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**THE RELEVANCE OF U.S. GRADUATE PROGRAMS TO FOREIGN STUDENTS  
FROM DEVELOPING COUNTRIES**

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A report of a survey conducted by the National Association for  
Foreign Student Affairs in cooperation with the Council of  
Graduate Schools under a grant from the U.S. Agency for  
International Development

NAFSA  
1860 19th Street, NW  
Washington, D.C. 20009

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## **INCEPTION OF THE PROJECT**

In early 1978, the Office of International Training (OIT) of the Agency for International Development (AID) expressed interest to the National Association for Foreign Student Affairs (NAFSA) in determining, if possible, how many American graduate institutions were making special curricular adjustments on behalf of foreign students from developing countries in order to make their education more relevant to the professional work they would be doing upon return home. OIT was also interested in finding out how many of our graduate institutions made it possible for foreign students, particularly those from developing countries, to carry out their doctoral research projects in their home countries. As part of a general agreement on a number of projects of joint interest, NAFSA indicated to AID that it would make such an effort. In the process, it discovered interest in these same questions on the part of the Council of Graduate Schools (CGS), and it was decided in the summer in 1978 that NAFSA and CGS should form a joint committee to carry out an appropriate survey. The committee was composed of Marvin Baron, Foreign Student Adviser at the University of California, Berkeley and Barbara Burn, Director of International Programs at the University of Massachusetts, for NAFSA; George Karas, Associate Graduate Dean, California Institute of Technology and Gwendolyn Jensen, Graduate Dean, University of New Haven, for CGS.

## **APPROACH**

In the fall of 1978, a two page questionnaire was developed by the Committee which was then sent to the Foreign Student Adviser and the Graduate Dean at 93 graduate schools in the United States. Included were the 83 graduate schools in the U.S. that enroll over 250 graduate foreign students. The Foreign Student Adviser and the Graduate Dean were asked to identify three graduate faculty on their campus who had had experience in working with students from developing countries and to ask them both to fill out the questionnaire and then to meet as a group with the Foreign Student Adviser and the Graduate Dean to discuss their overall reaction to the questions and the future implications for that graduate school. The Foreign Student Adviser, finally, was asked to summarize the main points made at that discussion.

It was decided from the outset that no attempt would be made, given the limitation of time and money, to carry out a scientifically organized research project. The intention was to use this instrument to conduct an informal survey that would provide interested parties with an initial reading of the level of interest in some of these issues by major American graduate schools and to ascertain in rough terms the extent to which American graduate faculty had made specific accommodations, both in curricular programming and in doctoral research projects, to meet the special needs of students from developing countries. It was seen, then, as an inquiry that might generate some productive discussion at American graduate schools, the results of which, as in this report, could then be used to stimulate more informed discussion of topics that will undoubtedly have to be addressed more directly in the 1980's if the trend of higher foreign student enrollment in our graduate institutions continues.

Because of the nature of the inquiry and because there was flexibility on each of the campuses questioned to decide which three faculty would be asked to fill out the questionnaire, it is impossible to say that the answers described in this report represent a totally accurate reflection of the opinion of American graduate faculty on these issues. Since, however, some clear patterns did seem to emerge, it would appear that conclusions could be drawn as to where things now stand in this arena and how receptive our graduate faculty would be to making changes in certain areas in the future.

## NATURE OF THE RESPONDING GROUP

Of the 93 graduate institutions receiving the questionnaires, there were responses from 44 of them, or 47%. There were 124 faculty members who returned questionnaires. These 124 faculty respondents represent a broad cross section of disciplines in American graduate education. There were 29 from various Engineering departments, with the largest number (8) from Civil Engineering, and the next largest (6) from Electrical Engineering. In the Physical Sciences, there were 17 responses, with the largest number (8) from Chemistry and the next largest number (4) from Biology. The largest single group represented were the Social Sciences, with 42 responses coming from faculty in those fields; the largest number (18) was from Economics, the second largest number (12) from Education, and the third largest (7) from Political Science. There were 36 responses from Professional Schools, such as Agriculture, Food Sciences, Forestry, Public Health, Nursing, Architecture and Business Administration. Business Administration had the largest single group in this area, with 8, but there were 6 each from Agronomy, Agricultural Economics and Food Sciences.

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## THE RESPONSES

**QUESTION 1:** This question asked whether students from developing countries or their sponsors had been able to articulate to U.S. graduate faculty special academic interests relating to their projected professional work back home. Of the faculty responding, 13% said that this expression of interest *never* occurred, 20% indicated that it occurred *seldom*, but 40% said that it occurred *occasionally* and 27% indicated that it occurred *frequently*. This would indicate that while one-third of the foreign students are relatively mute in expressing these special interests, two-thirds of the group are not reluctant to put forward their special needs in discussions with their faculty.

It is useful to look at the breakdown by different types of discipline. Among the Engineering faculty responding, 45% said that the foreign students expressed special interests *never* or *seldom*, while only 3% fell into the *frequently* column. In the Physical Sciences, 65% of the faculty put their foreign students in the *never* or *seldom* category and 12% in the *frequently* category. Among Social Scientists, only 17% said that their students expressed interest *never* or *seldom*, while 38% did so *frequently*, and among faculty in the Professional Schools, 26% put the student in the *never* or *seldom* category and 39% in the *frequently* category. In general terms, this kind of response might have been predicted since students in Engineering and Physical Sciences would expect less modification of their academic program than those in the Social Sciences or Professional Schools because of the content of their subject matter, but this gap could also result from the fact that our faculty in the Physical Sciences and Engineering see their fields of endeavor as being universal and do not encourage their students, as much as colleagues in other fields, to talk about their long-term professional goals, particularly if they are to be implemented in developing countries.

Another section of the first question asked faculty whether AID-sponsored students were more or less articulate in explaining these special interests than other students from developing countries. The overwhelming majority of faculty who did respond to this part of the question indicated that there were virtually no differences between AID students and other students.

Several of the comments offered by faculty were particularly interesting in relation to Question 1. One respondent pointed out that all universities should spell out very clearly the educational objectives of a particular program so that both the student and the sponsor can make a far better placement decision than is often the case now. The other side of this coin was expressed by several respondents who said that more foreign students should be asked to spell out, at the time of applying for admission, what their exact objectives are in following a particular course of study. Every department accepting a student could then inform a student very clearly if there is some doubt as to whether that graduate program is able to meet the special needs of that foreign student. One other respondent pointed out that it would be very useful to have more special orientation programs within certain academic disciplines so that new foreign students could, through such preparatory programs, be able to understand far more clearly what to expect in the way of courses, special projects and theses from the beginning. If this were the case, they might then be able to articulate more clearly how they see the relationship between their long-term goals and the specific offerings of a graduate program. Several respondents indicated how essential it was for the department to be very explicit in its early questioning of foreign students from developing countries to ascertain exactly how they saw their special needs and interests relating to their future professional careers. After such questioning, it was felt that it would be much easier to develop a study program that might relate directly to the stated needs of those students.

**QUESTION 2 asked:** "What difficulties do you think students from developing countries might encounter in applying the knowledge gained in your graduate program to their professional work back home?" Although there was a wide variety of answers to this question, the answers clustered in several significant areas. The most commonly cited difficulty was the lack of adequate equipment and technical facilities in the home country. 32% of the faculty responding indicated this would be a major problem. A quarter of the respondents indicated that they expected their foreign students to run into major obstacles because of cultural differences relating to the implementation of technical and social change in developing countries. Included in this category is the hostility felt by professional co-workers back home who are envious of younger countrymen who have received superior training in the United States and who represent a threat to their higher standing in the administrative structure. Frequent reference was also made to the belief that many structures in developing countries are simply strongly resistant to any change that is based on new technology. Another quarter of the faculty expressed the belief that it was inherently difficult to translate theoretically-based knowledge into practical realities, particularly when there was not a supportive environment conducive to this. Considered serious was the lack of professional colleagues in the same discipline who could offer encouragement and ideas during this crucial translation process of theory into practice. Also cited as a potential difficulty was the lack of adequate funding for scientific and educational enterprise in developing countries.

Interestingly, some 7% of the faculty indicated that they felt the nature and degree of difficulties that would be encountered would depend totally on the personal qualities and resilience of the foreign student. Only 11% of the faculty indicated that they felt there would be no major difficulties that foreign students would encounter in this effort.

In looking at the difference from one sub-group of faculty to another, one sees that among the Physical Scientists, 61% expected the lack of equipment to be a significant difficulty; this view was shared by 42% of the Engineering faculty, 25% of the Professional School faculty and only 11% of the Social Science faculty. Some 30% of the Social Science faculty view cultural problems and differences as a major difficulty; this was true of 22% of

the Professional School faculty, 14% of the Engineering faculty but only 6% of the Physical Science faculty. There was considerable commonality in all four sub-groups when it came to viewing the difficulty that would be encountered in translating theory into practice in a non-supportive environment. Some 30% of the faculty in all four sub-groups (plus or minus 3%) felt that this would be a major difficulty.

The individual comments of faculty on this point were illuminating. It was clear in this area that the faculty offering these comments had made these observations from direct experience. Some of the more significant comments follow:

"The major danger is always that they might try to apply methodologies . . . without modifying them to suit country-specific conditions."

"I am most concerned about the risk that they will be isolated from formal networks concerned with knowledge."

"Techniques, philosophy, planning and anticipated products contain U.S. bias. U.S. faculty lack familiarity with cultural values, availability of resources and particular economic and political systems in developing countries. There is a lack of exposure to practical realities of how to implement innovations."

"In most cases, the knowledge gained is not relevant to the solution of problems in their countries. However, we hope that their graduate program will develop a philosophy and an approach to problem solving that will be of value."

"Our M.A. and Ph.D. programs have components which are especially geared for the use of students from developing countries, especially in Economics. Many students from developing countries are able to take advantage of such programs."

**QUESTION 3** asked: "Have you or your colleagues in your department changed course requirements\_\_\_\_ term paper or thesis topics\_\_\_\_ special assignments\_\_\_\_ other\_\_\_\_ in order to make your program more relevant to the needs/interests of students from developing countries?" The major responses were:

A) With respect to course requirement changes, some 19% of the faculty responding indicated that they had made changes. By sub-group, this broke down into 14% of the Engineering faculty, 0% of the Physical Science faculty, 21% of the Social Science faculty and 28% of the Professional School faculty who had made changes in course requirements.

B) With respect to changes in thesis topics, this was done by 42% of the faculty responding. The breakdown by sub-groups showed 41% of the Engineering faculty, 38% of the Social Science faculty and 64% of the Professional School faculty.

C) With respect to special assignments, some 35% of the faculty responding had tailored these to the needs of students from developing countries; by sub-group, this was true with 24% of the Engineering faculty, 6% of the Physical Science faculty, 33% of the Social Science faculty, and 61% of the Professional School faculty.

Significantly, some 48% of the respondents indicated that they made no changes on behalf of students from developing countries. By sub-group there were 55% of the Engineering faculty who made no changes, 94% of the Physical Science faculty, 50% of the Social Science faculty, but only 17% of the Professional School faculty.

The second part of Question 3 asks, "Have you or colleagues in your department redesigned (or otherwise modified) course content because of the special needs/interests of students from developing countries?"

In responding to this, some 37% of the faculty indicated that they had indeed made changes in course content, whereas 63% had not. In looking at the sub-groups, one sees that 13% of the Engineering faculty and 13% of the Physical Science faculty had made changes in course content, with 87% of each group not having made changes; whereas, in the case of the Social Science faculty, 57% had made changes in course content and only 43% had not and with the Professional School faculty, 49% had made changes in course content and 51% had not.

Some of the more interesting comments on Question 3 follow:

"Our students are encouraged to write research papers on their own country."

"We are giving a number of courses especially designed to deal with the resource issues of developing countries."

"All of the course requirements, thesis topics and special assignments are tailored to fit the needs of the individual. Seldom does an AID-sponsored student follow the specific curricular requirements as outlined in the catalogue. Courses which will be most beneficial are included in the curriculum."

"Although we have never redesigned or completely changed course content to fit foreign student needs, we have often modified a course to the extent of having an instructor bring into the course specific examples and case studies from developing countries and attempted to apply certain principles or fundamentals to these cases. Our faculty will often also take extra time outside of the classroom to discuss points that might be applicable to the foreign students' countries."

"We have offered special summer courses involving the economic analysis of Engineering projects so that foreign students could use their own countries' projects as case studies."

"The best thing we can do for foreign students is to insure that they get a fully professional education, not a watered down version."

"It is easier to develop a special program or course if you have enough students from a particular developing country interested in a special subject. Sponsors should send foreign students to schools that already have concentrations of students from developing countries in fields of common interest."

"It is impossible to develop special curricula for foreign students without violating the integrity of a graduate program."

"A good graduate program already has sufficient flexibility to meet the needs of any individual student."

**QUESTION 4:** asked whether any of the doctoral students of the faculty involved had been allowed to do research work on their Ph.D. in their home country, some 40% of the faculty responding indicated that they had permitted some of their doctoral students to do their research abroad. The breakdown by sub-group on this was 14% of the Engineering faculty,

12% of the Physical Science faculty, 51% of the Social Science faculty, and 33% of the Professional School faculty. The average time spent abroad on this purpose ranged from 6 months to one year. Some 53% of the faculty who had permitted students to do doctoral research work abroad felt that the problem of communicating with the thesis adviser or the students' committee was a serious problem. Also viewed as serious problems were the *cost* of doing doctoral research abroad (by 25% of the faculty) and the lack of adequate data in the home country (by 22% of the faculty).

**QUESTION 5** also looked at the question of doctoral research work being done abroad, but more in terms of the *receptivity* of our faculty toward this idea. The questions read, "If major practical problems could be resolved, how receptive would you be to the idea of one of your doctoral students doing his dissertation research work back home on a topic of special relevance to his country?" In answer to this question, 65% of all faculty responding said that they would be receptive, only 18% said they would not, and some 17% indicated that they might be receptive but were unsure. By sub-group, the breakdown went as follows: among Engineering faculty, some 40% said they would be receptive, 32% would not be, and 28% were unsure; among Physical Science faculty, 44% would be receptive, 38% would not be, and 18% unsure; among Social Science faculty, 74% would be receptive, 13% would not, and 13% were unsure; and among Professional School faculty, 85% were receptive, only 3% were not and 12% were unsure.

After this question, faculty were asked to project what problems they would expect to be the major ones, and 47% indicated that communication with members of the committee and the thesis adviser would be a major problem, while 15% felt that the expense factor would be a major problem. In the sub-groups, 55% of the Engineering faculty felt that the communication problem would be serious and 17% felt that way about expenses; among Physical Science faculty, 35% felt that communication would be a serious problem, 12% expenses; 36% of the Social Science faculty felt that communication would be a serious problem and only 7% that expenses would be a serious problem; 58% of the Professional School faculty felt that communication would be a serious problem and 22% felt that the expenses would be a serious problem.

In the second part of Question 5, the hard question was asked whether it was felt that the benefits to the student of doing doctoral research abroad, would outweigh the problems. It was significant that 57% said that the benefits would outweigh the problems, only 27% felt that they would not, and 16% were unsure. Among the sub-groups, 30% of the Engineering faculty felt that the benefits would outweigh the problems and 35% said they would not, with 35% unsure; among the Physical Science faculty 0% felt that the benefits would outweigh the disadvantages, 86% felt that they would not, and 14% were unsure; among the Social Science faculty, 83% felt that the benefits would outweigh the disadvantages and only 11% felt that they would not, with 6% unsure; and among Professional School faculty, 76% said the benefits would outweigh the disadvantages, 12% said they would not and 12% were unsure.

The final part of Question 5 asked whether it was felt that there would be instances in which it would be productive for a Master's Degree candidate to conduct research abroad. The answers were as follows: 50% said yes, 42% said no, and 8% were unsure. Among the sub-groups, 35% of the Engineering faculty said yes, 42% said no, 23% were unsure; among the Physical Science faculty, 41% said yes and 59% said no, with 0% unsure; among the Social Science faculty 50% said yes, 42% said no, and 8% were unsure, whereas among Professional School faculty, 67% said yes, 33% said no, and 0% were unsure.

Some of the comments on Question 5 were as follows:

“If a University professor could be in the same country or a trained local counterpart at the time of the student’s project, the department would be amenable to research back home.”

“No, definitely not, This would not be appropriate for a graduate program in Chemistry where students come here to get the benefits of modern instrumentation.”

“There is no obvious advantage in being in the home country; after all, they came here for the special guidance and training we can give them.”

“Ph.D. research abroad involves a great deal more time and supervision on the part of U.S. faculty, which is simply not available, given restrictive budget problems.”

“If the writing part could be done back in the U.S., conducting research abroad would be acceptable, particularly if it were possible to have some form of academic supervision at the other end.”

**QUESTION 6** dealt primarily with whether languages other than the traditional European languages, such as German, French, Spanish and Russian, are accepted as partial fulfillment of the doctoral requirement. In response to this question, 45% of the faculty indicated that other languages were indeed accepted as part of the language requirement, only 12% indicated that no other languages than the traditional European languages were acceptable, whereas 43% indicated that in their departments there was no language requirement in effect at this time. By sub-group, the breakdown was: for Engineering faculty, 56% accepting other languages, 4% not accepting other languages, and 40% with no language requirements at all; in the Physical Sciences, 73% accepted other languages, 20% did not, and 7% had no language requirement remaining; in the Social Sciences, 44% accepted other languages, 20% did not, and 36% had no language requirement remaining; among Professional School faculty, 18% indicated acceptance of other languages, 11% did not accept other languages, and 71% said there were no further language requirements.

## SUMMARY OF MAJOR FINDINGS

1) Only one-third of the faculty felt that students from developing countries or their sponsors were *never* or *seldom* able to articulate special academic interests relating to their projected professional work back home. Two-thirds of the faculty, on the other hand, indicated that such articulation occurred either *occasionally* or *frequently*, and a significant 27% indicated this articulation did occur *frequently*. The highest level of *frequent* articulation occurred among the Social Science faculty (38%) and the Professional School faculty (39%) as contrasted with the Engineering faculty (3%) and the Physical Science faculty (12%).

2) The major difficulties seen by U.S. faculty in the transfer by their students from developing countries of knowledge gained here to professional work back home were: the lack of adequate equipment and technical facilities; cultural differences; resistance on the part of the older generation of administrators to the ideas of U.S. trained professionals who have recently returned; and problems in translating theoretical knowledge into practical application in environments not conducive to new applications of knowledge.

3) Slightly over half of the faculty responding had been willing to make some change in *course requirements*, *thesis topics* or other *special areas* in order to make graduate programs more relevant to the needs of students from developing countries. Receptivity for changes in course requirements ranged from 0% among the Physical Science faculty to 28% among the Professional School faculty; with respect to the choice of special thesis topics, receptivity was still at the 0% level for the Physical Science faculty but was up to levels of 38% for the Social Science faculty, 41% for the Engineering faculty and 64% for the Professional School faculty.

4) Whereas only 13% of the Physical Science and Engineering faculties were willing to make actual changes in *course content* on behalf of students from developing countries, there were 49% of the Professional School faculty and 57% of the Social Science faculty who had been willing to make such changes.

5) Some 40% of the faculty responding had permitted some of their students to conduct *doctoral research* in their home countries. This had happened with only 14% of the Engineering faculty and 12% of the Physical Science faculty, but it was at the 51% level for the Social Science faculty and 33% for the Professional School faculty. However, when the question was asked as to whether the faculty would be receptive to having doctoral research done in the home country if major practical problems could be resolved, a significant 65% of all faculty responding indicated they would be receptive under these conditions, only 18% said they would not be receptive and another 17% indicated uncertainty. Even in the Engineering and Physical Science fields, where the greatest doubts exist, the levels of receptivity were 40 and 44% respectively, while for the Social Science faculty, the level was 74% and for the Professional School faculty, it was up to 85%.

6) More than twice as many faculty responding felt that the overall benefits to the student and his country would outweigh the problems of conducting *doctoral research* in the home country than those who did not share that belief. There was 57% who believed the benefits would outweigh the problems, only 27% who believed they would not, with 16% uncertain.

7) Only 12% of the faculty responding indicated that only the traditional European languages, such as German, French, Spanish and Russian, were acceptable for fulfillment of doctoral language requirements. Some 45% of the faculty indicated that other languages were acceptable, and 43% indicated that their departments had abandoned all language requirements for the doctorate.

## SURVEY ON GRADUATE STUDENTS FROM DEVELOPING COUNTRIES

1. Have students from developing countries\_\_\_\_ or their sponsors\_\_\_\_ been able to articulate to you any special academic interests relating to their projected professional work back home? Does this occur: never\_\_\_\_ seldom\_\_\_\_ occasionally\_\_\_\_ frequently\_\_\_\_? If this has happened with your advisees, please give examples.

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Are AID sponsored students more\_\_\_\_ or less\_\_\_\_ articulate in explaining these special interests than other students from developing countries? Explain.

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2. What difficulties do you think students from developing countries might encounter in applying the knowledge gained in your graduate program to their professional work back home?

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3. Have you, or colleagues in your department, changed course requirements\_\_\_\_ ; term paper or thesis topics\_\_\_\_; special assignments\_\_\_\_; other\_\_\_\_; in order to make your program more relevant to the needs/interests of students from developing countries? If so, please explain.

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Have you, or colleagues in your department, redesigned (or otherwise modified) course content because of the special needs/interests of students from developing countries? Yes\_\_\_\_ No\_\_\_\_ If so, please explain.

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4. If one of your doctoral students has done his research work in his home country, please describe briefly the topic:

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How long was he gone? \_\_\_\_\_ What problems arose? \_\_\_\_\_

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(If your department has any written guidelines or models for doctoral research projects carried out abroad, please attach.)

5. If major practical problems could be resolved, how receptive would you be to the idea of one of your doctoral students doing his dissertation research work back home on a topic of special relevance to his country?

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What special problems do you believe might result, e.g., in supervision of the research, conflict with university or Graduate Division regulations, etc.

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Do you believe the benefits to the student and his country would outweigh the problems?

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Are there instances in which it would be productive for a Master's degree candidate in your department to conduct research abroad? Yes\_\_\_\_ No\_\_\_\_ If yes, please explain.

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6. Is permission ever granted in your department for a foreign student to publish his thesis in his native language? In English and native language\_\_\_\_ In native language\_\_\_\_ English only\_\_\_\_ Comments:

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Are languages other than the traditional European languages, e.g., German, French, Spanish, ever accepted as partial fulfillment of the doctoral language requirement? If so, please give examples.

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No. of foreign students in Dept.\_\_\_\_

% of graduate enrollment in Dept. represented by foreign students\_\_\_\_

Estimated no. of students from developing countries\_\_\_\_

Estimated no. of AID students\_\_\_\_

Filled out by: \_\_\_\_\_

\_\_\_\_\_  
(Academic Department)

\_\_\_\_\_  
(Name of University)

Please return before November 16, 1978, to:

Marvin Baron  
International House  
Berkeley, California 94720

**TABLE 1                      EXPRESSION OF SPECIFIC ACADEMIC INTERESTS BY FOREIGN STUDENTS RELATING TO PROFESSIONAL CAREERS AT HOME**

	Never	Seldom	Occasionally	Frequently
Engineering (29)	14%	31%	52%	3%
Physical Sciences (17)	33%	29%	24%	12%
Social Sciences (42)	7%	10%	45%	38%
Professional Schools (36)	<u>9%</u>	<u>17%</u>	<u>35%</u>	<u>39%</u>
All Fields	13%	20%	40%	27%

**TABLE 2                      DIFFICULTIES EXPECTED BY U.S. FACULTY FOR FOREIGN STUDENTS IN APPLYING KNOWLEDGE TO WORK BACK HOME**

	1.	2.	3.	4.	5.	6.
Engineering (29)	48%	14%	34%	3%	3%	10%
Physical Sciences (17)	65%	6%	24%	-	-	12%
Social Sciences (42)	12%	33%	31%	14%	14%	14%
Professional Schools (36)	<u>25%</u>	<u>22%</u>	<u>31%</u>	<u>17%</u>	<u>7%</u>	<u>6%</u>
All Fields	32%	25%	25%	15%	7%	11%

1. Inadequate Equipment, Facilities
2. Cultural Differences
3. Difficulties in Translating Theory into Practice in Non-Conducive Environment
4. Archaic Administrative Systems
5. Depends on Individual
6. No Difficulties Expected

**TABLE 3 CHANGES MADE BY GRADUATE DEPARTMENTS TO MAKE PROGRAMS MORE RELEVANT FOR STUDENTS FROM DEVELOPING COUNTRIES**

	Changes in Course Requirements	Changes in Thesis Topics	Changes in Special Assignments	Changes in Course Content	
				yes	no
Engineering (29)	14%	41%	24%	14%	86%
Physical Sciences (17)	0%	0%	6%	12%	88%
Social Sciences (42)	21%	38%	33%	48%	52%
Professional Schools (36)	<u>28%</u>	<u>64%</u>	<u>61%</u>	<u>47%</u>	<u>55%</u>
All Fields	19%	42%	35%	37%	63%

**TABLE 4 FACULTY RECEPTIVITY TO HAVING DOCTORAL RESEARCH WORK DONE ABROAD**

	Yes	No	Unsure	<u>Major Difficulties Expected</u>		
				Communication with U.S. Faculty	Expense	No Major Difficulties Indicated
Engineering (29)	40%	32%	28%	55%	17%	7%
Physical Sciences (17)	44%	38%	18%	35%	12%	0%
Social Sciences (42)	74%	13%	13%	36%	7%	26%
Professional Schools (36)	<u>85%</u>	<u>3%</u>	<u>12%</u>	<u>58%</u>	<u>22%</u>	<u>14%</u>
All Fields	65%	18%	17%	47%	15%	15%

**TABLE 5 FACULTY ATTITUDE AS TO WHETHER BENEFITS OUTWEIGH DISADVANTAGES IN ALLOWING DOCTORAL RESEARCH TO BE DONE ABROAD**

	Yes	No	Unsure
Engineering (29)	30%	35%	35%
Physical Sciences (17)	0%	86%	14%
Social Sciences (42)	83%	11%	6%
Professional Schools (36)	<u>76%</u>	<u>12%</u>	<u>12%</u>
All Fields	57%	27%	16%

**TABLE 6**

**FACULTY ATTITUDE TOWARD PRODUCTIVITY OF MASTER'S CANDIDATE CONDUCTING RESEARCH ABROAD**

	<b>Yes</b>	<b>No</b>	<b>Unsure</b>
Engineering (29)	35%	42%	23%
Physical Sciences (17)	41%	59%	0%
Social Sciences (42)	50%	42%	8%
Professional Schools (36)	<u>67%</u>	<u>33%</u>	<u>0%</u>
All Fields	50%	42%	8%

**TABLE 7**

**Ph.D. LANGUAGE REQUIREMENTS**

	<b>Only Traditional European Languages Accepted</b>	<b>Languages Other than European Accepted</b>	<b>No Language Requirement</b>
Engineering (29)	56%	4%	40%
Physical Sciences (17)	73%	20%	7%
Social Sciences (42)	44%	20%	36%
Professional Schools (36)	<u>18%</u>	<u>11%</u>	<u>71%</u>
All Fields	43%	12%	43%