

# **From Doctoral Student to World Citizen: The Chance for Innovative Doctoral Education<sup>1</sup>**

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Thank you so very much. It is truly an honor to be here and I am delighted to have the opportunity to speak today.

Let me begin by pointing out my insider/outsider approach that I bring to the study of doctoral education. As you heard and can detect from my accent, I am German. I lived and studied until my master's degree in Germany. As an outsider, an international student, I received my PhD in the US and have lived and worked as an insider there ever since. This positionality allowed me to consider postsecondary education in nationally comparative terms.

In my talk today I will argue that empirical data on the outcome of doctoral education leads us to question whether we prepare our doctoral students adequately for the present and the future in times of globalization and increasing national interests in the role of doctoral education for the knowledge economy. I will draw on the results from two comprehensive US PhD career path studies that I and my colleagues have conducted, and I will highlight changes to consider in our current doctoral programs if we are to translate the findings into conclusions and try to implement them. I will present examples of emerging, innovative doctoral programs that address major criticisms of

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current PhD education. I will conclude by showing how we can use the current trend to globalization and the move to a knowledge economy to prepare our PhD students not just to be expert scholars, but also to become world-citizens, world-citizens who are aware of the negative effects of globalization and who are equipped to operate as informed leaders and responsible citizens on the world stage. In the history of the university, we have come full circle from the universities being universal centers of learning in the ancient period, to becoming nation-state universities that pursued national interests, to again emerge as international centers of learning and scholarship.

### 1. Overview of US doctoral education

Let me begin with a very brief description of the US doctoral education process.

Differential use of terms:

There are a number of essential differences in the use of language related to the topic at hand. In Australia, the word “faculty” means the organizational unit that houses several departments. The word “faculty” in the U.S. stands for academic staff. In the U.S. the academic staff is divided into two main groups: The first group comprises those who are on the track to becoming permanent academic staff and those who are tenured. The “*tenure-track academics*” are the assistant professors. Associate professors are those who were successful in achieving tenure. At the top of the rank are the full professors. The second group consists of those academic staff who are on contract or on time-limited temporary appointments. These are the lecturers, visiting or adjunct professors, in short, all those who have no job security. They are called non-tenure track academic staff.

U.S. PhD production:

The U.S. PhD production is large in scope. Over 400 universities grant annually about 41,000 PhDs. However, PhD production is heavily concentrated in the major research universities as half of all PhDs are granted by just 50 universities, majority of which are members of the American Association of Universities. Growth in PhD production has occurred over the last 40 years in all major fields of study, with the life sciences experiencing the greatest degree of growth followed by engineering [Refer Graph "*US Doctoral Degree by Major Field of Study*"]. Education is the only field that experienced a decrease in the mid 80s and stagnated ever since then. Along with the general increase in PhD enrolments, women's participation in the doctoral degree steadily increased since WWII. Women's PhD acquisition surpassed men's in education and in the social sciences. Since the year 2000 women's PhD acquisition has been equal to that of men in the humanities and approaches parity in the life science in 2003.

U.S. doctoral education takes place in programs that on the average are designed to ideally last for five years from entrance to postgraduate education, i.e. after completion of a four-year bachelor's degree, to doctorate degree completion. This period may often include a master's program on the way to the doctorate and always includes a coursework component. Since only an average of 20% of students in each program hold a fellowship, and this only for maximum 2-3 years, doctoral students work 20 hours per week either as research or teaching assistants mostly in their home departments. This means the majority of students take longer than five years to complete, but in the process

of working as research assistants or teaching assistants they gain hands-on research and teaching experience.

After a competitive admission process, in general a quarter of all applicants are admitted. The more selective a doctoral program, the smaller the percentage of admitted applicants. Admission criteria are based on the undergraduate grade point average, the scores on a national graduate entrance exam, which includes a verbal, analytical, and quantitative component, letters of recommendation from undergraduate professors, and a “Statement of Purpose” essay. Students in a typical doctoral program enter in the fall and study in a cohort of peers. Many doctorate programs require a certain number of fixed core courses. In the social science or humanities the first 2-3 years are spent studying in advanced seminars (coursework) that cover the entire spectrum of the field of study, including a substantial number of advanced research methodology courses along with a fairly large number of electives [Refer Graph “*Basic Structure of US PhD Programs in Soc. Sciences + Humanities.*”]. The end of this period is marked by general exams comprised of a written component, often a major publishable essay, and an oral component. If the general exam does not include the dissertation proposal, the candidate has an oral dissertation proposal review with a 3-member dissertation committee, latest 6 months after the general exam. The dissertation defense after completion of the dissertation is more or less a pro forma meeting. It signifies the culmination point with a public presentation about the dissertation.

The doctoral education in the physical and life sciences and engineering is structured in a similar way [Refer Graph: “*Basic Structure of US PhD Programs in Physical, Life Sc. + Engineering*”]. The most significant differences are an overall

shorter time to degree. One key reason for the shorter time is the availability for more financial support and the overlap of the research assistant work with the work on their dissertation, while humanities and social science students rarely work in their paid assistantships on their dissertation research. Another difference between the social science / humanities and sciences is the postdoctoral phase for most physical and life science PhDs after PhD completion.

Common Assumptions:

The U.S. doctoral education for the most part is structured as if it were to prepare all its graduates for life as an academic staff member. This outdated assumption is one of a number of common assumptions still in the minds of academic staff and higher education policy makers, and that is perpetuated by the dominant media. Most assumptions are based on anecdotal information rather than empirical data, such as the story about the taxi driver with an English PhD.

The most prevalent common assumptions are:

1. All people who work towards a PhD want to become professor
2. Only the “best” doctoral students do in fact become professors
3. Science PhDs who pursue an academic career path, reach this career goal at a younger age than social science and humanities PhDs
4. The career path from PhD to postdoc, to assistant professor, to tenured professor is the dominant pattern for PhD recipients and its primary hallmark is its linearity

5. Imbedded in this linearity is the fourth assumption that a person is able to fully optimize his or her career options and take the best job offered after PhD completion
6. Children detract women from the pursuit of an academic career
7. And lastly, there is this notion that academics enjoy among the highest job satisfaction possible.

Astonishingly, there is little actual knowledge of what happens to PhD recipients or of their employment 5-10 years after degree completion. Until very recently we were left with a perplexing problem: how can we understand the effectiveness of our education when we have no idea of what happens to our PhDs? How can we improve doctoral education if we do not create a feedback loop from those who have applied their education and who, from the advantage of application and employment experience, can evaluate also the quality of their education? Although currently enrolled students can evaluate their experience, as it is more and more done today, they cannot adequately evaluate the quality of their education without having had an opportunity to apply it.

In order to shed light on the effectiveness of doctoral education, with funding from the Mellon Foundation, the National Science Foundation, and the Getty Grant Foundation, we set out to fill in the gaps by providing empirical evidence to answer these questions.

## 2. Understanding the Outcomes of (US) Doctoral Education

### PhDs —10 Years Later Studies:

The following findings come from two national career path studies, the *PhDs—10 Years Later* study and the *Art History PhDs—A Decade Later*. The first study surveyed six disciplines at 61 US universities, capturing 57% of PhDs awarded in these disciplines during 3 consecutive years. The disciplines surveyed were biochemistry, computer science, electrical engineering, English, mathematics, and political science. In 2002 we surveyed all art historian PhDs, with a grant from the Getty Foundation. The questionnaires of both studies collected information on the career path, the search for first job, a retrospective evaluation of doctoral education, an assessment of usefulness of the doctoral degree, and recommendation for current doctoral programs and students. The 2002 study, in addition, tracked the relationship/family path parallel to the career path.

### Findings

The research findings showed that the first commonly held assumptions about academic career aspirations held true for only about half of the PhD recipients. The variations between the fields were great. Most English (81%) and political science (72%) PhD recipients sought an academic career, while electrical engineering (19%) and biochemistry (32%) PhDs aspired least to pursue an academic career path. I encourage you to take a guess on who in fact did become academic staff? Of those who wanted to become academics, only about 60 % achieved this goal [Refer Graph: “*Career Goal at PhD Completion and Tenured 10-14 Years Later*”]. Of all the respondents, regardless of career goal, less than half of all PhDs were found in permanent academic staff positions

10 -14 years later. Where were the remaining PhDs employed? [Refer Graph: “*Employment at Survey, 1996/97 10+ Years after PhD*”] To the largest part they were employed in the business, industry, government and the not-for-profit sectors (hereafter referred to as the BGN sectors) and a small proportion held positions in academia, but mostly annual contract positions. Let me explain in more detail the key findings on employment outcomes.

As a field, biochemistry had the smallest proportion of tenured academics a decade later; however, it had the largest proportion of PhD recipients still in assistant professor positions 10-14 later. This delayed career progress of biochemists is the result of having spent several years in postdoctoral positions after PhD completion.

Overall, we found that the largest proportions of PhDs working outside academia were the electrical engineers, computer scientists, followed by biochemists. We also found that the common assumption that the “best” people, measured by traditional standards—short time to degree and multiple publications at time of PhDs—became professors, proved not to be true for electrical engineers and computer scientists. This assumption was true for English, political sciences, and mathematics, where two-thirds of their PhD recipients worked in academia, although not all in permanent position. In fact, English had the largest proportion of contract academics still 10 years after PhD completion. It had been women who comprised to a large proportion of this group of contract academics, and this not only in English, but on all fields. These year-to-year, and even term-to-term, appointments constitute a secondary labor market in academia, which, according to our study, tends to be a feminized labor market. In addition, women were more represented in the academic sector that is less selective, the non-PhD granting

institutions, and the community colleges. [Refer Graph: “*Selected Employers 10+ Years Later by Gender*”].

Last, there was a small group of people who had a foot both in the academic and BGN sectors. This may be the beginning of a future trend of PhDs working in the academic and non-academic sectors simultaneously, particularly given the increase of contract academics.

Postdocs:

Another myth was debunked by our findings. Since, today, practically everybody in the life sciences—in our study in biochemistry—takes up one or more postdoctoral for a period of four years, we found that science PhDs were as old as social science and humanities PhDs when they reach permanence in the academic career. [Refer Graph: “*Age at Tenure (Permanent Academic Staff – Associate Professor)*”] The age at tenure of biochemistry and English PhD recipients was 39 and 40 respectively. The extended period of time that biochemists spent in postdocs negatively impacted the progress toward tenure for those who chose an academic career. In other words, although biochemists had the shortest time to doctoral degree among the six disciplines while English had the longest time, due to the time spent in postdocs, biochemists had the largest proportion (46%) of untenured faculty ten to thirteen years after completion of the Ph.D. I therefore argue that time-to-degree, as a measure of program success, can be misleading when multiple fields with different traditions and funding are involved. I suggest, instead that we consider time-to-first-stable-employment.

## Difference between Men and Women in the Career Path:

Our findings of the differences in women's and men's career outcomes shattered another common assumption that it is children who detract women from pursuing academic careers. Living with a partner who has also invested highly into his or her education makes the pursuit of careers far more complicated for the women than for men. What is very interesting in our study, and actually one of the big surprises, is that the women PhDs were partnered to 61% with PhD partners—not always, but mostly with men—or with partners who were lawyers or medical doctors. However, only one third of the men PhDs had partners who had invested as heavily in their education. After degree completion, during the time of the job search, the challenges of being in a dual career couple are emerging. Our survey included a question about the most important reasons for choosing the particular first employment. The answers between women and men differed significantly. The women PhDs were far more concerned that their partners also had a good opportunity than were men PhDs. [Refer Graph: “*Good Opportunities for My Partner*” *Very Important in the First Job Choice*”] The difference can be explained by the fact that the women tended to live with someone who could not easily give up one job and find another one anywhere. The majority of men were partnered with someone who was more mobile, thus men did not need to be concerned about the partner's mobility. The career path study art history *PhDs—A Decade Later* allowed us to shed more light into the complicated situation of dual career couples, a situation that needs to be addressed at present and in the future as the number of women PhDs increases.

In the *Art History* study we tracked the career paths simultaneously with the relationship / family paths. Both men and women named the partner as the major

influence on their careers. However, the proportion of women who named the partner as the most influential factor on the career was significantly larger than that of men.

Women named children only as the second factor that influenced their career. A third factor was the care-taking of a family member, including a parent, which overwhelmingly women do. This finding exposed another myth that it is children alone that detract women from pursuing successful academic careers.

The art history study allowed more sophisticated analyses. We calculated the likelihood of men and women becoming tenured professors in relationship of their family constellations. Women and men who remained single had the same rate of tenure. Women in stable relationships with no children received tenure at the same rate as single women. However men in stable relationship received tenure at a significantly higher rate than single men and than women in stable relationship. Women in stable relationships with children had a lower tenure rate than women in relationships with no children. However men in stable relationships with children had the highest tenure rate. Stable relationships and children increase men's likelihood for a successful career, while both factors decrease the chance of a successful career for women. Marriage patterns of women PhD holders have a significant impact on their career paths. One consequence of this marriage pattern is that in order for couples to live in the same geographic area, one of them must often accept non-tenure track employment. This marriage pattern is not new, but the percentages are increasing. Historically women PhD recipients were either barred from employment at the same institution as their husbands because of anti-nepotism laws, or they took administrative rather than research and teaching positions to remain in academia. However, given the growing number of women earning PhDs,

coupled with the changing economic structure of colleges and universities, the issue of an academic secondary labor market is especially acute.

#### Job Satisfaction:

Another assumption shared among the academic staff has to do with job satisfaction. Our findings show that managers and top executives in business, government and non-profits as a group are the most satisfied PhD recipients with their employment, and not the permanent academic staff. The reasons for their high job satisfaction was not salary, but intellectual challenge of work and autonomy of at the workplace, both are job qualities that we traditionally attribute to an academic work setting. Permanent academic staff ranked only fourth. These findings have several implications. First, that the doctoral degree itself is put to many different uses in a variety of employment sectors. Second, that doctoral education has been and can be the passport to a successful career path in many sectors. Third, that the university as a workplace is not the most attractive destination as commonly assumed. And fourth, the vast majority would do the PhD again, and do it in the same field, but not necessarily at the same university. Such empirical information is essential in our attempt to prepare doctoral students for the future. This information tells us that PhD education proves to be useful and valuable for doctoral recipients. However to the extent that the assumptions I mentioned earlier remain influential and therefore shape curriculum, research and professional development activities, it is safe to say doctoral education needs some modifications.

### 3. Are we preparing our PhDs for the Future?

An important question we must ask is whether we are preparing our PhDs for the Future? The reality is that we educate PhDs for an increasingly global world and a knowledge-driven economy of the mostly wealthy countries. A number of Australian scholars have written eloquently about the twin impact of globalization and a knowledge driven economy on higher education. Mark Considine, a local from Melbourne, Simon Marginson from Monash University, Grant Harmon from the University of New England, Terry Evans from Deakin, or Erica McWilliam of Queensland University of Technology, to name a few.

When I invoke the term global or globalization I am drawing from legal theorists such as John a Powell and S.P. Udayakumar who write: “In the most general sense, globalism refers to the process in which goods and services, including capital, move more freely within and among nations. As globalism advances, national boundaries become more and more porous, and to some extent, less and less relevant.”

When I invoke the term “knowledge economy” then I am speaking of the concept that “future economic performance will be closely based on the skill and innovation level of the labor force, underpinned by effective research and R&D capacity” (Harmon). Universities are increasingly seen as significant knowledge producers and thus as agents for economic growth. Nations such as China, Singapore, and the European member-nations therefore developed a new interest in its universities and investment into knowledge. They translated this investment into a direct increase in PhD production. The European Union countries decided in the Bologna Treaty to invest 3% of each country’s gross national product in R&D by 2010.

So what does this mean for a future-oriented doctoral education? On the one hand, we might imagine this notion of porous national boundaries in which movement of all sorts – including knowledge – cross these boundaries with great speed and facility as a welcoming departure from entrenched nationalism. But, as many scholars and analysts have critiqued, the style of globalism advanced currently has “favored the free movement and protection of capital, while being at best indifferent and at worst hostile to the more place-dependent labor.” One outcome of this emphasis on capital has been that globalization has brought about changes in the very meaning of citizenship. As Powell and Udayakumar put it: “People are now brought together as consumers, but kept apart as citizens.”

So what we have is a fairly complicated scenario in which doctoral students are following multiple career paths that cross these now porous national boundaries relatively easily—a phenomenon which in itself is a result of globalization. And, in these various careers, PhD holders will go on to take leadership positions on a global stage. All against a backdrop in which consumerism is heralded over citizenship. What I argue is that doctoral programs need to understand these dynamics and meet the challenge of educating students to have a meaningful sense of citizenship, and undermine the negative effects of globalization, such as a further north / south divided world, and a rich and poor dichotomy.

#### 4. Is the Traditional Doctoral program Suited for the Demands of the New Economy?

One way to think about the question of preparing PhDs for the future is to consider if the traditional doctoral programs are suited for the demands of the new economies.

So let me summarize the issues that are at the forefront of current debates on the suitability of the traditional doctoral education for the demands of the new economy.

[Refer Graph: “*Is the Traditional Doctoral Program Suited to the Demands of the New Economy?*”]

- Disciplinary versus interdisciplinary
- Individual versus collaborative
- Producing relevant versus esoteric knowledge
- Preparing for academic and non-academic jobs
- Preparing for use and (critical) attitude towards the new technology
- I added - preparing for international leadership

Over the past 15 years, in a number of countries, innovative doctoral programs have emerged that address this debate and criticism that were brought forth against traditional doctoral education.

#### 5. Examples of Innovative doctoral programs

[Refer Graph: “*Examples of Innovative Doctoral Programs*”]

They include the German Graduiertenkolleges, the US IGERTS, the Australian Cooperative Research Center training programs, the Dutch graduate schools to name the most pronounced examples. What is interesting is that these programs look very similar.

So we are experiencing what the late Clark Kerr, former President of the University of California, wrote in 1994: “As knowledge becomes more universal, as the needed skills around the world become more similar, and as people are more liberated in their aspirations, systems of higher education tend to become more alike.”

Let me highlight the characteristics of these new programs: [Refer Graph:

“*Characteristics of Innovative Doctoral Programs*”] They are:

1. Problem-oriented, theme-based rather than discipline oriented, multidisciplinary research programs (maximum 10 years existence)
2. Consciously preparing for academic and non-academic careers, via connections to outside world inform of internships or professionals connected to program
3. Seeking to make professional socialization (ethical values and norms of the field) explicit via multiple mentoring
4. Including professional skills training of the field (presenting at conferences, teaching, publishing, grant writing)
5. Making team work an explicit component of program (dissertation may include collectively written chapter)
6. Encouraging international program components (curriculum includes international collaboration with other doctoral programs)
7. Being funded through a submission of program proposals that are reviewed through an academic peer review.

Examples of such theme-oriented, innovative doctoral programs from the University of Washington are: urban ecology, astrobiology, multinational collaboration on challenges

to the environment, fuel cell science and engineering for sustainable societies, legal governance and globalization.

#### 6. Lessons Learned – Changes Needed:

Now, after over a decade of experience with these programs, and the results of the first research based evaluation appearing (the Australian by Kay Harman) we find: they uniformly compare most favorably to traditional education. PhD students are very satisfied with the multiple supervisions they receive, the exposure to multiple ways of approaching a problem, the richness of the research environment, and of the opportunity of studying within a cohort of similarly interested peers. They value highly the availability of resources to attend national and international conferences and the international collaborations along common research lines, as is increasingly the case within the German Graduiertenkollegs and the US IGERTs.

Let me make clear that I am not proposing that all students study in project-oriented research programs, as we also need people trained along disciplinary lines. What I am proposing is that doctoral students study under the same conditions as students do in these innovative programs.

Therefore, I am proposing changes based on the results from studies of traditional doctoral education, of current students, of PhD recipients, and of innovative programs. I see these changes needed, if we want to educate for the future and do so in a responsible way that works against the negative effects of globalization.

Not all of my recommendations are new; some are already practiced, some right here at the University of Melbourne:

### **1. Epistemology course on “how do we know what we know, and what do we regard as evidence”**

As most scientific, technical or social problems that we face have become too complicated and too large to be solved individually and from a single perspective, much of our research will need to be approached from a multidisciplinary perspective. Few scholars can master several disciplines, but we need to understand each other's disciplinary concepts and worldviews, and be able to communicate with each other. I am suggesting therefore an introductory “general post-secondary education course” that focuses on epistemology, on “how do we know, what we know, and what do we regard as evidence?”

### **2. Integrate teamwork**

I propose that doctoral education introduces the principles of effective teamwork and provides opportunities to practice teamwork. This can be in form of collaborations on small research projects, or on co-authoring of articles by students or students and academic staff. As you can see, this recommendation does not only apply to lab sciences, but can also be practiced in the humanities and the social sciences.

### **3. Learn about one's own limitation**

My next recommendation is philosophical in nature. I am referring to bringing awareness of one's own experience when undertaking research. An essential element for rational inquiry is admitting and accepting mistaken expectations in light of confounding evidences. Undertaking research constantly challenges us to rethink our assumptions, revise our research approach in light of new evidence, retreat from one path and try another one. This experience of being confronted with one's own mistakes and limits,

when understood correctly, can contribute greatly to one's own self-understanding and build modesty, a characteristic much needed when we work together to solve world problems.

#### **4. Introduce collective supervision by doctoral program**

My fourth recommendation is to introduce, when not already existent, collective supervision. Today's academic staff is pulled in many directions: becoming better teachers, bringing in funding for one's research, publishing, contributing to one's professional field, presenting at conferences, serving on committees and reviews, and providing even better supervision to an increasing number of students. The demand for one person to be the one and only supervisor, the ideal mentor, is unrealistic and contributes to staff burn out. A panel of supervisors can provide the students with more advice and insight, more consistent guidance, without resting the burden on one pair of shoulders alone.

#### **5. Integrate professional skill building**

My next recommendation is one that currently many graduate schools encourage and provide. The University of Melbourne is a leader in this area: to offer workshops and seminars in professional skill building. Thus, I am not elaborating on this recommendation.

#### **6. Structure programmatic international collaborations**

The sixth recommendation is one that refers to the earlier addressed notion about global knowledge production. I have illustrated that doctoral education seemingly converges to a more uniform structure. We know that people at universities around the world work on similar problems. This enables us to structure doctoral education so that it contains a

build-in international component of collaborating at the program level with a doctoral program in another country.

### **7. Multiple flows: north/south, rich/poor**

The seventh recommendation is difficult, but needs to be addressed. At present we have a very uneven flow of research collaboration between the economically advanced countries and poorer countries with limited research infrastructure. For example, the most sought after countries for postdoctoral research visits are: the US, the UK, Canada, Germany, Japan, Switzerland, and Australia. This recommendation needs creative ideas from the richest universities not only to make an effort of taking in international students and scholars, but also going out to those countries. Australia has certainly started steps in this direction.

### **8. Re-introduce foreign language requirement**

The eighth recommendation follows naturally the two prior ones. Due to technology advances, English has become the dominant language. English speaking countries have dropped foreign language requirements for PhD education. This lack of foreign language skills has two negative consequences. First is the fact that much is lost by not being able to communicate directly; and secondly, the fact that speaking English privileges some and disadvantages others, is increasing. Having experienced how one is handicapped by not being able to express oneself sophisticatedly and fast, I can attest to its humbling experience. One that is good to have gone through when we act on the world stage.

### **9. On-going world-citizenship education**

My last recommendation is that of providing ongoing world-citizenship education. While citizenship education is relegated to elementary and secondary schools, I argue that

doctoral education or whatever serves as the terminal degree program, is exactly the place to revive the awareness of and the obligation to responsible citizenship. Responsible world citizenship includes the notion of a citizen who crosses national boundaries without seeking to assimilate and homogenize, but instead accepts differences and embraces diversity. Doctoral education is precisely the place where we have the opportunity to look across national boundaries and learn and study how the effect of a certain approach harms or benefits people outside our hemisphere.

### 7. Thinking globally, acting locally

Some of you may say now, well this sounds all fine, but how can this be done without extending time-to-degree or without additional resources? Let me end with presenting one concrete example on practicing what the slogan, “*Thinking globally, acting locally*” applied to doctoral education can look like

The School of Graduate Studies here at the University of Melbourne and the Graduate School at University of Washington, are planning to bring together for 2 weeks a group of 30 doctoral students to take part in an international leadership workshop. We intend to select 15 students from each university, ideally from fields of studies that do not necessarily lead them to go abroad. These students will have common research interests. Our goals are to create a learning experience that not only includes leadership training, but also research collaboration in order to initiate interaction beyond a one-time meeting. This workshop will be structured so that the students understand that leadership skills have contextual components and are culturally influenced and that they become aware of national stereotyping. We also want to create an understanding of the effects of language and cultural dominance while practicing behavior of “new” leadership skills that are

culturally sensitive. We are planning to provide opportunities in this workshop for indigenous Australian students to meet with indigenous American Indian students. The universities will take turns in hosting and funding the workshop.

With this first concrete step, we hope to create opportunities to help postsecondary students become citizens that operate not only within a small sphere of elite intellectualism, but in the words of the educational theorist Henry Giroux, move them to become “critical public intellectuals [who define themselves] not merely as marginal figures, professionals, or academics acting alone, but as citizens whose collective knowledge and actions presuppose specific visions of public life, community, and moral accountability.”

Thank you.

### References

Banks, James (ed.) (2004) Diversity and Citizenship Education: Global Perspectives. Jossey-Bass, San Francisco.

Berelson, Bernard (1960) Graduate Education in the United States. New York: McGraw Hill.

Considine Mark, Simon Marginson, et. al. (2001) Comparative Performance of Australia as Knowledge Nation. Report to the Chifley Research Centre. June.

Giroux Henry cited in Barry Kanpol. (1997) Issues and Trends in Critical Pedagogy Hampton Press: Cresskill, NJ.

Gupta, Deepak, M. Nerad, J Cerny. (2003) “The Road Home: Exploring the Choice to Stay or Return of International PhDs,” International Higher Education, Spring.

Harman, Grant. (2002) “Producing PhD Graduates in Australia for the Knowledge Economy.” Higher Education Research and Development. Vol. 21, no. 2, July 2002, pp. 179-190.

Harman, Kay. (2004) "Producing 'industry-ready' doctorates: Australian Cooperative Research Centre approaches to doctoral education." Studies in Continuing Education. Vol. 26, no 3, November 2004, pp. 387-404.

Kerdeman, Deborah. (2003) "Pulled Up Short: Challenges for Education." Philosophy of Education, pp. 208-216.

Kerdeman, Deborah. (2003) "Pulled Up Short: Challenging Self- Understanding as a Focus of Teaching and Learning." The Journal of the Philosophy of Education Society of Great Britain. Vol 37, no 2, May 2003 pp. 294-308.

Kerr, Clark. (1994) Higher Education Cannot Escape History. Albany: SUNY Press.

Marginson, Simon. (2004) "Dynamics of national and global competition in higher education." Higher Education. Vol. 00, pp. 1-40.

Marginson, Simon. (2002) "Postgraduate training in the social sciences: knowledge, engagement, vocation." Journal of Australian Studies. June, pp7-39.

McWilliam, Erica and Richard James. (2002) "Doctoral Education in a Knowledge Economy." Higher Education Research and Development. Vol. 21, no. 2, July.

Nerad, Maresi (2004). "Promovieren in den USA". (The US PhD) Deutscher Akademischer Austauschdienst [DAAD] Hersg., Die Internationale Hochschule, Band 3: Bielefeld, Germany.

Nerad, Maresi, R. Aanerud, and J. Cerny. (2004) "So You Want to Be a Professor! Lessons from the *PhDs—Ten Years Later Study*," in Paths to the Professoriate: Strategies for Enriching the Preparation of Future Faculty. eds. Donald H. Wulff, Ann Austin, and Associates. San Francisco: Jossey-Bass.

Nerad, Maresi. (2004) "The PhD in the US: Criticisms, Facts and Remedies," Higher Education Policy. Vol.17, no. 2.

Nerad, Maresi and J. Cerny. (2002) "Postdoctoral Appointments and Employment Patterns of Science and Engineering Doctoral Recipients Ten-plus Years after Ph.D. Completion: Selected Results from the "*Ph.D.s – Ten Years Later Study*," Communicator, Council of Graduate Schools, Washington. D.C. Vol. 35, no. 7; August-September 2002.

Nerad, Maresi and J, Cerny. (1999) "Postdoctoral Patterns, Career Advancement, and Problems," in American Association for the Advancement of Science. Science. Vol. 285, pp. 1533-1535. Washington, D.C.

Nerad, Maresi and J. Cerny. (1999) "From Rumors to Facts: Career Outcomes of English Ph.D.'s. Results from the Ph.D.'s—Ten Years Later Study," in the Council of Graduate Schools Communicator. Vol. XXXII, no. 7. Special Edition. Washington, D.C.: fall 1999. Reprinted in ADE Bulletin. No 124, pp.43-55, winter 2000. Association of Departments of English, New York: Modern Language Association.

Nerad, Maresi and J. Cerny. (1999) "Widening the Circle: Another Look at Women Graduate Students," in the Council of Graduate Schools. Communicator. Vol. XXXII, no. 6, pp. 1-7. Washington, D.C.: August.

Nerad, Maresi with R. June and D. Miller, eds. (1997) Graduate Education in the United States. New York: Garland Press.

Nerad, Maresi. (1995) "University of California, Berkeley: Beyond Traditional Modes of Mentoring," in: A Conversation about Mentoring: Trends and Models, The Council of Graduate Schools, Washington. D.C.

Powell, John and S.P. Udayakumar. (2000) "Race, Poverty & Globalization" Poverty & Race May/June  
<http://www.globalexchange.org/campaigns/econ101/globalization072000.html>

Parker, Walter. (1996) "'Advanced' Ideas about Democracy: Toward a Pluralist Conception of Citizen Education." Teachers College Record. Vol. 98, fall, pp. 104-125.

Sadrozinski, Renate, M. Nerad, J. Cerny. (2003) Art History PhDs—A Decade Later, Results of a National Survey. [http://depts.washington.edu/coe/cirge/html/career\\_path](http://depts.washington.edu/coe/cirge/html/career_path)

Shoben Elaine W. (1997) From antinepotism rules to programs for partners: legal issues. In Ferber, M. A. & Loeb J. W. (Eds.), Academic couples: problems and promises. Chicago, IL: University of Illinois Press.

Stephan, Paula. E. & Kassis, M. M. (1997) The history of women and couples in academe. In Ferber, M. A. & Loeb J. W. (Eds.), Academic couples: problems and promises. Chicago, IL: University of Illinois Press.