It is assumed that graduates of accredited institutions are well-prepared to enter their profession. In some professions accreditation can create a barrier to professionals wanting to work in another country.

ABET has been in existence in the United States in some form for nearly seventy years. They now accredit 2,300 engineering related educational programs at over 500 colleges and universities in the US. The process of accreditation begins with the institution requesting an evaluation of its program(s). Each program then conducts their own internal evaluation using a self-study questionnaire. The self-study provides some of the evidence from students, curriculum, faculty, administration and facilities that the institution meets the established criteria. While this is being conducted,

the appropriate ABET Commission forms an evaluation team to visit the campus.

During the on-campus visit, the evaluation team reviews course materials, student projects, sample assignments and interviews students, faculty and administrators. They ensure that the criteria are met and answer any questions raised by the self-study. A written report of the evaluation is given to the institution. This allows the institution to correct any misrepresentations or errors of fact. Finally, the evaluation report is presented to the appropriate ABET Commission with a recommended accreditation action. Based on the findings of the report, the Commission votes on the action and the institution is notified of the decision. The information the school receives identifies strengths, weaknesses, deficiencies, and recommendations for improvements. Accreditation is granted for a maximum of six years. To renew accreditation, the institution must request another evaluation [11].

ABET also conducts evaluations of engineering education programs outside the United States, at the request of any institution. The evaluation done outside the United States is very similar to what was previously described, however, no accreditation action is taken in these instances. Instead, ABET has established an assessment of “Substantial Equivalency” of the program under review with accredited programs in the United States. “Substantial Equivalency” means that the programs are comparable in content and educational experience, while not absolutely identical in format or delivery. It implies reasonable confidence that the graduate possesses the competencies needed to begin professional practice in that field [12].

6. The role of test adaptation in achieving fairness across cultural boundaries

Assessments are one tool that could be used by accrediting organizations to establish some empirical criteria for judging programs. When properly used, tests have tremendous potential for assisting in efforts to reduce barriers between cultures. Interest in adapting tests for use in a different language or culture than the one in which the test was developed has been prevalent for many years. Hambleton and Bollwark point back to the early translations of the Binet-Simon intelligence test from French to English in 1911 as one of the earliest examples in this endeavor [13]. The motivations for undertaking such an effort range from facilitating comparative studies across cultures, to saving money in the development costs associated with preparing a new test, to achieving fairness in assessment [6]. It is important to note that knowledge about the discipline of adapting tests for use in different languages and cultures has been developing at a rapid pace over the past twenty-five years. It is widely recognized now that test adaptation is not merely translating a test into a different language. Instead, this practice goes far beyond the simple consideration of language to a decision about whether or not the construct, or theoretical concept, measured by a test is applicable in both cultures. It involves selecting translators as well as making appropriate accommodations in the development, administration and scoring of the test. Once adapted, the test and the original form must be checked for statistical equivalence of scores.

Although interest in this field has existed for the better part of this century, the methods and guidelines for how to adapt a test have not been well known or understood. In an effort to rectify this situation the International Test Commission (ITC), an international committee of cross-cultural and educational psychologists, has developed a comprehensive set of practical guidelines. The guidelines are organized into four sections that include context, test

development and adaptation, administration, and documentation/score interpretation. Guidelines in the context category address concerns about construct equivalence among the language or cultural groups of concern. The term construct equivalence means that the same construct, or theoretical concept, is measured across all cultural groups, regardless of whether the measurement instruments are identical. If this type of equivalence can not be established, an adaptation of any test would be of no value. The test development and adaptation category includes guidelines specific to the actual process of adapting a test. These include everything from how to select a translator to the appropriate statistical methods to be used for analyzing empirical data to establish score equivalence between the tests. The administration category includes guidelines that have to do with the way in which tests are administered in multiple languages or cultures. It is important to consider that even with an adapted test that has been rigorously developed to be equivalent, the selection of administrators, item formats and time limits can all have an adverse effect on the equivalence of resulting scores, if these variables are not well understood and controlled. Guidelines concerning documentation and score interpretations encourage researchers involved in test adaptation to provide extensive documentation supporting the validity and purpose of the adapted test. Without this documentation and understanding, misinterpretations of scores can occur. Although the guidelines have not yet been published in a final report, copies of the guidelines are available in Ron Hambleton's recent paper [6].

7. Conclusions

In this increasingly globally dependent world, professionals with expertise acquired in one nation can and should cooperatively participate with and assist other nations. Naturally, all countries are interested in seeing evidence, however, that the education an individual has received is equivalent to the standards that their own native professionals hold. ABET has been on the forefront of meeting this need in their establishment of "substantial equivalency". Test adaptation can be another important and desirable means in removing cultural boundaries and achieving equivalency of tests that demonstrate the common skills necessary to practice any profession. One could imagine that the addition of an empirical test score to the battery of evaluations made of an engineering program might help to strengthen the argument that the students coming out of those two institutions are equally well prepared.

Test adaptation is also important to consider in the interest of fairness. As most international students in the field of engineering know, the GRE is often required by graduate schools in the United States. However, because the test is currently only available in English, some have expressed concerns that it is not fair to students who do not have English as a first language. For example, a student in a foreign country, whose first language is not English, taking the GRE must 'translate' the test into his/her language and then back into English to answer the questions. It might be preferable instead to test English communicative competency separately, using a test like the TOEFL, and then give an adapted version of the GRE prepared for the student's language and culture to assess Verbal, Quantitative, and Analytical skills. Discussions about this possibility and other international initiatives are occurring at ETS.

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