

INTERNATIONAL RESEARCH and REVIEW

**Journal of Phi Beta Delta
Honor Society for International Scholars**



VOLUME 10 NUMBER 2 SPRING 2021
ISSN: 2167-8669





International Research and Review
Journal of Phi Beta Delta, Honor Society for International Scholars
Volume 10 Number 2 Spring 2021

Michael B. Smithee, Ed.D.
Editor

Table of Contents

International Education Knowledge Base: Contribution of Phi Beta Delta Honor Society Michael B. Smithee, EdD.....	1
Internationalizing The University: A Transactive Model Of Exchange, Predicated On Education, Participation And Training Peter A. Dual, PhD and Li-Rong Lilly Cheng, PhD	11
Student Knowledge And Attitudes Toward International Health Issues: Applications To Teaching Dr. Mohammed R. Forouzesh	19
International Consortium for Research in Science and Mathematics Education (ICRSME): A Model For International Educational Research Donna F. Berlin, PhD and Arthur L. White, PhD	29



**International Research and Review:
Journal of Phi Beta Delta
Honor Society for International Scholars**

Editor-in-Chief

Dr. Michael Smithee, Syracuse University

Editorial Board

Dr.	Patricia	Burak	paburak@syr.edu	Syracuse University
Dr.	Gary	Cretser	gacretser@csupomona.edu	California State University, Pomona
Dr.	Charles	Gliozzo	gliozzo@msu.edu	Michigan State University
Dr.	Yiurj	Kondratenko	y_kondratenko@rambler.ru	Black Sea State University, Ukraine
Dr.	Carl	Patton	cpatton@gsu.edu	Georgia State University
Dr.	Cristina	Rios	cristina.rios@lamar.edu	Lamar University
Mr.	Skip	Greenblatt	sidney.greenblatt@gmail.com	Syracuse University (retired)
Dr.	Judy	Smrha	jsmrha@bakeru.edu	Baker University
Dr.	Marco	Tavanti	mtavanti@usfca.edu	University of San Francisco
Dr.	Joshua	McKeown	mckeown@oswego.edu	Oswego State University
Dr.	Sharman	Siebenthal-Adams	sharmans@umflint.edu	University of Michigan
Dr.	John	Winslade	jwinslad@csusb.edu	California State University, San Bernardino
Ms.	Tyra	Twomey-Smith	Consulting Editor	SUNY Institute of Technology

International Education Knowledge Base: Contribution of Phi Beta Delta Honor Society

Michael B. Smithee, Ed.D.
Syracuse University (retired)

Abstract

This paper provides an account of the process for the scholarly publications of Phi Beta Delta. In doing so, the author explains the context for the establishment of Phi Beta Delta, the need for scholarly publications, and the bifurcation of the Society's publication activity. Since the founding two scholarly journals were established. The author concludes, that due to the first journal though well written, but not being widely circulated nor indexed, the second journal should use its connection with indexers to disseminate that knowledge.

Keywords: Phi Beta Delta, honor societies, international education, scholarly publication

This paper examines the establishment of two peer reviewed journals in the context of the events occurring prior to and after the development of the honor society, Phi Beta Delta. These journals are the *International Review* (IR) published 1990-2002, and the *International Research and Review* (IRR) published from 2011-present. The paper will examine the development of these journals. It will explain their contributions to the knowledge base of international education, and how they were affected by the growing methods of communicating information. In addition, it will trace the evolution of the purpose of the journals. To show the meaning of establishing the IRR, one has to understand the environment preceding the establishment of Phi Beta Delta.

The scholarly publication knowledge base for international education was small in 1986, the year Phi Beta Delta Honor Society for International Scholars was founded. Events and circumstances prior to the founding of Phi Beta Delta informs readers of the increased attention to and recognition of international education as an important dimension in higher education institutions. International education was a dimension that would need to break down silos and coordinate the elements of international education. The founding was prior to widespread use and availability of computers to search the internet. It was a time when international education was struggling to be heard. The campus scene of international education was fragmented; divided by academic disciplines, by administrative oversight, and by confusion over its definition. Harari (1972, p. 3) defined the term, international education as

"International education" is an all-inclusive term encompassing three major strands: (a) international content of curricula, (b) international movement of scholars and students concerned with training and research, and (c) arrangement & engaging U.S. education abroad in technical assistance and educational cooperation programs.

What Harari left out of the definition, or has emphasized less, is study abroad for the purpose of knowledge and engagement with other cultures. However, he relied on Professor Freeman Butts to identify in more detail the elements of study abroad.

...international education may be thought of as embracing the programs of activity which identifiable educational organizations deliberately plan and carry out for their members (students, teachers, and closely related clientele), with one of (or possibly both) two major purposes in mind: (a) the study of the thought, institutions, techniques, or ways of life of other peoples and of their interrelationships, and (b) the transfer of educational institutions, ideas, or materials from one society to another (Butts, 1969).

Neither Harari nor Butts specifically mention in their descriptions the role of scholarly publication of research and ideas about international education. However, their work followed an almost forgotten piece of legislation in which the ideas of scholars of international education were brought together in a collection to inform the passage of the IEA-66 (Brademas, 1966).

Context for Establishment of Phi Beta Delta

The value of the international dimension in higher education was present in the lead-up to the proposed International Education Act of 1966. The IEA-66 was the third component of President Lyndon Baines Johnson's great society legislation. To take a step back, well after WWII, higher education grappled with its role in supporting the American place in the new world order. Programs such as Fulbright exchanges, various U.S. government department grants such as USAID, Departments of State, Defense, Agriculture, and the Peace Corps had been established. However, by the mid-60s international education was recognized as an emerging need. America had to grapple with its role as a leader among nations. Thus the IEA-66 emerged as one of the pillar Acts of the Great Society program of President Johnson.

The readings to accompany the International Education Act of 1966 (IEA-66) supported the third component of the Great Society program (Brademas, 1966). It provided detailed ideas on how international education could strengthen society. The sixty-nine articles in this book of selected readings for Congress was framed by these two lead articles: *International Education: Shadow and Substance* by Stephen K. Bailey and *American Responsibilities in International Education* by Frank Bowles.¹ These sixty-nine articles of the Supplement came from institutional leaders, faculty experts, practitioners, and professional and community organizations. Among the topics they addressed were educational exchanges and interestingly, internationalization of the curriculum. The articles were included "for their strong analysis of the needs, prospects, and barriers to international education..." (Smithee, 2012, p. 6). The articles that were included serve to remind us that although we still grapple with similar issues, "the current generation's view of international education has been affected by improved means of communication, increased numbers of publications, and use advanced technology to communicate and receive ideas which have changed perceptions of how the world works" (Smithee, 2012, p. 6).

The IEA-66 provided a forum for scholars, practitioners, and organizations' input on the need for international education. This broad and grand idea and legislation was passed by Congress. However, it was not funded. The needs of the war in Vietnam emerged as a higher priority. Still, the readings were a landmark of thinking about international education in that they established a recognition that the curricula of U.S. higher education needed to foster in its students a firm conceptual grasp of the politico-socio-economic world environment.

This centrally funded program was not realized. In the aftermath of the failure of the IEA-66 funding from Congress and other government bodies higher education institutions seeking to maintain international exchanges depended in part on the piecemeal needs of the budget of such entities as the US Agency for International Development, the Agricultural department, the State Department, the Department of Defense and others. The Fulbright program was in full swing at that time. These programs facilitated faculty exchanges, and to an extent student-scholar exchanges. This was not enough. Advocates involved in the process of facilitating international exchanges, such as campus faculty, administrators, and students, as well as national, international, and non-governmental organizations, such as: AFS, AIEA, AMIDEAST, ASIA Foundation, CIEE, IIE, NAFSAⁱⁱ and more, realized there were restrictions on their advocacy, imposed by federal government rules related to receipt of government funds. Criticisms of exchanges processes, desires for improvement in the international educational process showed advocates that other avenues of approach were needed.ⁱⁱⁱ

These advocates in U.S. higher education focused on study abroad, facilitating foreign students coming to the U.S. for their education, and English language programs. In addition to these functions, there was a movement to establish among campus leaders the value of international education. The value was often expressed as international exchange of faculty and researchers to improve knowledge and research in various disciplines, presence of international students on campus to serve as a broadening component to the education of Americans, cross-cultural discussions in the classroom, presence of foreign teaching assistants, and the prestige and financial benefits of having foreign students studying at the U.S. university. The establishment of AIEA was one such association organized to enhance the dialogue between leader-administrators in the field of international education (AIEA, 2021).

What changed in international education by 1986? First, there were dramatic and steady increases in the numbers of students. International students were 100,262 in 1966. It more than doubled from 1966 to 1987, and doubled again between 1987 and 2011. In 2011, the number of international students had risen to 723,277. On the study abroad side, by 1994 the domestic study abroad students were not even one-hundred thousand. However, by 2011 a steady increase resulted in 300,000 domestic study abroad students.^{iv} Second, stakeholders in international education were actively listening to their constituents. For example, NAFSA developed a set of guidelines in response to serious issues regarding aggressive religious evangelists on campus, intentions of community volunteers, and unscrupulous recruiters of foreign students (NAFSA, 1979).

In light of the increases of international students and study abroad, by the mid-1980s, there came to be a growing sense that international education was gaining in importance and value. Yet, the organization of U.S. higher education institutions as a whole was not yet ready to

accommodate changes in its structure. Advocacy for international education most often came from faculty and administrators with a vested interest. These were usually in academic programs that were large and important to the institution, such as master's degree programs in computer science, or generally in the STEM fields. Academic programs and research typically requested and received funding grants from governmental and non-governmental organizations. Certain individual faculty were very much internationalized or receptive to internationalization, either because they conducted research abroad or were faculty originally born in another country. However, coordination of these grants and partnerships remained largely decentralized. In rare cases an individual was appointed to manage the variety of such programs. Most institutions thought more in terms of gaining increased activity by encouraging Americans (mostly undergraduates) to study abroad but, allowed for (later recruiting) an increased number of foreign students (whose legal, cultural, and personal issues were taken care of by an *international office*) attending various programs of study. Higher education institutions found both graduate and undergraduate students from abroad (later grouped under the rubric of 'international students') in differing proportions. Research institutions for example would often have larger proportions of graduate students to serve as graduate assistants, or to attend signature academic programs. These programs often became pods of income, such as master's programs in computer science, and various engineering specialties.

Administrators of study abroad programs were valued because their programs often produced a positive balance sheet, or allowed faculty to lead students in study trips abroad. Administrators of international offices receiving foreign students did not have the same clout. Faculty who advocated for an internationalized curriculum were not widespread. Recognition of international education was left wanting. As a result, advocates of international education were left without a place at the table where decisions were made. Still needed were decisions that envisioned an internationalized campus, one that extolled and promoted the international dimensions of campus. It took twenty-five years (1986-2011) until a clearer picture of international education emerged. This picture, published by NAFSA, articulated the notion of comprehensive internationalization (Hudzik, 2011).

But for those in the early 1980's higher education realm, as with other stakeholders, the international dimension of the governmental, non-governmental, and professional organizations was framed in ways that suited their mission at that time. For the campus, that meant the academic mission was paramount. International dimensions included study abroad programs, recruiting, admitting, receiving foreign students, managing English language programs, foreign language programs, and so on. These international dimensions, originally small and elite, only began to grow as demand and opportunities arose at home and abroad. Higher education institutions typically responded to this growth by accommodating it within their current mission and organizational structure. However, as growth became noticeable, professional organizations began to advocate for standards and for overt recognition of international education.

Given this scenario, campus leaders were bracketed by institutional decision-making in organizational silos. Silos can be present in nearly all organizations, higher education included. For example "...educators and institutions of higher learning can be the least innovative because

they build silos and focus on deep learning rather than interdisciplinary problems and ideas” (Senge and Christensen, 2015). These silos spread the elements of international education across the campus divisions. International student services, for example, were most often housed in Student Affairs, study abroad was housed in Academic Affairs, English as a Second Language was often in the Continuing Education college. There were very few stakeholders with access to the Dean’s Council. Recognizing this, how to break down those barriers was often considered at various professional organizations, such as AIEA and NAFSA. By 1986, these two organizations, among others, knew what needed to be done, but finding pathways for a discussion of the campus-wide value of international education with the institutional leadership was elusive.

The Need for a Scholarly Society

Finding ways to reach the institutional leadership of higher education institutions was a conundrum that provided the background for the establishment of Phi Beta Delta in 1986. This academic honor society was organized to recognize academic achievement of international students (domestic and foreign) as well as enhance the campus-based international programs, and encourage publication of scholarly works. Both domestic and students from abroad were considered international students due to their educational study and experience outside of their own country. In addition, Phi Beta Delta was “formed to develop an honor society which would focus on international education and exchange, and also serve as a catalyst for international programming” (Anatol, 1996, p.3)^v. Supporting this ideal, John Greisberger^{vi} commented that “we have created a national...and an international, network of scholars who acknowledge the importance of the international dimension of their work” (Greisberger, 1996, p. i). At the twenty-fifth anniversary of Phi Beta Delta’s founding Greisberger further commented, “Twenty-five years ago internationalization of the campus and the curriculum were not the hot topics they are today; nor was educating globally competent students. Today, however, these topics take center stage at colleges and universities around the globe” (Greisberger, 2011, p. 9).

Phi Beta Delta’s founding by-laws spell out the society’s objectives: “(a) recognizing achievement in international educational interchange; and in doing so, serve as a catalyst to increase the recognition, credibility, and importance of the international experience, (b) developing a network/cadre of individuals (students, faculty, and staff) involved in the international experience, (c) creating a catalyst for international academic based programming on campuses, and (d) connecting individuals on university campuses and throughout the world involved in the international experience...” (Phi Beta Delta, By-Laws, 1986, p. 1).

Of particular importance was the idea of the Society as a fulcrum and catalyst for debate and discussion through a variety of educational and social programs. These programs would bring together campus faculty and administrators, as well as students and staff, in an inclusive place of free discussion of ideas. Programs, discussions, and symposia on campus were one way of gaining leaders’ attention. Once the recognition of individuals was established, moving to a published journal that focused on society member’s research was a natural next step. Shortly

after its founding, the Society members agreed that the establishment of a journal would be another way of gaining recognition, credibility, and importance for the international experience.

The Founding of a Scholarly Journal

Besides the Society's recognition of academic excellence of students, this paper argues that publication by faculty and students contributed to the knowledge base of international education. Existing research at that time was emerged slowly, and avenues for publication were relatively few. In this context, in 1990, just four years after its founding, Phi Beta Delta began publishing a journal named, *International Review*, more formally as: *Phi Beta Delta International Review: Journal of the Honor Society for International Scholars*, (IR). It was published and printed from 1990-2002 and sent to a members via their chapter coordinators. The journal had every reason to be considered as important to the advancement of international education as other journals. Most of the articles were written by associate or full professors, many tenured.

Unfortunately, like the IEA-66, the goal of the IR was achieved over a longer period of time. In this instance, the IR was only distributed to Phi Beta Delta members, with the intention of a copy being given to campus libraries, as well as key institutional administrators. Its content was not included, nor was requested to be included, in any citation indexes. Although some eighteen academic libraries do have at least one copy of the IR, only one library has all of the copies (WorldCat, 2021). As a result, the articles in the IR had limited impact on international education. In addition, these issues still have limited availability to any researchers seeking to understand the context of and research on international education between 1990-2002.

In a report to the Society board of directors, the director of publications found that in the context of the publication of the *International Review* (1) Papers were published for at least the following reasons: (a) Paper submissions were drawn from contacts the editors had with the Chapters; (b) The general Calls for Papers were successful because at that time PBD was a new organization with a publication that met a need; (c) That the editors and Board members were adroit in soliciting papers from faculty and through conference presentations; (d) Having a publication was an 'incentive' for individuals to present their papers at PBD conferences. (2) Some institutions were more active in submitting papers which reflected the strength of the commitment to PBD and the leadership at those chapters. (3) Non-members of PBD were allowed to submit and publish papers. (4) From 1990-1997, papers were published chiefly by faculty, (a) Most were full or associate professors and were tenured; (b) Most of the authors were already seasoned veterans of publishing; they had numerous publications to their credit. (5) From 1998-2002, many more papers were published by non-faculty, and according to one editorial board member, "articles were difficult to obtain since there was no organized process..." (Smithee, 2011, p. 12).^{vii}

Hiatus in Scholarly Publishing

In spite of its efforts to publish Society research, in 2003, it was decided that the cost of printing and distributing the IR was prohibitive. Thus, it ceased publication after the final issue

of 2002. However, even before the IR ceased publication, there emerged other journals focused on international education. In the time between 1986 and 2011, journals were established such as, *Journal of Studies in International Education*, which began in 1997.^{viii} The list of these journals, includes a few long standing journals begun prior to 1986, focused in whole or in part on aspects of international education.

But, the question remained, what happened to the ideas and research published in the IR? Between 2002 and 2010, there were no calls for publication of academic papers by Phi Beta Delta. The cessation of the IR, derived from the fact that funding and distributing a paper copy was not possible, and publication via internet was not yet widely accepted by academia. Yet, between 2002-2011, there continued to be calls for a revival of the IR from among current and previous Board members.

By 2002, the only publication going to Society members was the *Medallion Newsletter*. The newsletter had never ceased publication. However, by 2002 it was also clear that print publication of the *Medallion* was not financially feasible either. This publication continued as an on-line deliverable to the membership. The *Medallion* was intended to be a mechanism for society news, not an academic publication. The *Medallion* has served the society well in this regard.

The Reestablishment of a Journal

Knowing that printing and distributing a journal would not be feasible, it was decided to wait for new opportunities. In 2011, once it was determined that a growing number of respected academic journals were publishing their journals online, it became feasible for a new Phi Beta Delta journal to be established, to carry on the scholarly work of the Society. After discussion with key members of the society, it was decided to name the new journal, *International Research and Review* (IRR). Resurrecting a journal after lying nine years fallow brings into question issues relevant to the publishing field. The purpose of the new journal was publishing a peer reviewed academic journal online, open to all readers rather than to continue such a journal solely as a member benefit. In this way the journal would have an opportunity for expanded readership.

The IRR has now been published for ten years. During this time it became clear that those articles in the IR should have access to indexing and wider exposure than was previously the case. As a result of the foregoing discussion, one solution to seeing the articles from the IR indexed by EBSCO and ERIC, for example, was to reprint selected articles from time to time in issues of the newly established Phi Beta Delta journal, *International Research and Review* (IRR). The purpose of including reprinted articles from the IR is to bring to light that research, especially research that has current and historically comparative applicability in today's international education environment. In various issues of the IRR articles from the IR have been included. For example, in the Spring 2021 issue, there are included three articles:

- *Student knowledge and attitudes toward international health issues: Applications to teaching* - Mohammed R. Forouzesh, Volume II, Fall 1991, pp. 51-66.

- *Internationalizing the university: A transactive model of exchange, predicated on education, participation and training* - Peter A. Dual and Li-Rong Lilly Cheng, Volume II, Fall 1991, pp. 67-75.
- *International consortium for research in science and mathematics education (ICRSME) : A model for international education research* - Donna F. Berlin and Arthur L. White, Volume III, Fall 1992-Spring 1993, pp. 99-114.

The IRR journal thus provides access to the earlier scholarship on important issues such as internationalizing the university, international health issues, and issues of how research is and should be conducted. All of these topics were discussed at the time of original publication, and continue to be discussed today. Ideas and commentary from the past serve to remind the reader that ideas and actions today are not necessarily new or innovative. We now have available to us on-line, through the research presented in these reprinted articles, an understanding of the rationale and importance of the establishment of Phi Beta Delta at a time when the internet was in its infancy. These articles articulate the topics important to the rise of international education as a player at the table of decision making (Smithee, 2012).

Today, the IRR is published entirely on-line. It is free and open to all who have an internet connection. Its open access allows for a wider audience and facilitates building an international education knowledge base. It encourages scholarship on international education and seeks articles from researchers who hold a variety of positions including, faculty, staff, and students. Since Phi Beta Delta is an honor society it encourages members to publish their dissertation research, their master's and bachelor's theses, and/or research conducted during their careers. In addition, the IRR is also open to articles from non-members. In this way the journal expands the Society's role in adding to the knowledge base of international education and the value of membership.

Conclusion

Since 1990, when the *International Review* (IR) was founded, many other national and international journals focusing on international education have been established. These new journals, in much the same way as the IR, articulated the value of international education in its many dimensions. Nearly all are supported by larger financial bases than the IRR and they are widely indexed and accessible online in academic libraries. Most are available on-line, non-members/subscribers may be charged a fee for access, rather than open and free to access as is the case with the IRR. But, more so this author concludes that the scholarly achievement of authors in the IR would benefit international education by having a path for distribution of their work. Thus, due to the first journal (IR) being well written but not widely circulated beyond the Society members, nor indexed, the second journal (IRR) is using its connection with indexers to disseminate that knowledge. For these reasons, future issues of the *International Research and Review*, will include re-prints of articles previously published in the *International Review*.

References

- AIEA (Association of International Education Administrators). (2021). Home page website. [Home \(aieaworld.org\)](http://aieaworld.org).
- Anatol, K. (May 2011). Remarks in *The Medallion, Newsletter of Phi Beta Delta Honor Society for International Scholars*. 25th Anniversary Issue, [MEDALLION-25TH-Anniversary-Issue-v3.pdf \(phibetadelta.org\)](http://phibetadelta.org/MEDALLION-25TH-Anniversary-Issue-v3.pdf).
- Anatol, K. (May 1996). Ten year celebration of Phi Beta Delta, History of Phi Beta Delta. *Phi Beta Delta*, Columbus, OH.
- Brademas, J. et.al. (1966). International Education: Past, Present, Problems and Prospects. Selected Readings to Supplement H. R. 14643. *House Document Number 527*. <https://eric.ed.gov/?id=ED087643>
- Harari, M. (1972). Global Dimensions in U.S. Education: The University. Center for War/Peace Studies. <https://files.eric.ed.gov/fulltext/ED061911.pdf>.
- Hudzik, J. K. (2011). Comprehensive internationalization: From concept to action. *NAFSA: Association of International Educators*. Washington, D.C. <https://shop.nafsa.org/SearchResults.aspx?searchterm=hudzik&searchoption=ALL>
- Greisberger, J. (1996). Comments on the 10th Anniversary of Phi Beta Delta, *Phi Beta Delta*, Columbus, OH.
- Greisberger, J. (May 2011). Remarks in *The Medallion, Newsletter of Phi Beta Delta Honor Society for International Scholars*. 25th Anniversary Issue, [MEDALLION-25TH-Anniversary-Issue-v3.pdf \(phibetadelta.org\)](http://phibetadelta.org/MEDALLION-25TH-Anniversary-Issue-v3.pdf).
- NAFSA. (1979). Standards and Responsibilities in International Educational Interchange. Guidelines Series I. National Association for Foreign Student Affairs, Washington, DC. Field Service Program. Department of State, Washington, D.C. <https://files.eric.ed.gov/fulltext/ED324264.pdf>
- Phi Beta Delta. (1986). *By-Laws*. [PBD-By-laws-May-2020.pdf \(phibetadelta.org\)](http://phibetadelta.org/PBD-By-laws-May-2020.pdf).
- Senge, P. and C. Christensen in Capener, D., Silos in higher education. *LinkedIn*, August 25, 2015 <https://www.linkedin.com/pulse/classic-example-how-difficult-fight-silo-mentality-become-don-capener/>
- Smithee, M. (2011). *Considering the Relationship of Publications to Phi Beta Delta*. Unpublished internal Phi Beta Delta report.
- Smithee, M. (2012). Finding leadership for the internationalization of U.S. higher education. *Journal of International Education and Leadership*, Spring 2012, 2:1. <http://www.jielusa.org/home>

About the Author

Michael B. Smithee, Ed.D., is an experienced international educator, intercultural trainer, editor of publications. He established his international educator career and taught at Syracuse

University, retiring in 2005. He has consulted on internationalization with institutions abroad and nationally, including HBCUs. He has published on such topics as the meaning of being an international educator, leadership in international education, intercultural components to academic integrity, U.S. classroom culture, and cross-cultural crisis management. In addition, he is the editor-in-chief of the journal, *International Research and Review, Journal of Phi Beta Delta Honor Society for International Scholars*.

Endnotes

-
- ⁱ Stephen K. Bailey was Dean of the Maxwell Graduate School of Citizenship and Public Affairs, Syracuse University, and also serves as chairman of the Commission on International Education Of the American Council on Education. Frank Bowles was Education Program Director of the Ford Foundation.
- ⁱⁱ AFS (American Field Service),
AIFS (American Institute for Foreign Study)
AIEA (Association of International Education Administrators)
AMIDEAST (America-Mideast Education and Training Services, Inc.)
ASIA Foundation (The Asia Foundation)
CIEE (Council On International Educational Exchange)
IIE (Institute of International Education)
NAFSA (NAFSA: Association of International Educators)
- ⁱⁱⁱ One should ask, how would international education have evolved had the IEA-66 been funded? This is a topic that would be a nice thought piece for another paper.
- ^{iv} Earlier data was not available to the author at the time of this writing. The data reported is an example of the poor numbers of mobile domestic students.
- ^v Karl W.E. Anatol, Ph.D., Dean of Humanities at the California State University, Long Beach, shared the founding of Phi Beta Delta, with Edward Blankenship, Ph.D., Director for the Center for International Education. Dr. Anatol was the first executive director of the Society.
- ^{vi} John Greisberger, Ph.D., served as the Executive Director of Phi Beta Delta from 1991-1996, while at Ohio State University.
- ^{vii} Michael Smithee, Ed.D. served in the presidential stream from 2005 – 2007. Since 2008 he has served as Director of Publications and editor of the journal, *International Research and Review*.
- ^{viii} This is a partial list taken from the website of the New York University, Steinhardt School of Culture, Education, and Human Development. [<http://steinhardt.nyu.edu/humsocsci/international/journalsandpublications>][8/6/2011]

Journals related to International Education

1957 Comparative Education Review
1967 European Journal of Education
1971 Compare-A Journal of Comparative Education
1981 Canadian and International Education
1981 Comparative Education
1990 International Educator Magazine, published by NAFSA
1995 International Higher Education
1997 Journal of Studies in International Education (JSIE)
1998 University Teachers College
1999 International Journal of Multicultural Education
2001 IIENetworker
2008 The European Educational Research Journal

Editor's Note: The following article is reprinted (with updated format editing) from the Phi Beta Delta International Review, Volume II, Fall 1991, pp. 67-75. The *International Review* is the predecessor of the current publication. It is re-printed here to provide international educators with an historical view of scholarship on efforts to develop international educational research.

Internationalizing The University: A Transactive Model Of Exchange, Predicated On Education, Participation And Training

Peter A. Dual, Ph.D. and Li-Rong Lilly Cheng, Ph.D.
San Diego State University

Abstract

Since 1987, the College of Health and Human Services at San Diego State University has facilitated two-way exchanges of information and service with the Republic of China, a model of a newly industrialized country of the Pacific Rim. The challenges of working creatively to educate the College and University to international opportunities with the Republic of China, Taiwan, are presented in this paper as a case study. It includes a description of the elements of a global shift in relationships between the countries of the Northern Hemisphere (North America and Europe) and those of the Pacific Rim, specifically the Pacific-Asian countries that border the Pacific Ocean including Japan, Korea, Taiwan, China and Singapore. The projected population growth of the countries in the Pacific Rim, combined with their large trade surplus and increased standard of living create a great economic interest to the countries in the Northern Hemisphere. The evolution of the Republic of China from a developing country to a "newly industrialized country" is presented as a case study that illustrates the impetus of the global shift. In addition, a model of assessment of educational training, participation and exchange at the departmental, college and university levels is included as well as a developmental program with the Republic of China. Finally, implications for future international development are addressed.

Global Shift

In ten years, the year 2000 will emerge, and if all current indicators in the areas of population, technology, trade and economics prove to be accurate, the 21st Century will be a "Pacific Century." In the sense that Europe's technological, economic and political power was a primary world influence in the 19th century, it was a "European Century." In the first half of the twentieth century, this European influence gave way to Atlantic influence as North America, especially the United States, arose as a world influence in the economic and political arenas. In more recent decades of the 20th century, the balance once again shifted, this time towards the Pacific. In 1986, more than 60% of the world's population lived in countries facing the Pacific Ocean. The combined gross national products of the Pacific Nations, excluding those of the U.S., has increased to two-thirds of the U.S. Gross National Product—twice the amount produced only two decades earlier. When combined, the economies of the Pacific Rim countries were more than

three trillion U.S. dollars, this figure growing by three billion dollars a week. It is projected that in ten years, the Pacific Rim countries will become the center of a global community (Dual, 1988).

The aggregate population of Pacific Rim countries in Asia is projected to be 1.962 billion by the year 2000, as compared with 268 million for the United States in that same year. In a trend paralleling these population statistics, all evidence suggests that the relative concentration of economic, technological and human resources will continue to shift towards the newly industrialized and developing countries of the Pacific Rim (Dual, 1987). The Republic of China in Taiwan is an excellent model of a newly industrialized country in this area.

A Case Study: Republic of China

Within the span of a generation, the Republic of China in Taiwan has become one of the world's leading growth economies. Incorporating principles and philosophies drawn from 'a highly evolved cultural heritage, the Republic of China has utilized its limited available land and precious natural resources to become an acknowledged "economic miracle, often looked upon as a model for developing nations throughout the world. Taiwan has the fourth largest trade surplus in the world. And does more business than France, Italy, the Netherlands, Belgium and Luxembourg. Under the policy of liberalization and internationalization, Taiwan's economy has not only increased its trading strength, but has broadened the current year's commercial export activities as well. The GNP reached US 5.000 in the year 1987, a sign of Taiwan's prosperity and affluence (Tseng, 1987).

In the sphere of social development, the government of Taiwan has given priority to labor and agricultural benefits and rights. It has set own a comprehensive "Outline of the Current Stage of Labor Policy" and an "Outline of the Current Stage of Strengthening Farming Villages." A Labor Commission has been established to improve conditions for workers. At the same time, in the interest of preserving the ecological environment, an Environmental Protection Bureau has been set up (Tseng, 1987). Current changes such as these reflect Chinese culture and tradition which emphasizes the importance of maintaining harmony within relationships.

The Chinese culture is based heavily upon the teachings of Confucius. Five major relationships are emphasized—namely, superior and subordinate, father and son, teacher and student, husband and wife, brother and sister (Cheng, 1989). The concept of family in China is a comprehensive one. Each member of the family has a role and a position that is clearly defined through an intricate kinship system. Culturally, familial relationships are regarded as more important than any other social relationship. Moreover, the family unit is responsible for developing and cultivating proper values and work ethics which, in turn, produce the hardworking and motivated population that has enabled the Republic of China to become so successful in its modernization process.

Within the family, filial piety is highly regarded. Traditional Chinese parents sacrifice personal needs to provide for their children, but in return, expect unquestioning obedience from

them. Respect for one's elders, and hence for authority, is instilled in their children from the start. The hierarchy within a traditional Chinese family is well defined: the father is responsible for all family members; the mother is responsible for the care of the children; the older siblings are responsible for the care of the younger ones while the younger siblings are to obey the older ones.

Discipline is another important part of the Chinese culture. Parents use shaming, withdrawal of love, and the implication of "loss of face" when disciplining their children. They constantly remind their children that any misbehavior reflects on the entire family (Cheng, 1988). Parents teach their children to behave according to strict rules and expect them to follow the example of their older siblings. Consequently, maintaining harmony within the hierarchy of relationships is desired. Children are not to be aggressive nor to seek confrontation. Value is placed on outward calmness and control of such undesirable emotions as anger, jealousy, hostility, aggression, and self-pity.

This is a brief summary on the modernization achievement and cultural inheritance in the Republic of China. San Diego State University has been active in promoting cross-cultural understanding with all the Pacific Rim countries. The exchanges are based on the transactive model which means the transmission of knowledge and information and expertise and the interaction of knowledge, information and expertise. The following section describes our transactive model of exchange/involvement, participation and education/training which took place between San Diego State University and several institutions of the Republic of China on Taiwan.

San Diego State University Transactive Model of Education/Training, Participation and Involvement/Exchange Assessment

To build an international transactive program, an evaluation of the existing human and fiscal resources and restraints as well as the institutional policies regarding international development needed to be completed. The initial step to undertake such an endeavor was to identify those individuals who had expertise and experience in international development. The following guidelines were used to assess the human resource component.

- personal data.
- area of expertise
- international experience
- number of years in international development
- areas of international development
- leadership quality
- language background
- cultural sensitivity
- contact in host country
- pertinent projects/research activities

Using these guidelines, it was possible to identify and nurture the development of potential leaders who would be able to go beyond their domain of interests and facilitate development of their cohorts for cooperative development of expertise.

Governing institutional policies supportive of international development are essential. In the Mission and Goals of San Diego State University it states that SDSU is

....located in a large and ethnically diverse metropolitan center bordering Mexico and astride the Pacific Rim. The University uses the social, cultural, scientific and technical resources of this region to enrich its teaching and research programs. Through teaching, research and service, the University is responsive to the needs of the regional, national, and international communities it serves. Furthermore, the University seeks cooperative programs with other institutions of higher education both in the United States and abroad.

Initially, the College of Health and Human Services had a small group of individuals with expertise in Africa and Asia. The relationship among this group was characterized as having a minimal amount of cooperation and collaboration. In order to facilitate organizational change, active participation of people at various levels of leadership was important. Even more important was the capability of leadership to share opportunities for the involvement of others in the process of transactions, i.e. the President, the Vice-President, Deans, Chairs and Directors and faculty. The initial opportunity began with an invitation from the People's Republic of China. In order to respond to their request to provide lectures on 14 topics covering the continuum of public health interests in China, a meeting of all interested faculty from the College of Health and Human Services was called. Twenty- two faculty members from a variety of disciplines responded. The group was challenged with the task of writing papers on each topic with the agreement that the Dean would deliver the papers on their behalf. It was expected that if the papers were considered culturally sensitive and of excellent quality, the Chinese would reciprocate with invitations. Furthermore, in order to promote international development and provide cross-cultural sensitivity to the College of Health and Human Services personnel, two seminars on international development were offered.

Empowerment Through Education/Training of Personnel

The first education/training of personnel was initiated by a faculty member who offered two seminars on issues in international development with particular reference to developing countries. The seminars were offered to the department chairs and directors of the College of Health and Human Services. They began with an introduction to the history of international development with focuses on definitions and scope; views and approaches; the use of labels on developed and developing countries, and less developed countries; East-West, North-South geopolitical relationships; various agency and organizational contingency interest sectors in international development; and major international development issues and their importance to populations and land of a country. The following topics were included in the seminars:

- Introduction to international development
- Population issues in international development
- Current sociodemographic changes and future prospects in developing countries
- Consequences of rapid population growth
- Family planning delivery systems in the developing countries
- Contraceptive prevalence in the developing countries
- Child survival issues
- Maternal mortality issues
- Operational research in family planning, health, and social services

The same seminars were offered to motivated and interested faculty members of the College of Health and Human Services.

All of these efforts were interventions to educate the academic administrative leadership and faculty in order to create a climate that would nurture and enhance international understanding and promote interaction. Later, the focus was placed on a broader institutional goal throughout the university and its community, eventually involving university leadership in international development as a part of the mission of the university.

Participation in International Activities: Department, College, and University

International participation has occurred at all levels within the hierarchy of San Diego State University. At the university level, the President, his wife, and the Vice President visited the institutions of higher education in Taiwan and met with the Ministry of Education and other governmental officials. The greatest proportion of participation arose within the departmental level. Various faculty members from the different departments pursued a series of projects ranging from attending Sino-American conferences to providing workshops and conducting research. Furthermore, faculty members from other colleges collaborated with their counterparts in Taiwan.

In summary, during the past two years, 35 short-term visits have been made to Taiwan by San Diego State faculty and administrators, and 15 representatives from the Republic of China, including many Taiwan university presidents, have visited the San Diego State University campus. All these activities and relationships have paved the way for further involvement and exchange of information.

Empowerment Through Information Exchange

A proposal was submitted to the Pacific Cultural Foundation from the College of Health and Human Services requesting funding support. The first component of the proposal was the preparation of scholarly papers in the area of environmental protection including toxicology, wastewater treatment, air and food quality maintenance. Acknowledged authorities in these areas comprised of faculty at San Diego State University and major institutions of higher education and research presented papers that encompassed the accumulated body of knowledge in their

respective disciplines and delineated the successes, failures, and problems yet to be solved within the context of Western technological and human resources development. Concurrently, researchers and scientists in the Republic of China in these disciplines prepared papers that focused on the concrete realities in the Republic of China, describing the development and current status of health and environmental concerns and presented approaches for addressing them. These scholarly papers were then presented at a public conference in the Republic of China to promote exchange and facilitate discussion on implications for improvement in future development.

Following the conference, the second component of the project involved field visits by jointly staffed (Chinese/U.S.) professional expert teams comprised of scholars who participated in the conference. During these site visits, the teams in each discipline area examined the current concrete problems and processes in the Republic of China, identified appropriate data and mutually consulted to discuss needed changes and proposed specific recommendations for improving the quality of life in the 21st Century.

The proposal was accepted and a decision was made to hold the first 'Sino-U.S. Binational Conference on Environmental Protection and Social Development,' on August 20-25, 1989, in Taipei, Taiwan. The Conference was jointly sponsored by the Pacific Cultural Foundation, the National Taiwan University of the Republic of China and San Diego State University of the United States of America. The Conference matched U.S. specialists with Chinese counterparts who presented corresponding cultural perspectives on environmental problems, as the "best of the East met the best of the West." it was believed that through collaboration between both U.S. and R.O.C scholars currently active in professional and research activities in these interrelated fields, the conference was a useful forum for the exchange of views and experiences.

Implications

It the United States is successfully to meet the diplomatic and economic challenges of the 21st Century, a new cadre of internationally competent leaders in government, business, education, health, politics, communications and other related fields must be trained. To develop this expertise, it is essential to significantly increase the number of faculty motivated and prepared to teach in specialized studies. Our nation needs the educational infrastructure to provide such education to students in order to prepare them to work in a multicultural and increasingly global society.

At the same time, the United States needs to educate the public, resulting in a society that is better informed, more interested, and more competent to interact in our global village. The public needs to know to what extent our daily lives and our overall standard of living are affected by international events.

The changing nature of the world around us demands changes in the planning, organization and delivery of services and education. Needed is a new national attitude and commitment to education for the international 21st Century, specifically, a "Pacific Century." U.S. students must acquire vital international knowledge and skills, and the American curriculum

must reflect multiculturalism. Faculty must be educated to understand global trends and issues, languages and cultures and to infuse their expertise across cultural boundaries.

- To generate such changes, the following recommendations are offered:
- Make international development of faculty/students an institutional priority. _
- Nurture faculty development by providing opportunities for international involvement in teaching and research activities.
- Provide institutional funding to support infusion of multicultural/international information for curriculum development.
- Develop the international dimension of various academic disciplines by strengthening international linkages among the disciplines and with colleges abroad while also ensuring that the international content includes all cultures.
- Adopt foreign language competency requirements. Encourage students to pursue studies in foreign countries.
- Provide incentives such as promotion and tenure policies which do not discriminate against international opportunities for research, travel, sabbatical leave and special service programs for faculty .
- Provide financial assistance for students from diverse backgrounds to participate in study abroad programs in all parts of the world. I
- Create an intra-campus and intercampus network of scholars that are motivated in international development.
- Sponsor public lectures for citizens in order to educate the public about international awareness.
- Finally, regional universities have a responsibility to network with local and state Chamber of Commerce and business leaders for information and service exchange that may have vital economic development implications for communities.

Movement toward the multicultural university of the 21st Century compels the U.S. to embrace diversity and to promote understanding of the global village. It is only through commitment, vision, and collaboration that appreciation of humanity can be advanced.

There is a need for institutions of higher education to redefine themselves as culturally diverse, in keeping with the true fabric of the American tapestry (Cheng, 1990). Furthermore, institutions must understand the interdependencies of nations and peoples and make a concerted effort in promoting mutual understanding and exchange programs so that we collectively can ensure world peace and prosperity.

References

- CAFLIS. (1989). International competence: A key to America's future. The Coalition for the Advancement of Foreign Languages and international Studies.
- Cheng, L. (1987). Assessing Asian language performance: Guidelines for evaluating Limited-English- proficient students. Rockville, MD: Aspen Publishers.
- Cheng, L. (1989). intervention strategies: A multicultural approach. Topics in Language

- Disorders, 9(3). 84-91.
- Cheng, L. (1989). The promotion of Environmental protection through media and social movement. Proceedings of the Sino-US Bi-national Conference on Environmental Protection and Social Development. Taipei, Taiwan, Republic of China.
- Dual, P. (1987). A new CSU focus: The Pacific Rim. Stateline. The California State University, Long Beach, CA.
- Dual, P. (1987). Agenda for the 21st Century: The Pacific Rim countries and the challenge for leadership in international development. Chinese Medical Journal, 40(1), 20-24.
- Dual, P. (1988). Editorial, "Pacific Rim nations affect economy of California, U.S." The Tribune, January 12, 1988, p. B-6.
- Gadalla, S. (1987). Issues in international development with particular reference to developing countries. Unpublished manuscript.
- Lai, K. (Ed.). (1987). Innovation and development. Taipei, Taiwan: Overseas Chinese Affairs Commission.
- Tseng, K. S. (1987). Preface in K. Lai (Ed.). *Innovation and development*. Taipei, Taiwan: Overseas Chinese Affairs Commission.
- Tseng, K. S. (1987). Preface in K. Lai (Ed.), *Innovation and development*. Taipei, Taiwan: Overseas Chinese Affairs Commission.

About the Authors

Peter A. Dual. Dr. Dual is Dean of the College of Health and Human Services and Professor of Public Health at San Diego State University. Dr. Dual also served as Dean of the College of Health and Human Services and Professor of Health Administration at Eastern Michigan University, and is distinguished as the first black academic Dean in the History of both Eastern Michigan University and San Diego State University. Dr. Dual's research and publication interests include the areas of organizational development, management, health manpower development, health policy formation, international studies, and models for the transaction for information and service across cultural boundaries. His international experience includes work and travel in Africa (Zimbabwe, Tanzania, and Kenya) as well as the Pacific Rim (Taiwan-Republic of China, Japan, and China-People's Republic of China).

Li-Rong Lilly Cheng. Dr. Cheng is Associate Professor of Communicative Disorders and Assistant Dean of Student Affairs and International Development at the College of Health and Human Services at San Diego State University. She is also the coordinator for the Bilingual/Multicultural Certificate Program. Dr. Cheng has authored numerous publications, and two of her most recent published books are *Assessing Asian Language Performance: Guidelines of Evaluating Limited English Proficient Students* and *On Communicative Disorders*. Dr. Cheng serviced on the Language Panel, National Strategic Research Plan of the National Institute on Deafness and Other Communication Disorders under the U.S. Department of Health and Human Services.

Editor's Note: The following article is reprinted (with updated format editing) from the Phi Beta Delta International Review, Volume II, Fall 1991, pp. 51-66. The *International Review* is the predecessor of the current publication. It is re-printed here to provide international educators with an historical view of scholarship on efforts to develop international educational research.

Student Knowledge And Attitudes Toward International Health Issues: Applications To Teaching

Dr. Mohammed R. Forouzesh
California State University, Long Beach

A serious question facing the world's leaders today is how responsibility for the new global problems will be shared in the international Community. Continuing (population growth, the accumulation of Greenhouse gases, and the clearing of tropical forests are a class of problems whose consequences are cumulative, whose causes are interactive, and whose effects transcend national boundaries. Today there exist few effective models in the world for managing such complex problems. No generation has ever been faced with such a complex set of global issues requiring immediate attention (State of the World, 1987). It is the responsibility of the young and those who educate them to bring these issues into focus and to challenge new minds to seek out viable solutions and alternatives.

Students entering an college class carry with them beliefs and attitudes toward social an economic conditions and complex global issues. Unfortunately, they go through many classes without ever examining or assessing their attitudes towards these issues. Student inability to analyze, debate, and discuss complex international issues, issues which often cross many ethical and moral boundaries, is a problem not easily addressed by many teachers. Health teachers addressing this problem recognize that student misconceptions become, in many instances, an obstacle to learning. For teachers in International Health, this is a particularly sensitive problem.

Most international health curricula go beyond the acquisition of knowledge to encompass attitudes and behavioral changes. The purpose of this study was to create a tool that would enable health educators to identify, measure, and assess their students' knowledge and attitude toward international health issues. As a result, teachers would be able to formulate a baseline and a point of departure for teaching courses in this area.

Methodology

In order to expand the existing international health curriculum, a self-administered questionnaire was designed as an assessment tool. A total of 365 students were surveyed from randomly selected health classes at the California State University, Long Beach. The questionnaire consisted of 20 true-false questions, 20 multiple choice and 16 attitude scale questions. Several resources were used to design the existing instrument. This instrument was developed from informal class evaluations and a pre-assessment tool to its existing form. The questionnaire was revised to its existing form through several rounds of pilot testing and

revisions. The data of this study was collected by administering this questionnaire to junior level students in the international health courses during the first week of classes.

The UNICEF State of the World Children, 1989 was used as a resource to formulate questions on causes of mortality and morbidity among children in the developing nations (UNICEF, 1986). The Hunger Project was used to formulate certain attitude questions toward food aids and issues related to food distribution and hunger in the world (Hunger Project, 1985). Demographic and population related questions were developed by using Population Reference Bureau, 1988 and The State of the World atlas (Kidron and Segal, 1981). Students were given copies of the questionnaire and separate answer sheets to mark their responses. They were assured that their responses would remain completely confidential and that their participation was voluntary. No name or identification would be required to participate in this study. An SPSS program was used to analyze the results.

Results

The average student age was 21 with Juniors and Seniors born United States constituting a majority of the participants. The majority of students were Business majors (26%) followed by Health Science students (17%). There were almost twice as many females as males who participated in this study (64% to 36%). Only 13% of the students were from other countries. Table 1 shows students by major. A general review indicated that students seem to view the world as a homogeneous group rather than a multi-cultural and diverse population. For example, 21% responded that solutions to women's health problems in most parts of the third world are basically the same. They had a poor understanding of current and future demographic trends including an exaggerated view of the world population: approximately 28% thought that the population of the earth is 8.2 billion, and 40% estimated that the current population is 7.2 billion. Almost 56% marked that the population of the earth is projected to double in 20 years not as is projected in 39 years. Regarding questions on economic inequities, they had a better understanding of the world's consumption of resources and existing economic gaps between Western and non-Western countries. On questions of health issues, 26% thought that the best treatment for diarrheal diseases is to withhold water. Thirty-one percent responded that bottle feeding most likely will not increase the survival rate of infants and 22% responded that for most children of the world diarrhea is not a problem, since they are "used" to the water. On other health issues, 48% marked that malaria is no longer a major world health problem today. Approximately seventy-five percent marked that famine is the most common form of hunger in the world and 39.5% marked that only one half of the developing countries did not have adequate access drinking water. When polled regarding diseases which have been almost eradicated worldwide, twenty percent of the respondents noted tuberculosis, 12% thought cholera and 16.5 believed that malaria had been eliminated.

In regard to political and economic issues, 27.5% marked that the major causes of poverty are political; 14% social; 14% geographic. Twenty-eight percent responded that, as

students, the best way they could help children in other countries was to donate personal and financial goods, 67% expressed desire to participate in action projects aimed at helping people help themselves, and only 5% would volunteer to go overseas. (See table 3).

The attitude assessment part of this study raises some interesting questions and presents conflicting beliefs on certain issues. Regarding self-determination, only 39.5% agreed that people in the third world themselves should dictate how many children they should have; 60% disagreed. In the areas of economic inequities and over-consumption, 46% agreed that hunger and poverty are caused mainly by the over consumption patterns of rich nations. Most of the participants (77.5%) disagreed that hunger is inevitable and cannot be eliminated, and 70.5% disagreed that the cost of eliminating hunger worldwide is so high that it is economically impossible to end hunger on sustainable basis.

Most students were somewhat confused regarding the scope, logistics, and benefits of foreign-aid; 30.5% agree that aid given to a developing nation disrupts the recipient nation's economic system and its people's ability to become self-reliant. However, 62% agreed that foreign-aid programs contribute to national development, stability, and self-sufficiency in recipient nations and that it encourages economic, agricultural, and political independence. Surprisingly, only 38.5% agreed that foreign-aid given to other countries is the best way to enforce human rights policies.

When the choice was between helping other countries or focusing on domestic problems, an overwhelming 70% agreed that the U.S. should care for its own hungry people first before offering aid to other countries. However, 59.5% were in favor of increasing the amount of food assistance to others and 72% were in total agreement that in this country we have the moral obligation to assist the poorer nations. (See table 4).

Discussion

It is clear that basic information on population and demographics, understanding social and multi-cultural practices, and knowledge of global, political, and economic status are essential to dealing with complex international problems. Unfortunately, this study indicates that the students are unprepared in these areas.

On a positive note, the results of this study reveal an overwhelming sense of humanity and compassion among our students. They feel a sense of obligation and moral commitment to help others. This value structure is ideal for a teacher to nurture the common spirit of global community in any course objective.

Knowledge base combined with an in-depth analysis of complex issues is needed to achieve a higher level of learning in regard to international issues. Solutions to global issues are so complex that traditional teaching methods are insufficient in the classroom. The constant changes in the political, social, and economic situation in the world also in make it necessary to find new ways to teach international health. Teachers are faced with a world that is changing so rapidly that information taught during the past academic year may in reality be "History" and

completely outdated. Therefore, placing the focus of the teaching on interpretation and analysis of global issues and having students be active participants, will provide more lasting results.

This is not to say that we need to change the nature of any course objective, but to design activities to reinforce the concepts taught in the class. Complex and often incomprehensibly difficult political, social, and economic issues are closely tied to the moral and ethical belief systems of all nations. These complex issues are placing each nation in a position to make agonizing choices. For example, we find that human rights issues and economic priorities in many nations are in conflict with one another. The quality and quantity of health care services are often imbalanced in favor of political and military expenditures.

Teachers will find themselves in the position of trying to explain very complicated cause-and-effect relationships. For example, does assistance given to developing countries result in higher birth rates and therefore, ultimately, higher infant mortality rates? The questionnaire used in this study is an ideal first step to identify students' deep feelings and beliefs. Following this assessment phase, analyzing, diagnosing, designing teaching strategies, and evaluating could follow. Once the assessment has been completed, the instructor should analyze the findings and diagnose student strengths and weaknesses. Based on the analysis, teaching strategies and activities can be designed to meet the course objectives. Building from more simple issues to more complex ones seems to be a very effective strategy. Structured small group discussion, with vigorous interactions and teachers' input could be used as a teaching tool. That will provide an excellent opportunity for students to feel comfortable with one another and learn how to function in a group. In the case of more complex issues, it may be helpful to conduct role playing or to require students to take sides in an issue and openly debate it in the class with documentation. Those students who may have difficulty with open debates, especially those from other selected countries, could use a question and answer lesson or the interview styles most commonly conducted in the media as a method.

According to WHERE, 1989, larger scale projects such as adopting a school in another country to help share resources, developing case studies for class discussion, reviewing and discussing foreign movies, and forming clubs for special projects are other ideas that are suggested (Project WHERE, 1989). WHO can also provide poster-sized copies of "The Health Game" and "Our Planet" in several languages for classroom use (World Health, 1989, 1990).

As part of the presentation of this paper at the 1990 Annual National Phi Beta Delta conference, the other participants were asked to share some of their ideas on how to internationalize courses. The first most common suggestion was to include foreign students within their own classrooms or throughout the university to internationalize courses. They could participate as speakers or by being paired with other students. Foreign student clubs and officers in charge of foreign student affairs on campuses could assist any faculty member in this endeavor. However, it is important not to overly use or misuse these students since there are many demands already being placed on them. Foreign visitors, returned Peace Corps Volunteers, and visiting diplomats are other valuable sources.

The conference participants also highly recommended the utilization of news coverage on international issues through television and newspapers as another useful method to internationalize course content. For example, comparing and contrasting different international news coverage on various topics, and using newspapers from other countries would be worthwhile. Clipping newspaper and magazine articles on international health issues and posting them on designated bulletin boards in the class could bring contemporary issues into focus and acquaint the students with sources of international news. Encouraging students to check out ethnic restaurants and recipes, travel guides and tips could be among other fun activities. Therefore issues such as immunization could be covered as a class topic in the context of international travel. Listening to short wave radio could be an interesting departure from a lesson on geography.

In conclusion, teaching international health could be viewed as a challenge to nurture in our students a life-long positive attitude toward resolving global issues and viewing themselves as citizens of the world. According to "The State of The World 1990," "no generation has ever been faced with such a complex set of global issues requiring immediate attention. The time has come to make peace with each other so that we can make peace with the earth." The urgency to act, the spirit of global harmony and the commitment to respect our differences, view most issues globally, and learn the world around us could be instilled in our classrooms.

Table 1

Major

Major	N	%
Business	95	26
Health Science	61	17
Psychology	18	5
Computer Science & Engineering	17	5
Home economics	17	5
Natural sciences	17	5
Liberal Studies	14	4
Physical Education	13	4
Nursing	12	3
Physical Therapy	12	3
Criminal Justice	10	3
Journalism	9	2
Political Science	9	2
Undeclared	28	8
Others	30	8
TOTAL	326	100

Table 2*Individual Item Analysis: True-False (* denotes correct choice)*

ITEM	TRUE	FALSE
1. The Western countries such as U.S., France, G.B., and non-Western countries consume world's resources equally.	10.3	*89.7
2. Approximately 1-2 percent of the developing countries' Gross National Product (total goods and services produced each year) is spent on health care.	*49.9	50.1
3. The life expectancy in the developed countries is almost the same as that of the developing countries.	5.6	*94.4
4. Solutions to women's health problems in most parts of the third world are basically the same.	32.3	*67.7
5. Malnutrition and parasitic diseases are the greatest threat to health in the developing countries.	*91.1	8.9
6. 50 percent more people will be on the planet in the year 2000 than there were in 1975.	*70.7	29.3
7. Famine is a most common form of hunger in the world today.	75.9	*24.1
8. Malaria is still a major world health problem today.	*51.8	48.2
9. Leprosy is considered to be controlled worldwide.	49.4	*50.6
10. The incidence of heart disease and cancer is as high among the non-Western world as the Western world.	30.6	*69.4
11. One of the prime causes of infant death is low birth weight.	*58.4	41.6
12. For most children of the world, diarrhea is not a problem since they are "used" to the water.	22.0	*78.0
13. There is a clear correlation between high levels of female literacy and low levels of infant and child mortality	*57.3	42.7
14. In developing countries, babies who are exclusively bottle food are more likely to survive than those who are breast fed.	31.2	*68.8
15. There is enough food produced in the world to feed the projected world population in the year 2000.	*43.9	56.1
16. An important cause of malnutrition is repeated infection.	*53.4	46.6
17. If present trends continue, the gap between the less developed and more developed countries will remain wide and will probably become wider.	*83.5	16.5
18. 50 percent of U.S. corporations are foreign based and owned.	*67.6	33.4
19. In many African countries, 60-80 percent of the responsibility of the agriculture work is in the hands of the women.	*78.4	21.6
20. The best way to treat a diarrheal disease is to withhold water during the period of illness.	26.1	*73.9

TABLE 3*Individual Item Analysis: Multiple Choice (* denotes correct choice)*

ITEM	% RESPONSES
1. How many countries are there in the world?	
a. 158	*(a) 25.0%
b. 280	(b) 28.0%
c. 356	(c) 31.5%
d. 536	(d) 15.5%
2. Approximately what proportion of the world population lives in underdeveloped (non-industrialized) countries today?	
a. 25%	(a) 27.0%
b. 50%	(b) 37.0%
c. 75%	(c) 35.0%
d. 100%	(d) 1.0%
3. The population of the world as of 1987 was:	
a. 3.2 million	(a) 6.5%
b. 8.2 million	(b) 28.0%
c. 7.2 million	(c) 40.0%
d. 5.0 million	*(d) 25.5%
4. World population has been estimated to double in:	
a. 20 years	(a) 56.6%
b. 39 years	*(b) 23.0%
c. 90 years	(c) 16.0%
d. 315 years	(d) 4.5%
5. Syria and Nicaragua are examples of countries that will double their population within:	
a. 1.5 years	(a) 36.0%
b. 17-20 years	*(b) 52.0%
c. 90 years	(c) 10.0%
d. 200 years	(d) 2.0%
6. The most populated area of the world is:	
a. Europe	(a) 9.0%
b. Africa	(b) 16.5%
c. East Asia	*(c) 66.0%
d. North America	(d) 8.5%
7. Population growth rates are lowest in:	
a. Africa	(a) 18.0%
b. Asia	(b) 12.0%
c. Europe	*(c) 40.0%
d. North America	(d) 30.0%
8. Schistosomas is a:	
a. form of cancer	(a) 11.0%
b. parasitic disease	*(b) 56.0%

- c. mental disorder (c) 18.0%
- d. viral disease (d) 15.0%
9. Which of the following diseases has been almost eradicated because of the World Health Organization program?
- a. tuberculosis (a) 9.5%
- b. smallpox *(b) 52.0%
- c. cholera (c) 12.0%
- d. maria (d) 16.5%
10. Onchocerciasis is a :
- a. bridge in West Africa (a) 4.0%
- b. disease affecting only the black people (b) 16.0%
- c. highly infectious viral disease (c) 45.0%
- d. parasitic disease *(d) 35.0%
11. The leading causes of death in children five years and younger in the developing countries are:
- a. malnutrition and diarrhea *(a) 76.0%
- b. accidents (e.g.: burns, poisoning, etc.) (b) 11.0%
- c. tetanus and septicemia (c) 8.0%
- d. respiratory diseases (d) 5.0%
12. What percentage of the children in the developing world are completely immunized?
- a. 10% *(a) 63%
- b. 25% (b) 23%
- c. 50% (c) 6.0%
- d. 75% (d) 8.0%

TABLE 4
Individual Item Analysis: Attitude Questions

ITEM	% Strongly Agree	%Agree	%Disagree	%Strongly Disagree
1. Hunger is inevitable and cannot be eliminated.	6.0	16.5	47.5	30.0
2. The cost of eliminating hunger world-wide is so high that it is economically impossible to end hunger on a sustainable basis.	4.0	25.5	49.0	21.5
3. The United States should first take care of their own hungry people before offering aid to other countries.	32.0	38.0	23.0	7.0
4. Hunger and poverty are caused by the over consumption patterns of rich nations.	7.0	39.0	43.0	11.0
5. Foreign-aid programs contribute to national development, stability and self-sufficiency in recipient nations and encourage economic, agricultural and political independence.	6.5	55.5	31	7
6. Foreign-aid goes mainly to political allies and the elite of developing countries rather than the needy.	14.0	51.0	32.0	3.0
7. Foreign-aid alone is insufficient to spark economic development.	25.5	58.0	15.0	1.5

8. The aid given to the developing nations disrupts the recipient nation's economic system and its people's ability become self-reliant.	3.5	27	58.5	11
9. Foreign-aid given to other countries is the best way to enforce human rights policies.	36.0	54.0	7.5	2.5
10. Population planning is an attempt by rich nations-some of former colonial power-to keep poor nations subservient.	4.0	22.0	57.0	17.0
11. No one, but people in the Third World themselves should dictate how many children they should have.	6.0	33.5	43.0	17.5
12. Poor people in the developing countries want fewer children and more information on how to make this possible.	6.0	33.0	43.0	18.0
13. In the long run, food-aid will greatly contribute to population growth in the developing countries.	6.5	46.0	42.5	5.0
14. In this country we have the moral obligation to assist the poor countries.	13.0	59.0	24.0	4.0
15. United States should increase the amount of food assistance given to the developing countries.	12.5	47.0	36.5	4.0
16. The U.S. develops and implements food-aid programs on humanitarian grounds only.	4.0	32.0	51.0	13.0

References

- Brown. Lester R., et al. (1987). *State of the World: A Worldwatch Institute report on Progress Toward a Sustainable Society*. W.W. Norton Co. NY.
- International Child Health Foundation. (1987). *Symposium Proceedings Cereal-Based Oral Rehydration Therapy: Theory and Practice*. The National Academy of Sciences, Washington D.C., February 17.
- Kidron, M., Segal, R. (1981). *The State of the World Atlas: A Pluto Press Project*. Simon and Schuster, NY.
- Population Reference Bureau. (1988). *World Population Data Sheet*, Washington D.C.
- Project WHERE (World Health Education Resources Exchange). (1987). *Health for All: Teenage Health Teaching Modules*. For a complete description of the THTM program, additional material, or assistance in using these materials, write to: Teenage Health Teaching Modules, Education Development Center Inc. 55 Chapel St., Newton, MA.
- The Hunger Project. (1985). *Ending Hunger: An Idea Whose Time Has Come*. PREAGER Scientific, New York.
- United Nations Children's Fund (UNICEF). (1986). *The State of the World's Children*. Oxford University Press.
- World Federation of Public Health Associations. (1986). *Health Education*. American Public Health Association, Washington.

World Health: The Magazine of the World Health Organization. (1989). *The Health Game*. January - February. (The Health Game is available in other languages. WHO can provide you with poster-size copies by writing to: The Editor, World Health. WHO, 1211 Geneva 27, Switzerland).

World Health: The magazine of the World Health Organization. (1990). "Our Planet, Our Health." January - February.

About the Author

Mohammed R. Forouzes. Dr. Forouzes is an Associate Professor and the Coordinator of the Community Health Program. At California State University, Long Beach in the Health Science Department, is currently a secretary to the Alpha Chapter of Phi Beta Delta. Dr. Forouzes has taught international Health for six years and is establishing an internship program outside of the United States for the California State program. He is a chairman of the Long Beach area Committee for UNICEF and has worked on the National Child Survival Campaign, as well as on the ORT and MCH education programs in Baja, Mexico.

Editor's Note: The following article is reprinted (with updated format editing) from the Phi Beta Delta International Review, Volume III, Fall 1992-Spring 1993, pp. 99-114. The *International Review* is the predecessor of the current publication. It is re-printed here to provide international educators with an historical view of scholarship on efforts to develop international educational research.

International Consortium for Research in Science and Mathematics Education (ICRSME): A Model For International Educational Research

Donna F. Berlin, Ph.D.

The Ohio State University, Newark

Arthur L. White, Ph.D.

The Ohio State University, Columbus

Introduction

Cooperative measures are defined as those endeavors which enable an association of a number of people to operate jointly toward the same end and share in the ensuing benefits. It is assumed that groups of educators and institutions are more effective in solving the complex problems of education than if independent and unilateral actions are taken (Houston, 1979). Much of the literature related to cooperative measures in educational research includes observations and specific case studies and is based upon intuition or folklore (Hord, 1985). Few cooperative efforts have been developed based upon an articulated cooperative model. Little attention has been given to the specific components and processes related to cooperative measures in research including the structure, key elements, operating principles, impediments, positive and negative consequences, and support and reward systems (Hord, 1985; Houston, 1979). The result has been a number of descriptions related to collaborative research projects and comparative education studies (Scheirer, 1986). Clearly, there is a need to articulate a model for international cooperation to guide international educational research exchange.

The review of the literature and an in-depth analysis of experiences related to the International Consortium for Research in Science and Mathematics Education (ICRSME) has led to the identification of several essential components and operating principles for maximizing the success of similar international education consortiums. This paper will describe a model for the development of an international consortium focused upon educational research along with a discussion of its implementation. Each of the model components will be described along with a discussion of the activities, consequences, and recommendations related to the efforts of ICRSME. With increased attention to the elaboration of the consortium model, its components, operation, and benefits, both the consortium model and ICRSME have evolved over time.

Mission and Goals

The consortium's primary mission is the improvement of educational opportunities in participating countries. Improvement in education should not be limited to the universities

involved; activities should have positive benefits for all grades, from elementary to the 9graduate school including faculty. The underlying rationale for the international consortium model for educational research . and exchange is that the collective efforts of students and faculty of participating institutions and countries will through synergy produce results that could not be achieved by any one institution or country acting alone. The importance of individuals and institutions working together, cooperating, to solve educational problems and improve educational practice transcends national boundaries (Scheirer, 1986).

In order to serve the mission, the consortium model includes five interrelated goals:

1. Promoting cooperative efforts among scholars in participating countries
2. Designing, facilitating, and conducting research toward the
3. pursuit of a better understanding of teaching and learning
4. Developing academic exchange programs between universities in order to broaden the educational experiences of students and faculty
5. Acting as an impetus in establishing ties between the local, state, and national educational associations in the participating countries
6. Identifying the particular educational needs facing current and emerging minorities in the participating countries and directing research to meet those needs.

Participants

A philosophy intrinsic to the consortium model is the need for the commitment to individuals within the consortium. While organizations and institutions may be the enabling factors in cooperative endeavors, the people within the organizations must do the work.

Participants in an international cooperative program should:

- have shared concerns, interests, and goals (i.e., professional ties);
- value, agree on the need, and choose to be involved in the cooperative endeavor (e.g., willing to commit great amounts of time and energy);
- value and appreciate the perceptions, perspectives, and contributions of others; and
- be flexible, patient, persistent, and willing to share.

Collaboration

A productive consortium must move beyond the cooperation level and be involved in truly collaborative efforts. Collaboration implies co-investigation and is characterized by respect for differing perspectives and expertise, open and honest communication, ongoing material and collegial support, and recognition of the contributions and efforts of others. Research productivity and impact, expanded educational knowledge, and improved education in the participating institutions and countries will result from collaborative efforts. An international consortium focused upon education may be involved in a number of collaborative activities including research, curriculum development, innovative initiatives, shared resource

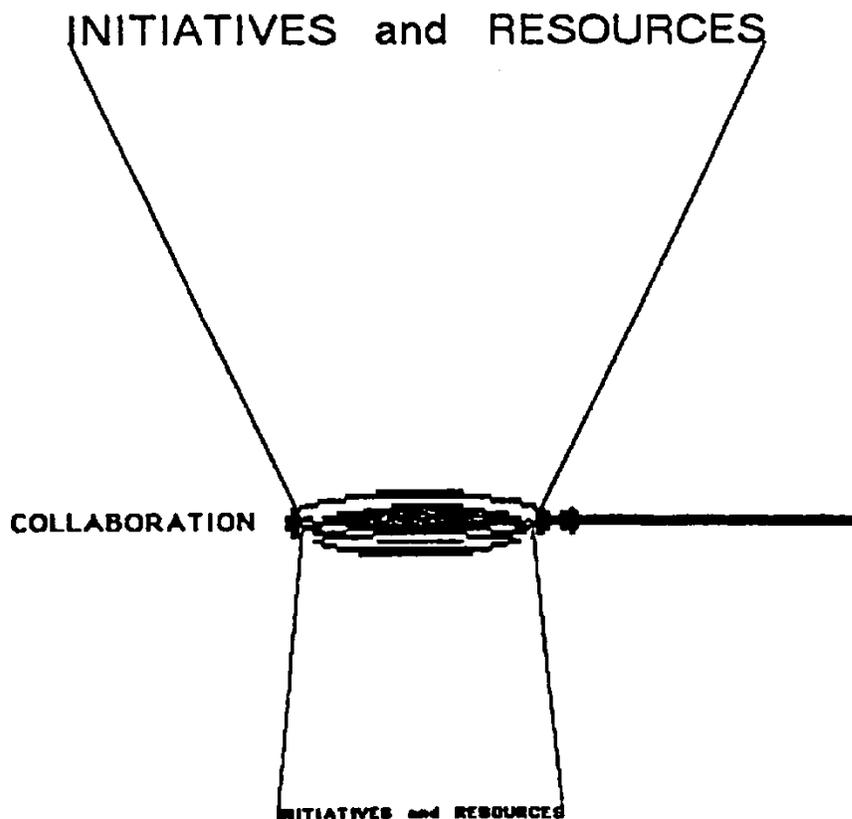
opportunities, and information dissemination.

International collaboration will increase opportunities for identifying the common and unique research needs in education thereby facilitating conceptualization of research problems. This in turn leads to development of concrete proposals for research; pooling of resources (human and otherwise) across school and national boundaries; improvement in research skills; delineation of coordinated data gathering procedures; and dissemination of findings, interpretations, conclusions, and implications of research in the participating countries.

Collaborative efforts related to curriculum development and innovative initiatives may involve coordinated development; evaluation; and refinement of instructional models, materials, and teaching methods as well as the translation of existing materials from one language to another.

Figure 1

Initiatives and resources



The initiatives and resources that each individual and their country brings to the consortium is magnified by collaboration as illustrated in Figure 1 (page 103). As resources are brought together and shared they serve as seed monies and cost sharing contributions to aid in obtaining still more resources.

A key element in promoting collaborative efforts is information dissemination. Recognizing that research is useful only if the relevant public is informed of the results, an international education consortium should emphasize communications, not only among the consortium participants, but in the broader international community of educators within and beyond participating countries.

Operation

The operation of an international consortium should be characterized by:

- association based upon mutual needs, goals, expectations, and benefits; not institutional mandates;
- shared planning, implementation, dissemination, evaluation, decision making, and control (i.e., actively involved working together with equal status);
- fair and just interactions;
- on-going communication at many levels (individual, small, and large group); and
- mutually shared resources and distributed responsibilities.

The success of an international consortium is dependent upon the active commitment of individuals involved in collaborative efforts directed toward common goals.

Description

International Consortium for Research in Science and Mathematics Education (ICRSME) was conceived by Arthur White in 1983 as a result of working on various projects in Central America and the Caribbean under the auspices of The Ohio State University in Columbus, Ohio and the United States Information Agency in Washington, D. C. The consortium was organized by White along with Juan Esquivel from The University of Costa Rica and Pamela Fraser-Abder from The University of West Indies. The charter member institutions of the consortium included these three universities plus the University of Panama, the National Pedagogical University of Mexico; and the American School in Puebla, Mexico. By 1985, a variety of projects and activities were underway involving institutions and individuals in each of these countries. In 1986, Donna Berlin from The Ohio State University at Newark in Newark, Ohio joined the administrative team for the International Consortium for Research in Science and Mathematics Education.

The goal of the International Consortium for Research in Science and Mathematics Education (ICRSME) is the improvement of educational opportunities for the school populations of the participating countries. This goal is based on the premise that all peoples can benefit from the knowledge and experiences of their local, national, and international colleagues. In view of this goal, the consortium emphasizes the application of theoretical models related to learning, instruction, and curriculum to the conceptualization of research and educational practice. ICRSME focuses on programs for collaborative research, curriculum development, instructional improvement, academic exchange, professional development, innovation initiatives, and shared

resource opportunities. ICRSME constantly attends to the cultural similarities and differences of the member countries. Discussions related to, educational organization, financial constraints, resource availability, logistics, language characteristics, custom and tradition, social and personal priorities, communication differences and needs, level and nature of expertise, and educational needs specific to the country and common to other countries within the ICRSME are promoted. Linkages provide the mechanism to mobilize and sustain ICRSME's collaborative efforts. Linkages are facilitated through activities related to research and development, communication and dissemination, personal and professional development, and human and material resources.

Research and Development. Research in education is very much influenced by the specific samples and conditions of the research. It becomes extremely important to have replication of research in order to identify those findings which have stability and consequently the generalizability necessary to build a knowledge base. In order to establish a broad base it is valuable, and perhaps necessary, to have parallel efforts in a variety of settings to test hypotheses and evaluate the practical application of theories.

Members of ICRSME have engaged in collaborative research efforts which have included the identification of both the common and the unique research needs in science and mathematics education, conceptualization of research problems, development of proposals, pooling of human and material resources, development of relevant research skills, delineation of coordinated data gathering procedures, and the dissemination of results and initial collaborative research projects focused upon the integration of technology with other instructional resources into the teaching and learning of science and mathematics. This topic was of special interest to researchers in the United States and to educators in Costa Rica, Mexico, Panama, and Trinidad and Tobago. An instructional model was developed (Berlin & White, 1986, 1987) for the selection, development, and sequencing of instructional resources. In order to reflect the needs and available resources in the participating countries, the research agenda related to the instructional model included calculators and computers. The collaborative research efforts have been directed toward testing aspects of this model and translation of the results into application for curriculum and instruction in the various cultures. In addition, an instrument to measure spatial-symbolic information processing was constructed and validated with school populations from the consortium.

Other collaborative activities have included workshops and development efforts related to the identification of science and mathematics research priorities as perceived by elementary and secondary school teachers; use of calculators, computers, and manipulative materials in elementary school mathematics; problem solving in elementary school mathematics; learning and developmental theories applied to science and mathematics education; and the translation of instructional materials into other languages.

In the future, the concept of action research (i.e., teachers actively and significant! involved in research) will be infused into ICRSME's endeavors. This development may lead to a different, collaborative style wherein research is done by and with, rather than, on the teacher." (White &

Tisher, 1986, p. 897) Action research may "help us view research as integrated with practice rather than as a process which is conducted separately and then implemented in classrooms" (Ross, 1984, p. 114). Action research may be the catalyst for classroom teachers to translate theory into practice and research into implementation.

Communication and Dissemination. ICRSME has convened four International Consultation meetings since its conception. The First Consultation (February, 1986) was held in Port of Spain, Trinidad and Tobago and included 60 participants representing 11 countries. San Jose, Costa Rica, the site of The Second Consultation (December, 1987), involved 64 participants representing 7 countries. The Third Consultation (February, 1991) convened in Merida, Mexico included 40 participants from 6 countries. The largest meeting, The Fourth Consultation, was held in San Juan, Puerto Rico in February, 1992. Over 235 participants representing 9 countries were in attendance at this most recent consultation. Each of these consultations have included research and curriculum development reports, symposia, professional development seminars, research skill development workshops, proposal development work sessions, social events, and cultural experiences. Proceedings from the consultations have been published and disseminated.

A newsletter published since May, 1985 has served as a primary mechanism for communication and dissemination among consortium members. The newsletter provides a means to announce consortium activities, announce and recognize consortium members' publications and scholarly activities, provide communications from individuals to the consortium members at large, identify collaborative research opportunities, announce professional association meetings and information, and identify employment and funding opportunities.

In addition to the consultations and newsletters, the consortium has employed a number of other communication and dissemination strategies. Consortium members have been active in sponsoring conferences and symposia as well as in making presentations at various academic and professional association meetings in the participating countries. The consortium maintains a database of consultation participants and a comprehensive mailing list of educators active in the field of science and mathematics education. Electronic communications (e.g., INTERNET) are also utilized.

Professional and Personal Development. ICRSME has provided professional and personal development opportunities through short and long range academic exchange activities. These activities include undergraduate teacher education field-experience arrangements; exchange of graduate students; team instruction of courses, seminars, workshops, and symposia; leave of absence and sabbatical arrangements; academic in-service workshop/seminar opportunities; and academic camp (including computer camp) opportunities in the United States and other participating countries. Future activities are planned related to exchange of academic credit agreements, adjunct faculty appointments, post-doctoral fellowships, academic consulting assignments, and "off campus" course credit arrangements.

The professional and personal development of ICRSME members is nurtured and continues to be sustained through their relationship with other programs and organizations.

Consortium members have and will continue to benefit from affiliation with Phi Beta Delta Honor Society for International Scholars, the National Association for Research in Science Teaching (NARST), the National Center for Science Teaching and Learning (NCSTL) at The Ohio State University, and the United States Information Agency (USIA). For example, NARST has provided official endorsement for ICRSME and over fifteen of the past presidents and other association leaders have participated in ICRSME activities such as collaborative research projects, Consultation meetings, and Special Interest Group (SIG) meetings at the NARST Annual Meetings. NCSTL, through the efforts of Arthur White (director) and Donna Berlin (coordinator) can provide state-of-the-art information and resource networking.

Human and Material Resources. ICRSME is the result of the efforts of individuals who have similar academic interests and visions for the future. The current foundation and the basis for future success lies in the dedication of these individuals toward the improvement of educational opportunities in their own and neighboring countries. The participants in the consortium can be characterized as having shared concerns, interests, and goals; mutual respect; individual commitment; appreciation for the contributions of others; flexibility; patience; tolerance; and persistence. The consortium participants engage in academic pursuit based upon needs not mandates; shared conceptualization, responsibilities, actions, commitment, recognition, and benefits; fair and just interactions; on-going communication; and shared resources.

Funding sources (over 31) have been varied but total monies to support ICRSME activities have been limited. Professional development funds (e.g., small grants, seed grants, teaching and learning grants) have been available from the institutions of consortium members. In some cases, monies from the local, state, and federal governments have been available. Local business and industry have been particularly supportive in the Caribbean countries. This "grassroots" approach has been functioning for the last nine years due to the dedication and commitment of the members of the consortium and the effective pooling of human and material resources.

Benefits

General benefits that have been derived from involvement in the International Consortium for Research in Science and Mathematics Education include:

- awareness and appreciation for differences in educational practices;
- consideration of alternative solutions to problems similar to one's own;
- insights into one's own educational system through analysis of similarities and differences;
- genuine collegial relationships, mitigation of academic isolation, and the promotion of friendships;
- professional development and sustained professional motivation through commitment to the activities and the other collaborators;
- promotion of "collective creativity" (Fox & Faver, 1984);

- a support system and research efficiency through sharing ideas, providing feedback, writing together, and joint presentations;
- an economic savings through the sharing of resources, human and material;
- resources that might otherwise be unavailable;
- improved educational practices and the broadening of individual and public benefits through greater dissemination of research results and curriculum developments; and
- promotion of peaceful relationships among the peoples of the participating countries.

The collaborative research activities advanced by ICRSME members have provided the following benefits specific to international research:

- clarification of the basic concepts (constructs) involved in the research;
- opportunities for feedback and more focused research;
- replication sites to establish new generalizations and to reaffirm previous ones;
- opportunities to expand the generalizations to broader populations;
- identification of the cultural differences in the populations and the relevance of these differences to the generalizations; and
- promote broad ownership in the research process and thus greater potential for using research results.

Evaluation and Modifications

This section of the paper is an evaluation of ICRSME activities based upon the results of formal and informal procedures. Responses to the evaluations have resulted in implemented and planned modifications. Often this feedback has required the reconsideration of the consortium strategies along with a rethinking of the model for international educational research.

Research and Development. The activities in this area have included collaborative projects which at times involved original research and other times involved the replication of research conceived and planned in another country. The researchers from the replicating country and the practitioners from both countries were involved in the data collection phases of the research process. The data was generally sent to a research facility in the United States (e.g., The Ohio State University) where it was organized, analyzed, and summarized. Reports of the results were synthesized and reported as a team with the researchers from each participating country.

Many researchers from the developing countries aspired for opportunities to participate in the replication of studies with some acculturation in the replication relevant to their country. Common to educational researchers, consortium members were concerned that research results would never reach classroom teachers and consequently would not be implemented. Teachers need to be involved in such a way as to give them some sense of ownership in the process and the findings. Also, many researchers in the participating countries expressed a need to acquire and update their research skills. It is particularly difficult in developing countries to keep abreast of the new paradigms and methodologies related to educational inquiry.

In response to these comments, ICRSME participants continue to look for opportunities for collaborative research including replication studies and modified replication studies which involve multi-nation teams the conceptualization, planning, and execution of research projects. In order to better link the teacher to the research process, there are plans underway to add an action research component to the next Consultation. This would include workshops and presentations that would acquaint would-be researchers with knowledge, skills, and experiences necessary for participation in the research process as well as trends and innovations in science and mathematics education. Plans for the 1993 meeting include the introduction of a classroom-based research model for involving teachers more directly in research and development efforts patterned after the model described by Berlin and White (1992).

Communication and Dissemination. The activities in this area have included consultations, newsletters, limited translation of oral and written communications into Spanish, and cultural experiences for visitors to the host countries of the Consultations. Evaluation of these activities reveals an urgent need to obtain information in a timely manner, improve the mechanism for identification and recognition of common educational goals and needs, for more native language versions of information and resources, and more frequent day-to-day communication among consortium members.

In order to improve communication, ICRSME proposes to publish all abstracts and papers from the consultations in both Spanish and English. Efforts will be directed toward providing translation for all presentations at the Consultations as well as a bilingual glossary of educational terms related to each presentation. NCSTL will add all ICRSME members to their mailing list and establish and maintain an electronic mail network for the consortium.

Professional and Personal Development. The activities in this area have included collaborative symposia at meetings on the campuses of the respective countries as well as at international and national professional meetings. Graduate teaching and research associateships have been made available to students from developing countries at institutions within the United States. Social and cultural events have been shared involving participants from all countries both in the United States and in the developing countries. All of these activities tend to develop a sense of collegiality and commitment both individually and by institution. In this collaborative atmosphere, the expertise of each individual becomes more apparent and more effectively utilized for the benefit of all.

Individuals from the developing countries have requested more opportunities to study abroad. In response, ICRSME is working cooperatively with NCSTL and U. S. universities to establish post- doctoral fellowship programs so that newly graduated Ph.D.'s can continue their research efforts for one-to-three years after they receive their degree. They can function in a work situation in their own country or in the United States free of the usual responsibilities which accompany the first few years as a college or university professor. This opportunity along with exchange programs for undergraduate and graduate students, for faculty, and for schoolteachers will be explored.

Human and Material Resources. The activities in this area have included establishing working relations with established Research Centers in participating countries and affiliations with major national professional associations in the United States. Resources and services which have been shared include library materials; instructional materials, technical equipment and assistance, and data processing capabilities.

With regard to resources, the major need is the procurement of funding beyond that available through institutional channels. These funds are needed to promote and sustain communication, increase knowledge-access capability, secure additional equipment and material, support a broader base of expertise, and facilitate consultation and academic exchange travel. In response to this need ICRSME is facilitating the development of proposals for external funding for collaborative research. Through the resources and communication networks of the National Center for Science Teaching and Learning, the consortium is identifying large and small, public and private, funding sources at all levels (local, state, regional, national, international). With additional resources, ICRSME would also like to establish and administer a small grants program for collaborative research and development.

Conclusions

This model for international educational research while fluid in design has generally adhered to its original goals. These goals have been manifested in the activities of the International Consortium for Research Science and Mathematics Education. Evaluation of the consortium activities have resulted in modifications or changes in emphasis including more involvement of classroom teachers, translation of oral and written communications from English to Spanish and Spanish to English, development and maintenance of electronic mail capabilities, and expanded efforts to obtain external funding.

Too many programs are initiated because of a large infusion of external funds before the commitment to the work has been established. Although operating with only limited financial support, the activities of ICRSME have become institutionalized as the result of the dedication and commitment of the individual consortium members. Consequently, activity will undoubtedly continue regardless of external funding.

References

- Abder, P., Barnett, D., Berlin, D., Esquivel, J., Mora, H., & White, A. (1988, April). *A symposium on science education research In Latin America and the Caribbean*. Symposium presented at the 61st Annual Meeting of the National Association for Research in Science Teaching, Cake of the Ozarks, MO.
- Abder, P.F., Berlin, D.F., Butts, D. Esquivel, J., Petterson, R., & White, R.L. (1986, March). *A symposium on science education research in Latin America and the Caribbean*. Symposium presented at the 59th Annual Meeting of the National Association for Research in Science Teaching, San Francisco, CA.
- Berlin, D.F., & White, A.L. (1992). *Action research as a solution to the problem of knowledge utilization*. A paper presented at the Annual Meeting of the American Association for the

- Advancement of Science, Chicago, IL.
- Berlin D.F., & White, A.L. (1987). An instructional model to integrate the use of the calculator. *Arithmetic Teacher*, 34 (6), 52-54.
- Berlin, D.F., & White, A.L. (1986). Computer simulations and the transition from concrete manipulation of objects to abstract thinking in elementary school mathematics. *School Science and Mathematics*, 86, 468-479.
- Berlin, D.F., White, A.L., & Abder, P.F. (1987, April). *The use of concrete, manipulative materials and computer simulations for learning elementary school science process skills in Trinidad and Tobago*. Paper presented at the 60th Annual Meeting of the National Association for Research in Science Teaching, Washington, D.C.
- Fox, M.F., & Faver, C.A. (1984, May/June). Independence and cooperation in research: The motivations and costs of collaboration. *Journal of Higher Education*, 55 (3), 347-359.
- Hord, S.M. (1985, January). *Collaboration or cooperation: Comparisons and contrasts, dilemmas, and decisions*. Paper presented at the Meadow Brook Symposium on Collaborative Action Research in Education, Oakland University. (ERIC Document Reproduction Service No. ED 258 356).
- Houston, W.R. (1979). Collaboration - See 'treason'. In G.E. Hall, S.M. Hord, and G. Brown (Eds.), *Exploring issues in teacher education: Questions for future research*. Austin, TX: The Research and Development Center for Teacher Education, The University of Texas.
- Kyle, D. W., & McCutcheon, G. (1984, April-June). Collaborative research: Development and issues. *Journal of Curriculum Studies*, 16 (2), 173-179.
- Plant, A. M. (1986, June). Reading research: Its influence on classroom practice. *Educational Research*, 28 (2), 126-131.
- Ross, D. D. (1984, Winter). A practical model for conducting action research in public school settings. *Contemporary Education* 55 (2), 113-117.
- Scheirer, E.A. (1986, April). *A model for collaborative ethnography in schools for an international perspective*. Paper presented at the 67th Annual Meeting of the American Educational Research Association, San Francisco, CA. (ERIC Document Reproduction Service No. ED 72 413).
- White, A.L., Berlin, D.F., & Abder, P.F. (1986, November). *Cross-cultural replication: The use of concrete and computer simulation activities for elementary school mathematics concepts*. Paper presented at the 28th International Conference of the Association for the development of Computer-Based Instructional Systems, Washington, D.C.
- White, A.L., Berlin, D.F., & Abder, P.F. (1986, November). Cross-cultural replication: The use of concrete and computer simulation activities for elementary school mathematics concepts. *Proceedings of the 28th International Conference of the Association for the Development of Computer-Based Instructional Systems*, Washington, D.C.
- White, A.L., Berty, A., Esquivel, J., Berlin, D.F., Abder, P.F., Rahaman, N., & Pilar; V. (1985, April). *An international consortium for learning research in four countries (U.S.A., Trinidad and Tobago, Costa Rica, and Mexico)*. Symposium presentation at the 58th Annual Meeting of the National Association for Research in Science Teaching, French Lick Springs, IN.
- White, R. T., & Tisher, R. P. (1986). Research on natural sciences. In M. C. Wittrock (Ed.), *Handbook of Research on Teaching*, Third Edition (pp. 874-905). New York, NY: Macmillan Publishing Company.

About the Authors

Donna F. Berlin. Dr. Berlin holds a BS in elementary education and psychology from Syracuse University, an MA in elementary education and guidance from New York University, and a PhD in early and middle childhood education with emphases in mathematics and research and statistics from The Ohio State University. She has taught at the elementary school level and has taught courses in mathematics and science education at both the Columbus and the Newark campuses at OSU. Her numerous articles on these topics have appeared in journals such as the *Arithmetic Teacher*, *International Journal of Science Education*, *Journal of Research in Science Teaching*, *Journal of Science Education and Technology*, *Perceptual and Motor Skills*, *Phi Beta Delta International Review*, *School Science and Mathematics*, and *Science Educator*. (**Editor's Note:** Dr. Berlin currently serves as Professor Emerita in the College of Education and Human Ecology, Department of Teaching and Learning, The Ohio State University).

Arthur L. White. Dr. White is a founder and leader of the International Consortium of Research Science and Mathematics Education (ICRSME) with the cooperation of the United States Information Agency which is dedicated to improving the teaching and learning of science and math across the world. During his tenure as a professor, Dr. White also served as the co-director of the National Center for Science Teaching and Learning from 1990 to 1996 in the office of education research and improvement. He has also served as an executive director for the National Association of Research Science Teaching. Dr. White received a Bachelor of Science at Northern Colorado University in 1957, earned a certification in secondary science and mathematics by the State of Colorado, and went on to teach science at the Sheridan County Community Schools in Hoxie, Kansas until 1960. He served at the Fairview High School near Boulder, Colorado as a science teacher until receiving his Ph.D. from the University of Colorado in 1968, after which he joined the Ohio State University faculty. (**Editor's Note:** Dr. White currently serves as Professor Emeritus in the College of Education and Human Ecology, Department of Teaching and Learning, The Ohio State University).



Journal Description

International Research and Review is the official journal of the Phi Beta Delta Honor Society for International Scholars. It is a multidisciplinary journal whose primary objectives are to: (1) recognize, disseminate and share the scholarship of our members with the global academic community; (2) provide a forum for the advancement of academic inquiry and dialogue among all members and stakeholders; and (3) cultivate support for international education among campus leadership by working with university administrators to expand the support for international education among campus leaders.

IRR is a peer-reviewed electronic journal providing a forum for scholars and educators to engage in a multi-disciplinary exchange of ideas, to address topics of mutual concern, and to advocate for policies that enhance the international dimension of higher education. Articles should focus on studies and systematic analyses that employ qualitative, quantitative, a mixture of both methods, and theoretical methodologies from an international scope. Both pedagogical and andragogical perspectives in teaching and learning are welcome.

The Journal reaches out to an audience involved in matters touching all areas of international education, including theoretical, empirical, and normative concerns and concepts as well as practices. It includes stakeholders, practitioners, advocates, as well as faculty, independent researchers, staff, and administrators of programs and institutions engaged in the field. The editor welcomes manuscripts that address the following concerns:

International studies and perspectives
Review of current literature pertaining to international studies
Initiatives and impacts in international education exchange
International program development at American colleges and universities
Internationalizing of curricula: policies, programs, practices, and impacts
International business education
Comparative international education issues
Curriculum development in area studies
Legal issues in the development of international programming
Other related topics

Peer – Review Process

All manuscripts will be forwarded to the Editor for initial review of its relevance of theme, significance, and over-all quality. Manuscripts which fit the aim and scope of the Journal, and are of sufficient quality, will then be forwarded to two anonymous reviewers. At the end of the review process, authors will be notified of any comments that the reviewers have made. They will also make a recommendation regarding whether to accept, revise and resubmit, or reject the paper.

Publication Frequency

The IRR is intended to be published twice per year, but will be published more often as additional articles are received. The *Proceedings of Phi Beta Delta* will be a separate publication of Phi Beta Delta but published in the same volume as the IRR. It will include conference papers, speeches, commentary, and other information about the society.

Open Access Policy

This journal provides immediate open access to its content on the principle that making research freely available to the public supports a greater global exchange of knowledge. The journal will be published solely on-line.

Copyright Notice

Authors hold the copyright of articles published in the IRR. Request to reprint IRR articles in other journals will be addressed to the author. Reprints must credit Phi Beta Delta and the IRR as the original publisher and include the URL of the IRR publication. Permission is hereby granted to copy an article, provided IRR is credited and copies are not sold.

Indexing

Articles published in the IRR will be disseminated by the EBSCOHost Databases to libraries, ERIC Clearinghouse, and other of the clients.

Author Guidelines

International Research and Review is the official journal of the Phi Beta Delta Honor Society for International Scholars. It is a multidisciplinary journal that (1) welcomes submission of manuscripts reflecting research representing *all areas of study* that promote the international and global dimensions of institutions programs (including both policy, practice, and debates) and individual experience of engaging in international education; (2) welcomes articles on current issues of the day regarding

international education: the practice, curriculum, institutional issues, faculty and administration management, and cultural aspects and; (3) welcomes book reviews, and reviews or critiques of current literature.

The increasing interest in international opportunities and promotion of scholarship in this shrinking world create new challenges. This purpose of such a publication is to contribute and engage in the conversation related to the broad frames of international education, internationalization, and international scholars. It is hoped that the Phi Beta Delta annual conference and will provide an environment where students, staff, faculty and interested groups can highlight their scholarship in these areas. The conference also serves as a forum for acquiring new ideas, conceptualizations, best practices, as well as discussion on these and other issues of international education.

Research articles may employ qualitative, quantitative, plural (mixed-methods), and theoretical methodologies from an international scope. Both pedagogical and andragogical perspectives on the international experience of teaching, learning, and cross-cultural interchange are welcome. It is recommended that manuscripts be submitted with less than 10,000 words. As of the Fall 2020 issue, submitted articles must use the bibliographic and formatting standards found in the **APA 7th edition (Publication Manual of the American Psychological Association, 7th edition)**.

Authors whose articles are accepted for publication are required to ensure that their data are fully accessible. Authors of quantitative empirical articles must make their data available for replication purposes. A statement of how that is done must appear in the first footnote of the article. Required material would include all data, specialized computer programs, program recodes, and an explanatory file describing what is included and how to reproduce the published results. The IRR is published four times a year on-line by Phi Beta Delta, Honor Society of International Scholars.

Please send your submissions to the Director of Publications at: ms@smitheeassociates.com

Submission Preparation Checklist

As part of the submission process, authors are required to check off their submission's compliance with all the following items, and submissions may be returned to authors that do not adhere to these requirements.

1. The submission has not been previously published, nor is it before another journal for consideration.
2. The submission file is in Microsoft Word document file format.
3. All URL addresses in the text are activated and ready to click.
4. The text is double-spaced; uses a 12-point font; *employs italics*, rather than underlining (except with URL addresses); and all illustrations, figures, and tables are placed within the text at the appropriate points, rather than at the end.
5. The text adheres to the stylistic and bibliographic requirements of the APA, 7th edition. **(Publication Manual of the American Psychological Association, 7th edition)**.

Your submission should contain the following:

- **Name, institute affiliation, mailing address, and email address for all authors**
- Paper title
- Abstract
- Keywords
- Introduction
- Body of paper
- Tables, figures, etc. (if applicable)
- Conclusion
- Acknowledgements
- Brief bio of each author (one paragraph, no more than 100 words)
- References

Nota bene: Below are some issues authors should attend to:

1. Use quotation " " marks for all direct citations of material from your sources.
2. Citations in text from a book should include the page number as (author, date, p. #).
3. Citations from an on-line source must cite the paragraph: (author, date, para. #).
4. Use *italics* when you want to emphasize concepts or words.
5. Use the *automatic* hyphenation function to keep the character and word spacing at a minimum. In Microsoft Word, users can automatically hyphenate documents by altering the options within the program. The location of the automatic hyphenation option varies depending on the version of Word you are using. In Microsoft Word versions 2007 and 2010, it is found by clicking on Page Layout, Page Setup box, hyphenation. In Microsoft Word 2003, it is located in the "Tools" menu under "Language." Automatic hyphenation is also available in earlier versions of Microsoft Word. Reference the Help menu in the program you're using if you need help with either automatic or manual hyphenation.

Phi (philomatheia) -love of knowledge

Beta (biotremmonia) -valuing of human life

Delta (diapheren) -achieving excellence

