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Degrees of Quality, Higher Education

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Synonyms

Returns to higher education; Graduate premia; Private returns to higher education

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Definition

Measuring the wage returns to degree, by subject of degree, institution, and both subject and institution.

Introduction

The positive relationship between higher education (HE) attainment and earnings is well documented (Card 1999; Blundell, Dearden, & Sianesi 2005). But given the rapidly increasing proportion of individuals pursuing HE across the developed and developing world, the type and quality of higher education that students obtain has become of growing research and policy interest (Altonji et al. 2015). Moreover, higher education sectors are becoming more marketized, with students and graduates expected to contribute a greater share of the costs of HE through tuition fees. As such it is important to understand whether the field of study or quality of institution chosen can deliver additional wage gains. This type of information is important for policymakers, potential employers, and practitioners, as well as for individual students themselves.

Variations in Earnings Payoffs to HE

To date, the literature has shown a great deal of heterogeneity in labor market returns to degrees. A focus has been placed on changes over time as the earnings payoff to degrees has varied in some countries over time (Autor, Katz, & Kearney 2008; Machin & Wyness 2017), variations for workers with different demographics (e.g., for gender and race see Altonji & Blank 1999, Figueiredo 2017, and Chiswick 2017) and for institutional features of the HE system like subject of degree/major choice or institution attending. To study "degrees of quality" we focus on these last two, both separately and together.

Subject of Degree/Field of Major

In the UK, Walker and Zhu (2011) have reported evidence of considerable variation in returns across different degree subjects. While women enjoy large returns from all subject types, men experience very large returns from law, economics, and management degrees, but less so for science, technology, engineering, and maths degrees. Meanwhile degrees such as arts, education and humanities attract far lower returns.

Understanding these differences is particularly important in the UK since students specialize right at the outset of university enrolment, and transfers to different programs are extremely rare (HESA 2016). The same is true in developing countries where students often face the widespread requirement to choose their area of specialization early in their course, and often once the choice is made institutions are relatively inflexible so that change is impossible (World Bank, 2000). However, in other places higher education is more general and students specialize later on in their degree. For example, in the USA, students pick a variety of subjects. But heterogeneity in returns by major is also apparent in the USA, where STEM and business majors attract the highest returns (Altonji, Arcidiacono, & Maurel 2016).

Demand for STEM majors in particular is escalating in the USA, where jobs requiring STEM skills will grow at 1.6% annually in the 2008–18 decade versus 1% for other occupations, but where STEM graduates make up only 14% of graduates (in comparison to 42% in China, and 28% in Germany) (McKinsey 2012), perhaps explaining the high wage premium. Producing STEM graduates is also a growing issue in the developing world. Indeed India and China are projected to become dominant suppliers of STEM graduates – but there are concerns about the quality of STEM degrees in these countries (McKinsey 2012), again highlighting the need to understand whether such degrees really produce wage returns.

One research challenge that immediately jumps out from this work is defining the appropriate counterfactual for evaluating the wage differential attached to a particular degree subject. Recent research in the area has, however, made significant methodological advances. Drawing upon rich Norwegian register data matched to university admissions, Kirkoboen, Leuven, and

Mogstad (2016) ensure that wage differentials can be identified by exploiting Norway's centralized admission process where discontinuities act to effectively randomize applicants near unpredictable admission cutoffs into different institutions and fields of study. In doing so, they pin down significant wage gains connected to different fields of study.

College Quality

Heterogeneity by institution is common throughout the world. In the USA in particular, there are a wide range of institution types – public, private, for-profit – emerging in response to demand. The same is true in developing countries, where rapid expansion in the demand for HE, in conjunction with a cash-strapped public sector, has resulted in the emergence of private colleges (World Bank, 2000).

A small body of evidence reports evidence where wage returns vary according to quality of institution. Early studies in this area were very US centric and typically used measures of the ability of the student intake (usually SAT scores) as a proxy for quality, finding small positive effects (Brewer & Ehrenberg 1996). However, as documented by Black et al. (2005) and Black and Smith (2006), using a single measure of college quality can exert downward bias in the effects of college quality on wages due to increased presence of measurement error (though they nonetheless conclude that SAT score is the most reliable quality measure). The small number of studies from the UK and USA which uses multiple dimensions of quality also tends to find small positive effects of student entry scores. These studies typically estimate statistical regressions that look at the relationship between earnings and each dimension of quality (conditioning on a rich set of characteristics), and then, to account for issues of collinearity among these quality variables, also create quality indices (usually using factor analysis) based on their input measures.

For example, Black and Smith (2006) use faculty salaries, freshman retention rates, and average SAT scores as their chosen quality measures. After conditioning on a rich set of characteristics, as well as years of schooling, they find largely positive significant effects for men and women. They also create a quality index based on the three measures of quality and find that college quality matters for the future earnings of men and women; specifically that going from the 25th to 75th quartile of the quality distribution increases wages by 7.2% for men and 3.5% for women.

Similarly, Black and Smith (2006) and Hussain, McNally, and Telhaj (2009), the latter being a rare example of a UK-based study of the importance of quality, both use a similar set of quality measures in their studies, again regressing each dimension separately and then together, using two factor models, and models combining all dimensions of quality. Table 1 presents a comparison of the findings of these two studies. As can be seen, both studies come up with very similar findings – that quality matters for future earnings, though in the context of an estimated average return to higher education of 48% (Blundell et al. 2005) returns to quality are potentially quite low (the numbers in the table range from 5.6% to 8.0% of log(wages)).

But what if a student's decision to attend a particular university is driven by underlying factors which also affect their future earnings? For

Degrees of Quality, Higher Education, Table 1 Impact of college quality on earnings, comparison of studies

	Hussein, McNally, and Telhaj	Black and Smith[a]
Factor combines faculty student ratio and the retention rate	7.24	8.00
	(1.79)	(3.31)
Factor combines faculty student ratio and total tariff score	6.52	6.10
(mean SAT scores for Black and Smith)	(1.42)	(2.78)
Factor combines retention rate and total tariff	6.35	5.60
(mean SAT scores for Black and Smith)	(1.29)	(2.25)

Source: Hussain et al. (2009)

[a]Coefficients and standard errors (in parentheses) multiplied by 100

example, more ambitious students may choose the most selective university and may also do well in the labor market due at least in part to their ambitious nature. The studies thus far mentioned deal with this selection problem using selection on observables. That is to say, they attempt to control for these effects by conditioning on rich sets of variables, such as student ability measures and demographic characteristics. Dale and Krueger (2002) meanwhile present the first study using quasi-experimental methods to overcome this problem. Their method of adjusting for selection effects is to compare earnings of students who applied to and were accepted and rejected by a comparable set of institutions. They find that students who attended more selective colleges in fact do not earn more than other students, though they do find a positive internal rate of return from attending a college with higher resources, suggesting some role for college quality. A follow-up paper (Dale & Krueger 2014) which uses better data and longer term outcomes again shows that after accounting for selection effects there is a limited role for college quality, but that it does matter for the future earnings of students from ethnic minority backgrounds, those whose parents are poorly educated. A potential explanation is that selective colleges provide access to networks for these types of students. This supports work by Crawford, Gregg, Macmillan, Vignoles, and Wyness (2016) which concludes that returns to college are higher for students from more advantaged backgrounds, even after controlling for prior attainment, institution and subject.

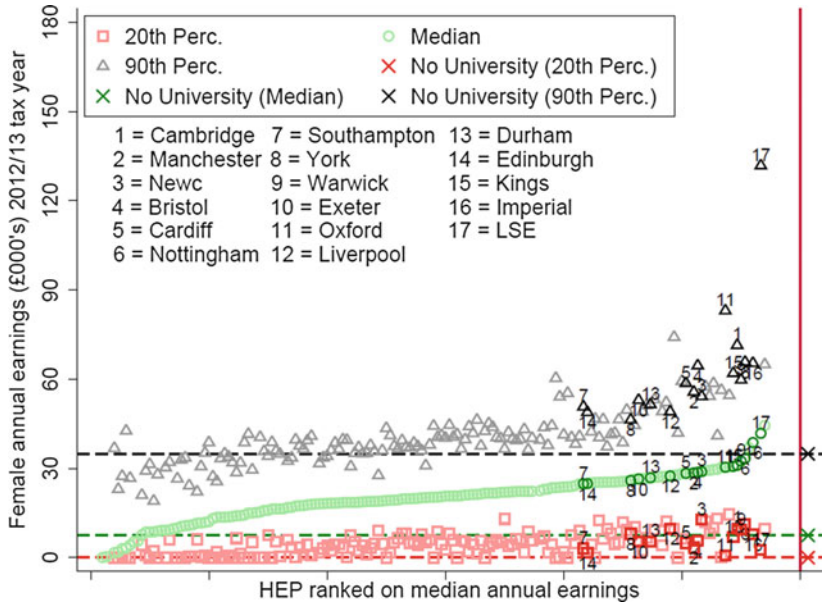
Subject/Field of Study and Institution

The above literature tells us that in order to maximize their labor market returns, students should study subjects such as economics and law, and (at least for certain groups) they should attend a higher quality institution. But what about the interaction between the two? Should students study economics or law at Oxford or Harvard to get the best return? And which is the most important factor?

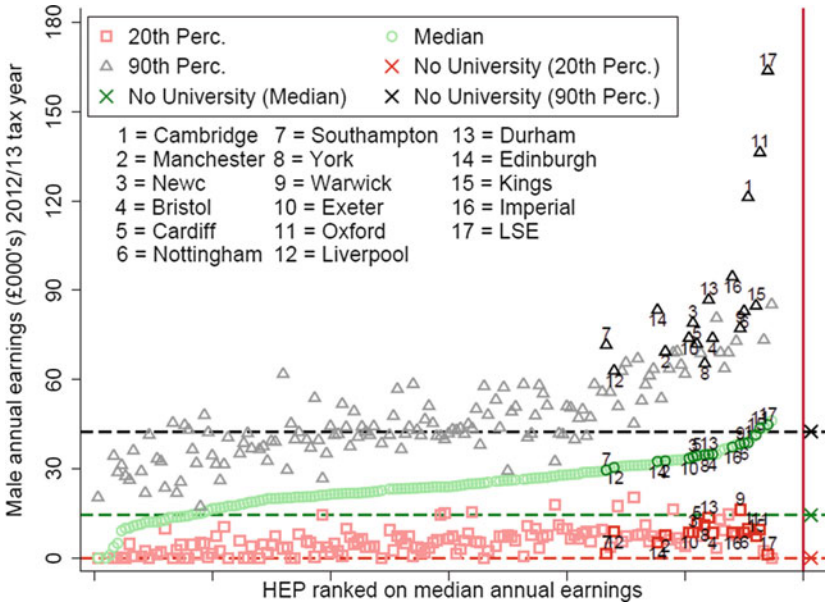
Until recently, researchers had not broached this question, presumably due to data limitations. Generating a robust wage return for studying economics at Harvard, compared to economics at Yale, or maths at Columbia would require a large-scale dataset. However, a significant advance in this dimension is the availability of administrative data, which furnishes the analyst with data of sufficient magnitude to make these inferences.

Britton, Dearden, Shephard, and Vignoles (2016) have made considerable advances by using tax and student loan administrative data to measure how the earnings of English graduates vary by institution, subject, and also by subject groupings within institution. Confirming the findings from the studies highlighted above, their analysis reveals considerable variation in earnings according to subject choice (with economics and law delivering the biggest gains, and arts degrees deliver earnings that are similar to nongraduates). As Figs. 1 and 2 show, they also confirm that institution itself matters for earnings, with male and female students studying at more selective UK institutions (e.g., Oxford, Cambridge, London School of Economics (LSE)) going on to earn considerably more than those studying at less selective institutions. For example, as Figs. 1 and 2 which show the distribution of earnings by higher education institution indicate, male and female graduates of the prestigious LSE are among the highest earners in the country. Moreover, even among the top 10% of earners in the country, there is variation in earnings by institution, with LSE graduates earning the most.

Putting these two findings together, Britton et al. (2016). show there is an important interaction between institution and subject. Figure 3 highlights this, showing earnings by subject group and institution among earners in the 90th percentile. As the figure shows, not only do students at certain (usually highly selective) institutions earn more than others at less selective institutions, but those studying certain subjects at these institutions (notably law, economics, and management) can earn even more besides. This is a powerful finding and the first attempt in the literature to provide evidence of the importance of subject and institution combined.

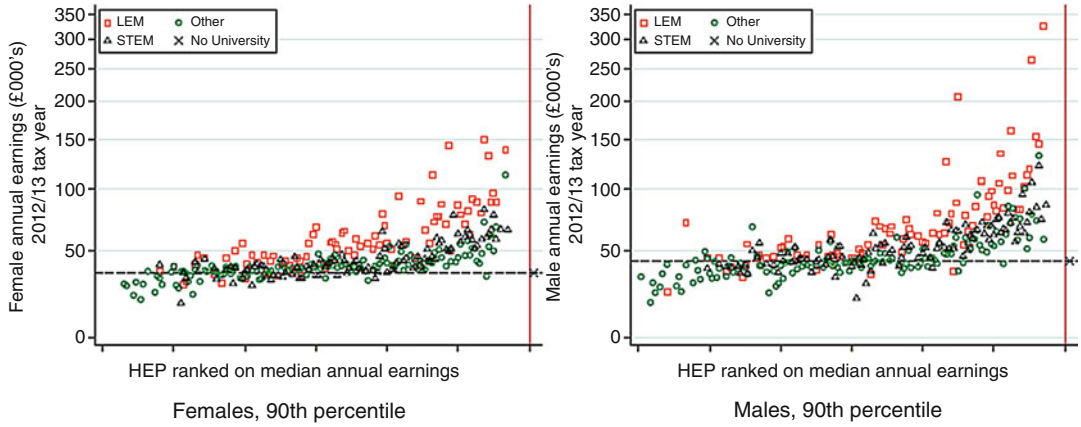


Degrees of Quality, Higher Education, Fig. 1 Higher education provider ranked on median annual earnings – females (Source Britton et al. 2016)



Degrees of Quality, Higher Education, Fig. 2 Higher education provider ranked on median annual earnings – males (Source Britton et al. 2016)

The Norwegian study of Kirkoboen et al. (2016) is also able to study the labor market impact of both subject of study and institution attended. In their analysis, they too report significant wage differentials connected to both. However, the former are larger than the latter, which they attribute to individuals gaining wage premia by choosing fields in which they have a comparative advantage.



Degrees of Quality, Higher Education, Fig. 3 Graduate earnings by subject group and institution (Source Britton et al. 2016)

Conclusions

Evidence from a wide range of settings shows considerable heterogeneity in earnings differentials that accrue to different dimensions of higher education. In this (short) piece, we focus on subject/major and on institution attended, showing that there are significant differences in labor market outcomes connected to both. The use of very rich administrative data has become a key feature of the newer research in the area, with the work moving in the direction of testing the key question of selection effects. Put differently, does the significant earnings power of graduates in particular degrees and institutions arise from the subject and institution they graduated from, or the underlying factor that led them to choose this course in the first place? Offering evidence on this remaining piece of the quality puzzle is still for the most part missing, but with advances in the availability of large-scale datasets, some research has started to tackle this important research and policy question, with more expected in due course.

Cross-References

- Inequality in Higher Education and the Labor Market
- Returns to Higher Education and Gender

References

Altonji, J., and R. Blank. 1999. Race and gender in the labor market. In *Handbook of labor economics*, ed. O. Ashenfelter and D. Card. Amsterdam: North Holland.

Altonji, J.G., P. Arcidiacono, and A. Maurel. 2015. "*The Analysis of Field Choice in College and Graduate School: Determinants and Wage Effects*", 'NBER Working Paper 21655.

Altonji, J.G., P. Arcidiacono, and A. Maurel. 2016. The analysis of field choice in college and graduate school: Determinants and wage effects. In *Handbook of the economics of education*, ed. E. Hanushek, S. Machin, and L. Woessmann. Amsterdam: North Holland.

Autor, D., L. Katz, and M. Kearney. 2008. Trends in U.S. wage inequality: Re-assessing the revisionists. *Review of Economics and Statistics* 90: 300–323.

Black, D., and J. Smith. 2006. Estimating the returns to college quality with multiple proxies for quality. *Journal of Labor Economics* 24: 701–728.

Black, D., K. Daniel, and J. Smith. 2005. College quality and wages in the United States. *German Economic Review* 6: 415–443.

Blundell, R., L. Dearden, and B. Sianesi. 2005. Evaluating the effect of education on earnings: Models, methods and results from the National Child Development Survey. *Journal of the Royal Statistical Society: Series A (Statistics in Society)* 168: 473–512.

Brewer, D., and R. Ehrenberg. 1996. Does it pay to attend an elite private college? Evidence from the high school class of 1980. *Research in Labor Economics* 15: 239–271.

Britton, J., L. Dearden, N. Shephard, and A. Vignoles. (2016). How English domiciled graduate earnings vary with gender, institution attended, subject and socio-economic background. IFS working paper 16/06. London: Institute for Fiscal Studies.

Card, D. 1999. The causal effect of education on earnings. In *Handbook of labor economics*, ed. O. Ashenfelter and D. Card. Amsterdam: North Holland.
Crawford, C., P. Gregg, L. Macmillan, A. Vignoles, and G. Wyness. 2016. Higher education, career opportunities and intergenerational inequality. *Oxford Review of Economic Policy* 32: 553–575.
Dale, S., and A. Krueger. 2002. Estimating the payoff to attending a more selective college: An application of selection on observables and unobservables. *Quarterly Journal of Economics* 117: 1491–1527.
Dale, S., and A. Krueger. 2014. Estimating the effects of college characteristics over the career using administrative earnings data. *Journal of Human Resources* 49: 323–358.
HESA. 2016. Non-continuation rates summary: UK performance indicators 2015/16, higher education statistics agency, Cheltenham, UK. Available at https://www.hesa.ac.uk/data-and-analysis/performance-indicators/non-continuation-summary. Last accessed 21 Mar 2017.
Hussain, I., S. McNally, and S. Telhaj. 2009. University quality and graduate wages in the UK, CEP Discussion Paper No. 99, Centre for Economic Performance, London School of Economics, London.
Kirkoboen, L., E. Leuven, and M. Mogstad. 2016. Field of study, earnings, and self-selection. *Quarterly Journal of Economics* 131: 1057–1111.
McKinsey Global Institute (2012) The world at work: Jobs, pay and skills for 3.5 billion people. McKinsey & Company.
Walker, I., and Y. Zhu. 2011. Differences by degree: Evidence of the net financial rates of return to undergraduate study for England and Wales. *Economics of Education Review* 30: 1177–1186.
World Bank, The. 2000. Higher Education in developing countries. Peril and Promise. The task force on Higher Education and Society. The World Bank, Washington D.C., USA.

Demand and Supply

► Economic Perspectives, Research in Higher Education

Demand in the Higher Education Market

► Economic Determinants of Higher Education Demand

Democratic Education

► Community Engagement in Higher Education

Demography and Higher Education

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What does demography have to do with higher education? At least three different things. Firstly, demographic trends in a country's population or worldwide may have an impact on the size, cost, dynamics, and demographics of higher education systems and their outputs. Secondly, higher education systems have their own demographic trends: one can for example be interested in the size, composition, and dynamics of student, graduate, academic, and administrative staff populations within the sector for a variety of reasons. Finally, higher education has an impact on countries' demographics: not only is educational attainment one of the criteria that is often studied in demographic studies, but the share of the tertiary educated group in a population can also have an impact on countries demographic trends as this influences birth and mortality rates, health, income, etc.

Demography is concerned with both quantity and quality – two interrelated dimensions of populations that can be looked at from a variety of perspectives (age, sex, nationality, socioeconomic background, educational attainment, professional role, etc.). Number of strategic issues for higher education policy or the management of higher education institutions relate to these demographic dimensions: the size of higher education systems, the educational attainment of the population, the composition of the student and faculty bodies, all these factors relate in some way to the demography.

What do we know about the relation between demographic trends and the demography of higher education? This entry will highlight some of these dynamics for three populations of interest to higher education: students, graduates, and faculty.

The Student Population

Being able to forecast the student population and understand how it changes is a major challenge to education policy makers and institution leaders. It matters for expenditures, faculty recruitment, facility management, but also the academic supply of institutions and systems.

All other things being equal, demography directly affects student enrolments in higher education because the size of younger age cohorts is a partial determinant of the number of students. Other determinants are the rates of entry to higher education, dropout (or study interruption) rates, the average length of study by student, the age distribution of students, student inbound and outbound international mobility, etc. Given that in OECD (and most other) countries, around 80% of students in higher education on average are aged less than 25, the relative impact of younger age cohorts has a major bearing on student enrolment levels. When the size of younger cohorts decreases, one may expect student enrolments to decrease, assuming all other things remain equal, and of course where young cohorts increase in size, one should expect an increase in the population of higher education students.

Yet the relationship between demography – or more specifically the size of the younger age cohorts – and higher education enrolment levels is a complex one. Student numbers depend on the access (or entry) rates of different cohorts in the population at different ages and, therefore, on the distribution of admissions over time and the duration of studies irrespective of whether the latter result in dropout or a graduate qualification.

Several factors may offset decreases in cohort size, such as an increase in rates of access to higher education or a change in the length of studies. Where the study structure remains unchanged, enrolments may increase because of a fall in drop-out rates, making students staying longer on average in the system, because of a growth in part-time student enrolments or an increase in the general level of education. Access rates clarify and depend on several factors, including the proportion of persons with the qualifications required to enter higher education (the eligibility rate) and the proportion of those eligible who do indeed enroll, which may be governed by their own particular aspirations, incentives, and sometimes the number of places available. The actual proportion of entrants also depends, among other things, on the cost of higher education, the financial pressures confronting those otherwise eligible, pecuniary (and nonpecuniary) advantages that they hope to gain from higher education, and the length of their studies from an opportunity cost perspective.

The distribution of admissions over time and the length of studies explain why student enrolment levels to some extent lag behind changes in the size of younger age cohorts. A big demographic change in the size of these cohorts will not have a noticeable impact on enrolment for several years. Consider a situation in which the number of young people decreases. When this decrease gets under way, young people in earlier, slightly older cohorts will still be entering higher education, and it will be several years before the succession of smaller cohorts finally affects the system (entering it gradually over a given period): this corresponds to the continued impact of past cohorts. The second reason for the time lag stems from possible changes in entry rates: even if all students were to enter higher education at the same time, which is far from the case, some cohorts (including the younger ones) could have greater access rates and weigh more than others in the system.

Let us assume that 30% of a cohort enters the higher education system each year and that each student studies for 3 years. If cohorts increase before decreasing in size, the number of students will only begin to fall 1 year after the demographic change and at first no more than gradually before starting to follow the downward slope of the cohort curve. If entry rates are allowed to increase

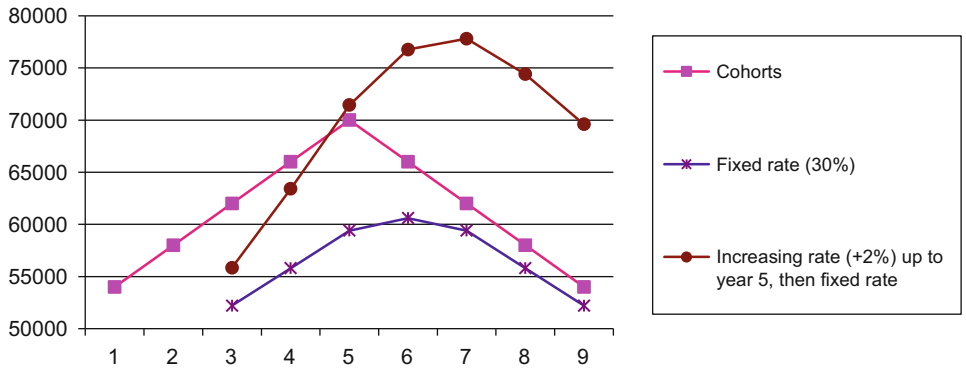
regularly by 2% during the first 5 years, from 30% to 40%, before being held constant in subsequent years, it is clear that 2 years will now elapse before any fall in enrolments is observed (Fig. 1). This simple example is intended merely to convey the persistence of the trends occurring over time.

Real life is more complex: with sometimes longer courses of study, many different cohorts entering higher education over an extended period, and differing dropout rates, etc., these effects may be more sustained. To illustrate this point, some enrolment projection for the OECD area based on different scenarios can be presented (Vincent-Lancrin 2008a). They have mainly a heuristic value. According to the UN median demographic projections (2006 revision), the main international comparative source to follow demographic changes, the 18–24 age group was supposed to fall on average by 9% between 2005 and 2025 in the OECD area (while they would slightly increase – by 6% – for the world as a whole). The decrease was supposed to be gradual, with an increase of the 18–24 age cohort between 2005 and 2015, in 10 countries between 2005 and 2020, and in 7 between 2005 and 2025. Otherwise stated, in the median population scenario the younger cohorts were expected to decrease in size in 23 out of the 30 considered OECD countries over the period.

Two scenarios on higher education enrolments were developed to assess the impact on tertiary education enrolments. A first "status quo" scenario kept entry and dropout rates frozen but allowed gradual entry of each cohort until 28: according to this scenario, OECD countries would on average have 3% more students in 2015, with their numbers then falling back, but just gradually, to the same level in 2020 as in 2005, and then to 2% beneath the 2005 level in 2025. In the second, "trend" scenario, rather than freezing rates of entry to higher education at their 2004 level the rates were extrapolated linearly on the basis of the trends in each country between 2000 and 2004, with an 80% ceiling for entry rates. The evolution of enrolments thus depended on both the size of young cohorts and evolving entry rates. In comparison with the first scenario, the situation changes very markedly. On average, student enrolment levels in countries in 2005 would increase by 13% in 2015 and 2020, and by 14% in 2025.

Even when the younger cohorts decrease in size, one may thus nonetheless experience a sustained increase of enrolments. Of course, this is not to say that the student population cannot decrease. In Korea and Japan, the conjunction of reduced young cohorts, of universal access to higher education, and relatively little entry or reentry of older people to higher education has led to a drop in tertiary education enrolments between 2005 and 2015. Both countries having reached "universal" higher education, the size of the young population becomes an important determinant of the size of the student population.

These rates of increase are small compared to the growth of enrolments in BRICs countries. In



Demography and Higher Education, Fig. 1 The lagging impact of demographic changes on student enrolment (Source: Vincent-Lancrin (2008a))

China, an aging society with young cohorts decreasing in size, enrolments have increased from 5.5 million students in 2000 to 26.2 million in 2015. In India, where the size of the younger cohorts is still increasing, enrolments have increased from 8 to 23.7 million between 2000 and 2013. These two examples clearly illustrate that the rates of increase of the student population worldwide will clearly depend more on non-OECD countries in the coming decades, but also that in these countries, relatively low entry rates relative to OECD countries make the increase of the student population relatively independent from the size of young cohorts in the population.

The student population is not a homogeneous body, and demographic lenses also allow one to look at student subpopulations and their evolution from a variety of perspectives: age, sex, social or minority background, level of education, field of study, type of study (part time or full time, face to face, or online), special needs, citizenship, etc.

The evolution of the student population may actually depend on the dynamics of its subpopulations, for example, minority, female, or international students.

In the United States, expected changes in the composition of the population, with a lower proportion of whites and an increase in minorities – and especially Hispanic minorities – among young people, seem to present the main demographic challenge for the system. In some US states, the majority of students are from a minority background. As relatively few Hispanics indeed enter higher education, an effective drive to increase their entry rates appears essential to maintain student enrolments and raise the percentage of tertiary graduates in the population.

A similar example relates to gender. While men were numerically superior by far among students (and graduates) in higher education two or three decades ago, women are now in the majority in nearly all OECD countries. Men have continued to increase their access to higher education, but women have done so at much faster pace, so that gender inequality in higher education has reversed. The reversal of inequalities between the sexes can be attributed to educational, social, economic, and demographic factors that are not expected to disappear in the years ahead (Vincent-Lancrin 2008b). Yet there is still significant discrimination between the sexes in some academic subjects, so that the overall picture at the total enrolment level only gives us a partial view on the topic.

Another, final example pertains to international (or foreign) students. The number of foreign students has more than tripled since the 1970s, and more than doubled in the OECD area from 2000 to 2015. In 2015, they represented on average about 10% of enrolments in an OECD country. In some countries, the share was much higher. This is clearly one major trend and changes in the composition of the student population in many countries. Yet, the share of foreign students in the total world enrolments has not increased much over the past decades – remaining at about 2–3% of total enrolments. The strong increase of foreign and international students in the student population of (mainly OECD) countries is due to a variety of factors, but mainly to the facts that the number of students in the world has significantly increased in the past decades, that most international students choose to go to an OECD country when they study abroad, and that most OECD countries are now encouraging the internationalization of their student body. Here, the evolution is partly due to what is happening abroad, reminding us of the interconnectedness of countries and their populations.

The Graduate Population

One major reason for countries and individuals to invest in higher education lies in the individual and social benefits they get from higher education. Educational attainment is a typical dimension included in demographic, economic, and other social studies – and one of the major outcomes of interest for higher education policy.

The educational attainment of a population is usually one of these typically slow demographic trends. Indeed, the educational attainment of a country's population depends not only on how many higher (or tertiary) education students

graduate but also on how many have graduated over the past decades. As noted above, in most countries, higher education credentials are acquired when people are relatively young, and evolve only little afterwards in spite of lifelong learning. Raising educational attainment of one's population will thus typically take decades.

As higher education has significantly expanded over the past decades in most OECD countries, older cohorts usually have a lower educational attainment than the younger ones. On average, this difference in tertiary attainment between the 55–64 year-olds and the 25–34 year-olds is about 16 percentage points (OECD 2015). Where expansion has started early, for example, in the United States, there is less difference between the older and younger cohorts. Interestingly, while tertiary educational attainment seems to have risen everywhere, social standards can still be different. For example, tertiary educational attainment has plateaued in the United States: in 2014, 41% of the 55–64 year-olds had a higher education degree, against 46% for the 25–34 year-olds. Other countries such as Korea and Canada seem on a much steeper trajectory: 68 and 58% of their 25–34 year-olds have a tertiary education degree, so that they will have much higher tertiary educational attainment than the United States in a decade or two if trends continue.

A country's educational attainment does not merely depend on how many students access and complete higher education though. The stock of tertiary education graduates also depends on flows of tertiary education graduates in and out of the country. Migrants with tertiary educational attainment will increase the population educational attainment while migrants with lower qualification will decrease it; and emigration will also have a similar impact. Depending on the size of the country, its level of economic development, its political situation, or its immigration policy, migration flows may have a more or less important impact. Some countries may significantly rely on foreign graduates to cover the high skills needed for its scientific and managerial workforce (which typically represents a tiny share of the overall graduate skill needs).

Because of the expansion of tertiary education in most countries, the population of tertiary education graduates has expanded globally. While tertiary education graduates have mainly been concentrated in OECD countries, this may change quickly. An important demographic consideration is the size of the age cohorts: because of the differences in size of the younger age cohorts in India and China compared to OECD countries, only a slight increase in higher education participation rates in these countries would be needed to inject into their economies the same amount of work performed by graduates in OECD countries (Willekens 2008).

The graduate population can also be looked at from multiple perspectives: gender, citizenship, domain of graduation, and roles in the economy and society. One dimension that is important relates to degree level, for example, the share of doctors, masters, etc. Increasingly, it is possible that certificates, badges, and other forms of credentialing will become important alongside formal degrees and qualifications and thus lead to new perspectives on graduates (or what the graduate population means).

The Academic Population

A third population is key to higher education: faculty. How does it relate to a country's and its students' demography?

While it might be thought that the aging of academics broadly reflects aging among the population as a whole, Willekens (2008) demonstrated how the age pyramid of these staff depends above all on an employment system whose hallmark is tenure and on efforts to maintain a fixed student-teacher ratio. Rising student enrolments are conducive to a relatively stable age structure, whereas staff are collectively subject to rapid aging or rejuvenation if student numbers fall or level out. Aging in the academic teaching profession is not a function of aging among the general population; it is a consequence of the growth or shrinkage in student enrolments in an employment system typified by tenure.

While it is aging in some countries and contains only a modest proportion of women, changes in the profession and the main challenges facing it are not so much the outcome of demographic trends, as symptoms of a more fundamental ongoing transformation: the diversification of the profession, the restructuring of the relations between academics and their institutions, along with the fact that the employment relations of academic staff are increasingly coming to resemble those of an employee/employer relationship, mean that the search for a consensus regarding the essential nature of the profession will be the top priority for the future.

Despite the fact that major changes in the academic profession may have more to do with the way the profession itself develops than with demographic factors (Enders and Musselin 2008; Teichler et al. 2013), some demographic factors can be highlighted: an increased proportion of women and of foreign faculty, growth in staff, their differing status, and the emergence of an international market for academics increasing the importance of mobility, even though the profession remains conditioned by national circumstances. All these changes are typically the new characteristics that will allow studying the faculty population, its evolution, and the driver of these changes.

Concluding Remarks

Other types of relationships between demography and higher education could be and have been analyzed (OECD 2008). For example, a 2005 international survey identified the cost of education as the primary reason for Japanese and Korean families to limit the size of their family, while this was much less important in the United States, France, and insignificant in Sweden (Yonezawa and Kim 2008). Another question is the willingness of an aging population to support public funding in higher education: while the research on this has mixed findings, the majority of studies support the idea that, all other things being equal, elderly people are less inclined to support educational expenditures (e.g., Cattaneo and Wolter 2009; Brunner and Johnson 2016). Finally, another demographic way to look at populations is to follow "generations" rather than age cohorts and see how their attitudes and aspirations towards higher education shape the evolution of the system (Heller and D'Ambrosio 2008).

Because demographic dynamics are usually slow and gradual, they are slow to reverse – which can be problematic if they have negative consequences on society. However, and this is an important point, this view should be qualified: demographic trends are often subject to unforeseeable turning points linked to political action or technological developments. This is true for demographic trends in society: political action or technological changes may suddenly transform well-established trends or patterns of conduct (Le Bras 2008).

Two examples may illustrate this point, both related to political action. In 2011, Sweden introduced tuition fees for its non-EU international students. This led to a decrease by 33% of its total number of international students compared to 2010 and by 60% for those subject to the fee. Although the numbers are small, this clearly changed quickly the composition of its international student body and, more generally, the share of international students in its student population. In 2010, higher education institutions in England tripled their tuition fees: while this did apparently not affect much the entry of 18-year old students, it has led to a significant 20% decrease of older (and often part-time) student enrolments within the 2 years following the reform (DBIS 2014).

The various policy responses to changes in the size of higher education systems may involve diversification of the student population, the faculty population, institutions and courses, or new cost-sharing arrangements. Yet far from being determined by demography alone, these policies will be part of a broader debate on subjects such as globalization, excellence, or an appropriate match between higher education and the labor market.

As extrapolation of past demographic trends is not necessarily foolproof, it is always better to speculate about the future solely in terms of

possible scenarios, which political action and individual strategies in particular may influence.

Cross-Reference

- ▶ Expansion
- ▶ Mass Higher Education
- ▶ Massification
- ▶ Trends

References

Brunner, E., and E.B. Johnson. 2016. Intergenerational conflict and the political economy of higher education funding. *Journal of Urban Economics* 91(C): 73–87.

Cattaneo, A., and S. Wolter. 2009. Are the elderly a threat to educational expenditures? *European Journal of Political Economy* 25(2): 225–236.

Department for Business, Innovation and Skills (DBIS) (England). 2014. National strategy for access and student success in higher education. London.

Enders, J., and C. Musselin. 2008. Back to the future? The academic professions in the 21st century. In *Higher education to 2030. volume 1: Demography*, ed. OECD. Paris: OECD Publishing.

Heller, D.E., and M.B. d'Ambrosio (eds.). 2008. *Shockwaves and the implications for higher education*. Edward Elgar and TIA-CREFF. Cheltenham.

Le Bras, H. 2008. Are long-term demographic forecasts possible? Turning points and trends. In *Higher education to 2030. volume 1: Demography*, ed. OECD. Paris: OECD Publishing.

OECD. 2008. In *Higher education to 2030, volume 1: Demography*, ed. S. Vincent-Lancrin. OECD Publishing, Paris.

OECD. 2015. *Education at a glance: 2015*. OECD Publishing, Paris.

Teichler, U., A. Arimoto, and W.K. Cummings. 2013. *The changing academic profession. Major findings of a comparative survey*. Dordrecht: Springer.

Vincent-Lancrin, S. 2008a. What is the impact of demography on the size, budget and policies of higher education systems? A forward-looking approach for OECD countries. In *Higher education to 2030. volume 1: Demography*, ed. OECD. Paris: OECD Publishing.

Vincent-Lancrin, S. 2008b. The reversal of gender inequalities in higher education: An on-going trend. In *Higher education to 2030. volume 1: Demography*, ed. OECD. Paris: OECD Publishing.

Willekens, F. 2008. Demography and higher education: The impact on the age structure of staff and human capital formation. In *Higher education to 2030, volume 1: Demography*, ed. OECD. Paris: OECD Publishing.

Yonezawa, A., and T. Kim. 2008. The future of higher education in a context of a shrinking student population: Policy challenges for Japan and Korea. In *Higher education to 2030, volume 1: Demography*, ed. OECD. Paris: OECD Publishing.

Developed Countries

▶ Private Higher Education in Developing Countries

Developing Countries

▶ Private Higher Education in Developing Countries

Developing World

▶ Internationalization of Higher Education, Emerging Economy Perspectives

Development

▶ Doctoral Student Socialization
▶ Institutional Fundraising, Higher Education Institutions
▶ Philanthropy and Individual Donors in Higher Education

Development, Supranational Institutions

▶ International Organizations and Asian Higher Education

Differences Between Higher Education Institutions

▶ Understanding Institutional Diversity

Digital Humanities in and for Higher Education

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Synonyms

Digital resources for the humanities; Humanities computing; Humanities informatics

Definition

Digital humanities (DH) covers a set of disciplines that cooperate in order to study, edit, teach, and disseminate social and cultural heritage and dynamics thanks to digital tools. The most inclusive definition of the term "humanities" reflects both the human and social sciences (including media studies) and the corpuses and heritage they work on. The term "digital" refers to all the methods and techniques used to transform any object (text, sound, image, video or artefact) into digital data, the algorithms used to process these data (analysis, curation, conservation and edition) and the techniques used to render the results on a variety of media (visualization, 3D printing, acoustic immersion, electronic art, etc.). DH is an interdisciplinary field bringing together a community of scholars and practitioners (archivists, librarians, etc.). However, the definition and limits of DH are subject to lively debates, especially with respect to who is in and who is out. The most restrictive definition of DH refers to a community of people who like to make things (code, applications, prototypes, digital resources, etc.), including in a classroom, rather than devote their time to studying, reading, and writing. In this sense, DH differs from the research and teaching associated with the traditional humanities.

History

The crossroads where computer science met with the humanities dates back to the 1940s with Lexical Text Analysis, Text Encoding, Machine Translation, and Quantitative Sociology. In 2004, Schreibman et al. introduced the term digital humanities in order to capture the full range of new digital media (the web, social networks, video games, etc.) and create what people call today "the big tent" (the idea of bringing together researchers from various disciplines and viewpoints; this big tent approach is opposed to scientific specialization and cohesiveness). Since then, many research and teaching centers have been created. In northern countries, these were initially attached to English departments. It was said that "Digital Humanities will save the Humanities" because it would attract new students (digital natives) and publics, reconcile the two cultures (science and humanities), and engage new teaching.

Indeed, DH programs involve much group work and assessment as part of projects. DH encourages edupunk, i.e., a "do-it-yourself" ethos involving self- and co-learning and a rebellious attitude to mainstream practices as well as action in favor of open access to culture, learning, data, scientific results, and tools. Today, DH is backed on a growing number of campuses by computer science departments, digital infrastructures, and big interdisciplinary and international research projects. This has also led to criticism. It is said that technology will take over from the humanities scholars; that the DH community is predominantly made up of white scholars from a few English-speaking countries; that DH cannot lead to good scientific results in human science; that DH has rarely stopped to reflect on the tools it is creating; that the ethos of collaboration is uncritical and neglects political questions relating to access, equity, ethnicity, gender, and language; and, finally, that the promise of DH is false: DH will not save the humanities after all.

However, DH has established itself (Schnapp et al. 2008; Schreibman et al. 2004) as a recognizable academic field with international conferences, events, books, journals, and supporting

institutions like the Office of Digital Humanities created by the US National Endowment for the Humanities.

Today, research and teaching programs are visible and expanding across the world, and they are associated with cultural and historical transformation.

Diversity in Research and Publication

The DH community mainly comprises scholars from the USA, Canada, and the UK. DH conferences, lists, associations, academic journals, and Twitter accounts are dominated by Anglo-American scholars. DH conference organizers and reviewers are also predominantly from these countries and hold leadership positions. English is apparently the main language for DH publications whereas research reflects different types of cultural heritage. Research projects, scientific results, teaching, and publications in other countries have been largely invisible owing to the Anglo-American predominance.

However, since 2010, scholars from other European countries (e.g., France, Germany, and Spain), Latin America (a region that is very much involved in the DH community), the Arab world, Africa, Australia, and Japan have been gaining visibility. In fact, there are DH practitioners in these regions of the world, but they do not necessarily publish their results in English. The Italian *Informatica Umanistica* (Fiormonte 2012) has a long tradition, but this has been largely ignored by the Anglo-American hegemony. Some scholars (Clavert 2013) acknowledge this predominance but note that it is not representative of the very active French- or Spanish-speaking DH. Today, geographic and linguistic diversity genuinely exists in the DH field (Dariah 2016; Galina Russell 2014). Although English is the predominant language, this is because many scholars, who are not native English speakers, use it as a second language. Its use in the field as a first language is in fact marginal. Hence, the DH community working outside Anglo-American institutions is underrepresented.

Since 2013, the DH community has expressed a concern to broaden participation. Through different conferences and associations, scholars are seeking ways to become more inclusive of underrepresented countries and linguistic backgrounds.

Teaching Programs

Since 2000, many DH departments with graduate and postgraduate courses have been created. Initially, only a dozen or so came under the heading of DH. After a few years, the number of specialist courses, summer schools, Masters and Doctorates started to grow in the USA, Canada, Europe, but also in Latin America and Asia (e.g., the DH and Cultural Informatics program at Jadavpur University, India (http://sctrdhci.wordpress.com/)). DH teaching programs are developing, especially through modules offered in a variety of social sciences and humanities (SSH) departments. Most of these courses have only existed for a few years and do not cover all SSH disciplines. In some countries like France, the DH label is still rarely adopted. In the UK, the USA, Italy, and Spain, scholars in philology, linguistics, literature, and history were the first to develop DH. However, in French-speaking countries, major DH initiatives and programs were undertaken with social scientists (e.g., the Lausanne University master's degree in DH focusing on the development of computing skills for SSH and reflexive thinking on digital tools (https://www.unil.ch/lettres/fr/home/menuinst/master-et-specialisation/master-en-humanites-numeriques.html)). In a growing number of cases, the initiative to set up programs is being taken by computer scientists, data scientists, or engineers. This is the case of the EPFL (Lausanne) Master's of Science in DH (http://master.epfl.ch/digitalhumanities), which covers data acquisition and analysis, audio and image processing, machine learning, pattern recognition, and data visualization, with a focus on cultural, historical, and social media corpora. Sometimes the teaching programs also cover art and design as in the case of the pan-Irish

Digital Arts and Humanities (DAH) PhD program (http://dahphd.ie).

Anglo-American departments can usually put together interdisciplinary courses and programs with no difficulty. The flexibility of the American higher education system has allowed courses in computer science for the humanities since the early 1970s. Sometimes, in order to reduce the cost of this training, they have linked teaching, research, and consultancy services as in the King's College DH Department (http://www.kcl.ac.uk/artshums/depts/ddh/study/pgt/madh/index.aspx). In other countries, setting up interdisciplinary or interdepartment courses can be more difficult although many have succeeded: the MA in DH at the University College of London (UCL), the MA in digital technology applied to history at the French École nationale de Chartes, the program in informatics for SSH at Cologne University, the MA in Literatura en la Era Digital at the University of Barcelona, and the programs offered by the Humanities Advanced Technology and Information Institute at the University of Glasgow.

At the European level, a number of networks bring together universities involved in teaching DH: the MA in European Heritage, Digital Media and the Information Society (EUROMACHS), the European Digital Scholarly Edition Initial Training Network (DiXiT), and DARIAH TEACH where open-source and multilingual teaching materials are developed.

Teaching Focus

The prominent aspect of DH teaching is learning to use information technology for the digitization of cultural heritage and its analysis. Since the 1990s in Italy, the university reform has made the teaching of information technology compulsory in all humanities disciplines. This has contributed to the development of the Italian DH. Sometimes, the teaching leads humanists to become technologists, designing tools to serve their own goals.

Usually, very few SSH students are attracted to computer science when they start their undergraduate program. However, when they discover the relevance of computing to their discipline, some become interested in DH and either need to learn the basics of computing, even as late as when they undertake a PhD, or want to become technically competent in their first years at university (Spiro 2011).

Generally, advanced students also like to learn from one other, exchanging their know-how about digital tools and their relevance to their discipline.

The pioneering and rebellious style of DH, and its "do-it-yourself" ethos, has led to co-learning activities such as The Humanities and Technology Camp (THATCamp). Such camps are self-generated meetings bringing together technologists and SSH scholars but also librarians and archivists and cultural institution staff. Together, they learn how to integrate digital technology into their research, teaching, or cultural activities. They organize a variety of sessions: talk sessions to discuss topics such as online publishing, open access, games, academic blogging, etc.; teach sessions during which participants with different levels of expertise teach each other a specific skill or how to use a digital tool or digital research methods and engage in hands-on learning activities or share experience about specific know-hows; make sessions which are hands-on collaborative working sessions where participants actually produce something such as a piece of software, a preliminary analysis of a dataset, a best practices document; and, finally, demo or play sessions during which participants collaboratively explore new tools, resources, or prototypes.

DH programs are characterized by this style of learning, which stimulates collaborative projects, linking theory and practice and mixing humanities, social science, computing and art and design, and allowing the participants to engage with social media.

Many DH departments collaborate with public sector partners such as museums, archives, libraries and creative institutions. They work on their problems, resources and data and design solutions for the visualization and circulation of results. In Anglo-American countries, library and information sciences play an active role in the development of important digital platforms. Thus, DH has many driving forces. Humanities departments

appear to be generally reluctant when it comes to setting up partnerships with the private sector, creative industry, and businesses, and yet big firms, like Google, have largely benefited from SSH research results (e.g., computational linguistics), developing resources and applications for the humanities and cultural heritage, and employing DH graduates.

DH is producing a new HE community by bringing together scientists and practitioners from different fields. The boundaries of this new field are still under debate. Referring to a community of people who like to make things rather than studying, reading, and writing creates tension for traditional humanities research and teaching. The future of DH remains an open question.

Cross-References

- ▶ Distance Teaching Universities
- ▶ E-Learning in Higher Education

References

Clavert, Frédérc. 2013. The DH multicultural revolution did not happen yet. http://www.clavert.net/the-digital-humanities-multicultural-revolution-did-not-happen-yet/. Accessed 29 Jan 2017.

Dariah. 2016. European survey on scholarly practices and digital needs in the arts and humanities. Dariah-EU. DiMPO. Oct 2016. https://doi.org/10.5281/zenodo.260101

Fiormonte, Domenico. 2012. Towards a cultural critique of the digital humanities. *Historical Social Research* 37 (3): 59–76.

Galina Russell, Isabel. 2014. Geographical and linguistic diversity in the digital humanities. *Literary and Linguistic Computing* 29 (3): 307–316.

Schnapp, Jeffrey, Todd Presner, Peter Lunenfeld, and Johanna Drucke. 2008. A digital humanities manifesto. http://manifesto.humanities.ucla.edu/2008/12/15/digital-humanities-manifesto/. Accessed 29 Jan 2017.

Schreibman, Susan, Ray Siemens, and John Unsworth, ed. 2004. *A companion to digital humanities*. Oxford: Wiley-Blackwell. http://www.digitalhumanities.org/companion/

Spiro, Lisa. 2011. Knowing and doing: Understanding the digital humanities curriculum. NITLE Labs. https://digitalscholarship.files.wordpress.com/2011/06/spirodheducationpresentation2011-4.pdf. Accessed 29 Jan 2017.

Digital Resources for the Humanities

▶ Digital Humanities in and for Higher Education

Dimensions of Sustainable Development in Higher Education

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Synonyms

Higher education institutions (HEI); Quality assurance; Sustainable development

Definition

Sustainable development has been defined by the United Nations as "...development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable development calls for concerted efforts towards building an inclusive, sustainable and resilient future for people and planet. For sustainable development to be achieved, it is crucial to harmonize three core elements: economic growth, social inclusion and environmental protection. These elements are interconnected and all are crucial for the well-being of individuals and societies. Eradicating poverty in all its forms and dimensions is an indispensable requirement for sustainable development..." (http://www.un.org/sustainabledevelopment/development-agenda/).

In March 2016, the Swedish Higher Education Authority was tasked by the Swedish government to conduct an evaluation of efforts by Swedish universities and university colleges to

promote sustainable development, pursuant to the provisions of the Higher Education Act (1992:1434). The provision, as introduced in 2006 in the first paragraph of Chapter 1, Section 5, read:

> In the course of their operations, higher education institutions shall promote sustainable development to assure for present and future generations a sound and healthy environment, economic and social welfare, and justice.

Background

Sustainable Development and Higher Education

When the UN World Commission on Environment and Development, also known as the Brundtland Commission, submitted its final report in 1987, the expression sustainable development was introduced. It was defined as "a development to satisfy the needs of today without compromising the ability of future generations to meet their own needs." The action plan, Agenda 21, was adopted by 180 countries at the UN World Conference for the Environment and Development in Rio de Janeiro in 1992. For the first time in a larger context, it was formulated that education is crucial for promoting sustainable development and improving the ability to solve environmental and development issues. The countries were encouraged to, among other things, support networks for environmental and developmental teaching within higher education.

The following year, the UNESCO formed an international commission to reflect over education and learning in the twenty-first century (UNESCO 1996). In 2002, a new summit meeting was held, where the concept of sustainable development was recognized as an overarching principle for the work of the UN. All development must be sustainable, with an integrated approach to economic, social, and environmental aspects. The countries agreed that sustainable development should be integrated into the education system at all levels to lift education as one of the most important tools for achieving change (United Nations 2002).

An Empirical Example: Evaluating the Work of Promoting Sustainable Development in Swedish Higher Education Institutions

The Swedish Higher Education Authority (Universitetskanslersämbetet or UKÄ) recently published a thematic evaluation on how Swedish higher education institutions (HEIs) work in promoting sustainable development in higher education. In 2006, it was introduced in the Higher Education Act as mandatory for Swedish universities and university colleges to promote sustainable development. The intention of this thematic evaluation was to provide a better understanding and enable a national comparison of how various higher education institutions work and achieved results after a 10-year period.

Quality Assurance of Higher Education in the Form of a Thematic Evaluation

The Swedish Higher Education Authority is a government agency with instructions to evaluate the quality of higher education and research, perform analysis, and monitor developments in the higher education sector. UKÄ is also responsible for official statistics about higher education and monitors compliance with laws and regulations among universities and university colleges (http://english.uka.se/). In March 2016, UKÄ was tasked by the Swedish government to conduct an evaluation of efforts by universities and university colleges to promote sustainable development, pursuant to the provisions of the Higher Education Act (SFS 1992:1434). The provision, introduced in 2006 stated that: "...higher education institutions shall promote sustainable development to assure for present and future generations a sound and healthy environment, economic and social welfare, and justice."

Ten years later, this work of Swedish higher education institutions (HEIs) has been evaluated by UKÄ. The decision to focus this thematic evaluation on the educational part of sustainable development efforts was inspired by Agenda 2030 and the 17 Goals to eradicating poverty in all its forms and dimensions. These goals are considered integrated and indivisible and balance the

three dimensions of sustainable development: the economic, social, and environmental (http://www.un.org/sustainabledevelopment/development-agenda.).

Methodology: Self-Evaluation and Assessment Panel

The methodology applied by UKÄ in the thematic evaluation concerning the Swedish HEIs' work in promoting sustainable development in higher education was somehow developed and adapted to the relevant theme but in general followed the method used in other evaluation activities within the national quality assurance system for higher education (http://english.uka.se/quality-assurance.html). It is a coherent system focusing on standard fulfillment and enhancement and follows the Standards and Guidelines for quality assurance in the European Higher Education Area (ESG 2015: http://www.enqa.eu/index.php/home/esg).

A total of 48 Swedish HEIs were requested to perform a self-evaluation concerning different aspects, which in turn were peer-reviewed by an assessment panel of experts. On basis of the assessment panel and the self-evaluation, UKÄ could provide an overall assessment for each HEI. It also resulted in a national comparison, as well as feedback that highlighted good examples and identified areas where HEIs could benefit from development.

Outcome of the Evaluation

The evaluation covered a wide range of institutions; everything from HEIs with around 30,000 students to individual education providers with approximately 10 students have been included. A primary conclusion of the evaluation was that approximately a quarter of the HEIs were considered having a well-developed process in promoting sustainable development within higher education, whereas the larger majority would benefit from some improvements. About half of the HEIs do have local overall goals for sustainable development in place. However, only a third were considered to perform systematic follow-up of these goals. Systematic mechanisms for follow-up, actions, and feedback within the evaluated aspects turned out to be a general weakness for the HEIs.

Just over a third of the HEIs were considered able to demonstrate active work to ensure the educational competence of personnel in issues related to sustainable development. At a couple of the larger HEIs, online tool boxes were described as examples of material available for motivated teachers within education for sustainable development. Other examples include seminars, workshops, and networking. In isolated cases, sustainable development skills were said to have been a merit when recruiting new staff to the HEI.

Smaller HEIs sometimes describe the lack of resources and time as posing a certain challenge. At the same time, many of the smaller HEIs offered in their self-evaluations many examples of good practices, where the importance of open dialogues among colleagues and students was noted. Organizational challenges in integration and support for sustainable development are also mentioned in several of the self-evaluations, not least in connection with the existence of a decentralized organizational structure.

A large majority of the HEIs could give examples of programs or courses in which sustainable development has been integrated. However, since the HEIs were not asked to provide information about the proportion of students who may take part in these programs, this was not always specified. Still, some of the HEIs gave specific description, for example, if and how different lecturers collaborate on course content or whether the synthesis of different subject perspectives is left to the students to perform. Overall, the evaluation became more focused on describing the content rather than the approach. Didactic research, as well as the HEIs self-evaluations, demonstrate that the implementation process from research findings and policy to practice can be complicated.

Sustainable Development in Education and Research

The research area of education for sustainable development (abbreviated ESD in English) continues to be developed by researchers from all over the world. There are, for example, several dissertations which are published in the area each year. UNESCO, which has a particular responsibility for education within the United Nations, describes the field on the basis of what such education intends to achieve (http://en.unesco.org/themes/education-sustainable-development/what-is-esd).

> Education for sustainable development empowers learners to take informed decisions and responsible actions for environmental integrity, economic viability and a just society, for present and future generations, while respecting cultural diversity. It is about lifelong learning, and is an integral part of quality education. ESD is holistic and transformational education which addresses learning content and outcomes, pedagogy and the learning environment. It achieves its purpose by transforming society.

In general, educational research has shown that teaching for sustainability is pluralistic (Rudsberg and Öhman 2010). For example, it often involves working with real-life tasks in close collaboration with the surrounding community. It also means that in their study programs, students work with complex tasks in partnership with the business community, schools, or other parts of the community. In various professional programs, this connection is often natural, but even more theoretically oriented programs can collaborate with the local community, carry out field studies, or invite external lecturers. Student participation in designing high-quality programs is essential, which was emphasized in several self-evaluations from the HEIs. In pluralistic teaching, this participation is further developed. Not only do students have a more formal influence, they are also considered active co-creators of the teaching content and are essential to the implementation of the teaching process. Students can often contribute expertise and abilities that make teaching more relevant and meaningful for everyone involved, including the teachers.

An example of pluralistic teaching was also found in the self-evaluation from an artistic Swedish HEI, in which the students' prior knowledge and competence were described as a resource and a foundation for practice-based teaching. The opportunity for educational staff as well as students to influence the program via practical experiences makes the program formative. From the self-evaluations, it was also generally noticed that while a smaller HEI may offer closer contact and continuous informal discussions with students, the larger HEIs often have better opportunities to allocate resources for specific types of collaboration.

Integration of the Tree Dimensions of Sustainable Development

There are several large universities and university colleges among the HEIs that have been considered to have a well-developed process in all aspect areas. A large HEI may, in many cases, offer a greater diversity of subject areas and several programs from which it can refer to positive examples. At the same time, the shorter pathways for decision-making at a smaller HEI can facilitate the process of incorporating sustainable development. There are also some smaller HEIs considered to have an overall well-developed process, especially if sustainable development is mentioned in the program's degree objectives. The assessment panel noted several positive examples from teaching programs and engineering programs, where sustainable development in particular is included in the national degree objectives. Smaller HEIs focused on health care more often relate to the social dimension of sustainable development. Some of the HEIs with an artistic focus may instead have chosen to relate sustainable development to the role and responsibility of the designer in social change. This is a somewhat expected result considering their focused education area, however, is still a limitation from the description in the Higher Education Act. The concept of sustainable development is based on handling the three dimensions: the financial, social, and environmental conditions in an integrated way.

The Importance of Clear Management

A positive outcome in the review often seem to coincide with clear management and functions with well-defined responsibility for the overall integration of sustainable development, especially at larger HEIs. On the other hand, some of the smaller HEIs described the closeness within the organization to facilitate communication, actions, and implementation of sustainable development. However, a long-term support and a driving force from management were generally considered important factors for a fruitful result. There are examples from the Swedish HEIs of sustainable development activities that were initiated or ceased with the transitioning of a vice-chancellor or other key staff member with a pronounced interest in issues relating to sustainable development. These observations are in line with international research, which highlights the importance of management for the integration of sustainable development in higher education (Lozano et al. 2015; Leal Filho et al. 2017).

The Assessment Panel's Conclusions and Recommendations to the Higher Education Institutions

- Set clear goals and ensure that they are followed up.
- Use the Higher Education Act's definition and Agenda 2030 as starting points in work with sustainable development.
- Guide the work with sustainable development in education away from solutions that only include specific subjects and structures in the HEI.
- Create an organization for the promotion of sustainable development.
- Highlight expertise about, and engagement with, sustainable development when recruiting leadership.
- Create long-lived, well-supported structures and departments. Support skills enhancement for sustainable development.
- Also include the pedagogic expression in work with sustainable development.
- Create conditions for interdisciplinary collaboration on sustainable development.
- Support student participation in sustainable development.
- Support links to sustainable development in student degree projects.
- Cooperate with other higher education institutions.

Outlook

The purpose of the UKÄ's evaluation is to contribute with knowledge and national comparisons of how the Swedish HEIs work with sustainable development and present the results that have been achieved so far. The evaluation may hopefully also have importance for the HEI's future development and implementation work. However, since sustainable development is regarded as a continual, ongoing process, it should be emphasized that all HEIs are in need of continued development in their work to promote sustainable development regardless of the overall assessment received in the evaluation from UKÄ.

An English summary of the report can be found on the UKÄ website (http://english.uka.se/about-us/publications/reports–guidelines/reports–guidelines/2018-02-15-how-swedish-heis-work-in-promoting-sustainable-development.html). The aim is to serve as feedback to the HEIs on development, possibilities, and good examples for their future work.

References

ESG. 2015. http://www.enqa.eu/index.php/home/esg/. Accessed 5 Feb 2018.

Leal Filho, W. et al. 2017. Identifying and overcoming obstacles to the implementation of sustainable development at universities obstacles to the implementation of sustainable development at universities.

Lozano, R., K. Ceulemans, M. Alonso-Almeida, D. Huisingh, F.J. Lozano, T. Waas, et al. 2015. A review of commitment and implementation of sustainable development in higher education: Results from a world-wide survey. *Journal of Cleaner Production* 108 (Part A): 1–18.

Rudsberg, K., and J. Öhman. 2010. Pluralism in practice: Experiences from Swedish evaluation, school development and research. *Environmental Education Research* 16 (1): 95.
SFS. 1992. 2005:1208, Act on amendment to the Higher Education Act (1434).
The Swedish Higher Education Authority. Quality assurance of higher education. http://english.uka.se/quality-assurance.html. Accessed 5 Feb 2018.
UNESCO. 1996. Learning: The treasure within. Report to UNESCO of the International Commission on Education for the Twenty-first Century.
UNESCO's website. http://en.unesco.org/themes/education-sustainable-development/what-is-esd. Accessed 5 Feb 2018.
United Nations definition of sustainable development. http://www.un.org/sustainabledevelopment/development-agenda/. Accessed 5 Feb 2018.
United Nations. 2002. Plan of implementation of the world summit on sustainable development. A/CONF.199/20: https://sustainabledevelopment.un.org/milesstones/wssd. Accessed 5 Feb 2018.

Diploma Devaluation, The Ins and Outs

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Synonyms

Credential inflation; Overeducation

Definition

"Diploma devaluation" refers to the perception of a reduction in the value of diplomas and degrees. When the value of diplomas is assessed in the labor market, it may be affected by a mismatch between the qualifications required by the employers and the degrees produced by the education system. Such a mismatch may be transitory until educational institutions adapt to technological changes. It may be structural when the level of education becomes a tool for access to the best positions.

The expression "diploma devaluation" carries a value judgment: diplomas in general, or at least some of them, have lost the value they used to have. We will first examine what it means and how it can be assessed. Then, we will make explicit the reasons why it is generally considered as a problem. Last, we will evoke the debates around this phenomenon and the policies that may be designed to counter it.

What Is It About?

In most countries, wages and status attached to jobs are higher when employees have achieved long and prestigious studies, especially in higher education. Many theoretical models exist among economists to explain why education and degrees are valued on the job market. For the human capital theory (developed by Becker and Mincer in the 1960s–1970s), employers reward diploma because education enhances productivity of labor; each additional year of schooling should bring an increase in productivity, which should be rewarded by higher wages. For the signal theory (developed in the 1970s by Arrow and Spence), education does not directly increase productivity; rather it signals productivity potential, linked to rather unobservable dimensions, such as capacity to acquire new knowledge, capacity to sustain efforts, and so on (Spence, 1973). As no direct information on these dimensions is available to them, employers rely on degrees as signals of the value the employees have for them. In the competition for jobs, employers de facto rank job seekers in a queue, according to criteria they can observe such as degrees, even if they require other attributes or skills associated with training. In that frame, the value of education is relative and diplomas bring mainly a positional advantage, so that students' interest is to stand the most ahead as possible in the queue. Whenever access to education is spreading, that will foster "credential inflation."

The word "inflation" suggests that the aggregation of individual strategies may result in the devaluation of diplomas held. As with monetary inflation, an increase in the number of education

qualifications in the population would create a disequilibrium that would lower their economic value on the labor market and decrease the returns on education.

The economic or sociological literature more generally refers to this disequilibrium as "over-education." Although, in the context of diploma devaluation, overeducation may be assessed at the macroeconomic level, it is also used at the micro-economic level to point to individuals that have more education than required by their actual or prospective occupation.

What Is Observed?

While it would be inappropriate to provide figures concerning returns to higher education degrees since they vary both over time and across countries, some global trends may be sketched. In the USA, what is observed is a trend toward increasing returns associated with tertiary education (Goldin and Katz 2008). It is not the case in Europe, where divergent trends are noticed (Middendorf 2008; Leuven and Osterebeek 2011). In a majority of countries, such as Italy and France, returns are decreasing for the most recent cohorts, while the picture is not clear in countries such as the UK. Discrepancies across countries (and also variations along time) may be related to the quality of the match between educational expansion (often dramatic as in Europe in the 1980s–2000s) and the evolution of the job structure, generally characterized by an occupational upgrading. In any case, devaluation does concern more often students leaving school at the secondary level than after some higher education.

In OECD countries, discourse about the incoming "knowledge economy" and the expected impact of education on growth have fostered policies of educational expansion. However, it is very difficult to assess precisely whether the growth of education – with a dramatic upsurge of HE degrees in some countries – did meet the promised economic growth (Brown and others 2011). What is admitted today is that above a certain threshold, notably when the adults' literacy is already at a certain level, developing education further does not automatically produce significant economic benefits. OECD has recently expressed some doubt in this respect. In *Education at a Glance* (2006, p. 157), one reads: "cross-country growth regressions assume that the impact of education is linear and constant across countries. However, research suggests that the assumption of constant growth effects of education across countries is unfounded. There is also evidence of diminishing effects on growth above an average of 7.5 years of education. This is well below the OECD average of 11.8 years in formal education."

However, this remains today a controversial issue. In most countries, the need for more educated employees is advocated in a context of skill-biased technological change. A model developed by Vandenbussche et al. (2006) has shown that skilled labor has a stronger effect on growth for countries closer to the technological frontier. At the same time, especially in a global economy, the job structures associated to theses technological requisites may vary across countries so that there may exist some mismatches between the structure of occupations and the distribution of educational skills and degrees.

Devaluation is assumed whenever highly educated people fill jobs that were previously held by less qualified workers. But such a situation may reveal an authentic upgrading of the skills required for the job; in that case, the word "devaluation" is not appropriate, since the new match observed is justified. It is the result of an adjustment mechanism, drawn by the firms (to adapt to or speed up skill-biased technological changes) or by the students themselves. But in many case, it is hard to disentangle what would be a new suitable match and what would be a result of over-education, i.e., an excess supply of high-skilled workers.

Why Is It a Problem?

In any case, students pay the price of such mismatches. They need to get higher qualifications to access jobs previously held by less-educated persons. But, while the individuals' experience of

mismatch on the labor market increases their level of mistrust, they keep convinced of the utility of their educational investment, since their situation remains better than that of the less educated. That is because one needs to distinguish between the absolute and the relative value of diplomas. While the former is declining in most countries, the latter is generally preserved. This is easy to understand, as far as, at least, some part of the value of education on the labor market is positional and as the signaling value of a degree remains: gaining a higher degree always brings some relative advantage.

The problem is precisely that the absolute devaluation of degrees goes along with the stability of the relative advantages they provide. This fosters a self-perpetuating trend: Individuals are caught in a trap compelling them to study further and further to get the same returns: This generates inflation and the correlative devaluation of diploma.

Diploma devaluation raises both economic and societal problems. From an economic point of view, any mismatch is a waste of resources, and it is especially true concerning higher education when it is delivered by the state as a public good. Rather than being a source of efficiency, a rising level of education and a rising number of graduates may become a source of rigidity as they generate what sociologists as Collins (1979) called "credentialism": Far from resulting from increasing skills requirements of jobs themselves, the steady growth in demand for higher levels of qualification in the labor market turns into a self-defense strategy and a tool of social closure. Credential inflation becomes a strategy (or an "exclusionary tactics") of the elite for preserving its advantages in accessing the best occupational careers. In that race, children of the most privileged groups are seeking higher and higher degrees to keep ahead, and, given their ability to select the best tracks, they maximize the benefit drawn from the degrees they achieve.

For sociologists, at the overall level, this expansionary dynamic and the correlative devaluation of diplomas would explain why the expansion and democratization of education have not resulted in more social mobility (Hadjar & Becker 2009). It runs counter to the promise of education as a "great equalizer," which is a serious difficulty in meritocratic societies (Bernardi & Ballarino 2016). In such societies, where merit is supposed to govern access to unequal positions, the "value" of degrees is crucial since diplomas are supposed to give an objective certification of individuals' merit. Consequently, the strength of the ties between educational degrees and jobs is a benchmark of the equity of the whole process of social reproduction or, at least, of a fair allocation to positions.

However, the ideal of an education-based meritocracy faces the fact that the process of social reproduction itself is intimately embedded in the structural frame of the job market and of its evolution. Actually, individuals, whatever their personal attributes, insert themselves in a society where "places" are predefined, and, even if education is a relatively effective way of accessing the best positions, the definition of these places themselves does not fundamentally arise from the operation of the educational system. Similarly, the educational system has no power upon the effective market value of degrees, which results from the structural distribution of jobs and the peculiar relationships that prevail between degrees and qualifications. If, as has been observed in many countries over the last decades, the expansion of the high end of the social structure has been slower than the production of suitable graduates, there should be an adjustment in the form of devalued credentials. This is an old story, since, as early as 1978, the French sociologist Bourdieu had written: "The entering into the race and competition for degrees of young people belonging to groups who were till now using school in a very moderate way has pushed those groups whose reproduction was mainly achieved by school to intensify their investment to maintain the relative scarcity of their degrees and so doing their position in the social structure, so that the degree and the system delivering it become the main stake in a competition which generates a broad and continuous growth of the demand for education and an inflation of degrees."

In the end, the overall intergenerational mobility remains unchanged. Moreover, when investigating the "effects" of the devaluation of diplomas, one should stress the relevance of the

distinction between two levels: the macro- level at which structural factors determine the relationships between education and growth and the microlevel at which education determines the chances of having access to a given job. At this level, the difficulties faced by graduates generate true psychological problems, well known especially since the seminal paper of Burris (1983) on "The social and political consequences of overeducation." He showed that while the feared impacts of overeducation on political ideology, such as increased leftism, were not so widespread (they were observed only in the most severe cases of overeducation), job dissatisfaction was much more common. In France, some research (Duru-Bellat 2006; Felouzis 2001) describes what is called a "deceived generation," who, facing the gap between their diplomas and the real opportunities on the job market, is bound to adopt a disillusioned attitude, towards both work and political life, or even (although less widespread) a more offensive one leading to protest. This students' disillusion on entering the labour market stems also from their utilitarian behaviour: their main objective is no more to learn but only to get a certification necessary to find a job. This utilitarian attitude has also been observed in some poorer countries that have strongly developed higher education, and described as a 'diploma disease' (Dore 1997).

What Is to Be Done?

In the face of these undesirable effects of diploma devaluation, the need for relevant policies is unescapable. However, there are controversies about the reality and the importance of this phenomenon.

For a number of researchers, overeducation is overestimated and all in all a less serious phenomenon than commonly suggested (see for instance Büchel and others 2003): it is merely a short-run disequilibrium, occurring only in transitory phases, since employers always end up adapting their modes of production so as to exploit fully the human capital available. Moreover, apparent overeducation might conceal selection biases, if overeducated workers have lower abilities or less favorable attitudes. More broadly, overeducation might not be real, since the academic level guaranteed by degrees is weakening, due to less selectivity in access to higher education. Apparent overeducation might also merely conceal a redefinition of qualifications, incorporating new requirements not necessarily associated with diploma such as so-called "soft skills."

These are all relevant issues, which remain to be explored seriously, but, in the meanwhile, politicians have to make choices, and it is not straightforward.

Although an attractive choice – often meeting consensus – would be to go on with educational expansion, it is obviously not an answer to the devaluation issue: it would only postpone the problems confronted by students when entering the job market and facing the associated inequalities. One should stress that social inequalities are not strictly dependent of the expansion of education. As early as 1973, the French sociologist Boudon predicted that educational inequalities might decline without any corresponding change in the structure of social inequalities. One may even consider that educational expansion serves mostly the private interests of those who want to stay ahead, without helping those who stay behind.

A more satisfying policy may be to reinforce the vocational dimension of education at all levels. What is observed is that wherever such a dimension is lacking (in countries such a France), individuals are ranked in the file for jobs according to the length of their studies, so that a "logic of level" prevails: the more education you get, the more able you are supposed to be to fulfil the "best" jobs. In contrast, in countries where a logic of qualification prevails, the skills you possess entitles you to some specific jobs. It should be noted that the notion of qualification has a different meaning in these two cases. In their seminal work, Shavit and Müller (1998), confirmed recently by Di Stasio and others (2016), observed that "in occupational space, the value of a credential consists primarily in its scarcity and position in the hierarchy of credentials rather than it derives from the specific skills it represents." So the prevalence of the "credential inflation" (and of the associated devaluation of diploma), a widespread phenomenon in the developed world, is

bound to be higher in countries where a logic of "level" prevails upon a logic of qualification.

However, it would be also conceivable, in a context in which qualifications required for jobs are bound to change continuously, to take the opposite stand by loosening the fit between degrees and jobs, and by considering it more important to warrant a high level of education to every student, leaving to the firms the training for the jobs. In this case, policies encouraging educational expansion would stay relevant but should give priority to an education oriented toward transferable and soft skills. In any case, the fact that today's graduates are facing competition in a global labor market must be taken into account (Brown and others 2011).

One should also take a broader view of education since, for individuals, it is not only an investment seeking returns on the labor market but also a consumption good that brings them satisfactions and an asset that will enhance their quality of life. For society, beyond being a source of economic growth, it is a tool for building social cohesion (Janmat and others 2013).

References

Bernardi, F., and G. Ballarino, eds. 2016. *Education, occupation and social origin*. Cheltenham: Edward Elgar.

Boudon, R. 1973. *L'inégalité des chances. La mobilité sociale dans les sociétés industrielles*. Paris: Colin. (English edition: *Education, opportunity, and social inequality.* New York: Wiley. 1974).

Bourdieu, P. 1978. Classement, déclassement, reclassement. *Actes de la recherche en sciences sociales* 24: 2–22.

Brown, P., H. Lauder, and D. Ashton. 2011. *The global auction. The broken promise of education, jobs and incomes*. Oxford: Oxford University Press.

Büchel, F., A. de Grip, A. Mertens, et al., eds. 2003. *Overeducation in Europe*. Cheltenham: Edward Elgar.

Burris, V. 1983. The social and political consequences of overeducation. *American Sociological Review* 48: 454–467.

Collins, R. 1979. *The credential society.* New York: Academic.

Di Stasio, V., T. Bol, and H. Van de Werfhorst. 2016. What makes education positional? Institution, overeducation and the competition for jobs. *Research in Social Stratification and Mobility* 43: 53–63.

Dore, R. 1997. *The diploma disease*. London: Institute of Education.

Duru-Bellat, M. 2006. *L'inflation scolaire. Les désillusions de la méritocratie*. Paris: Seuil.

Felouzis, G. 2001. *La condition étudiante*. Paris: PUF.

Goldin, C., and L. Katz. 2008. *The race between education and technology.* Cambridge: Harvard University Press.

Hadjar, A., and R. Becker, eds. 2009. *Expected and unexpected consequences of the education expansion in Europe and the US*. Bern: Haupt Verlag.

Janmaat, J.G., M. Duru-Bellat, A. Green, and P. Mehaut, eds. 2013. *The dynamics and social outcomes of education systems*. London: Palgrave.

Leuven, E., and H. Osterebeek. 2011. *Overeducation and mismatch in the labor market, Handbook of the economics of education*. Vol. 4, 3, 283–320. Amsterdam: North Holland.

Middendorf, T. 2008. *Returns to education in Europe: Detailed results from an harmonised survey,* Ruhr Economic Paper, #65.

OECD, 2006. Education at a Glance, OECD, Paris.

Shavit, Y., and W. Müller. 1998. *From school to work*. Oxford: Clarendon Press.

Spence, M. 1973. Job market signaling. *Quarterly Journal of Economics* 87 (3): 355–374.

Vandenbussche, J., P. Aghion, and C. Meghir. 2006. Growth, distance to frontier and composition of human capital. *Journal of Economic Growth* 11: 97.

Disciplinary Cultures

► Disciplinary Versus Institutional Approaches, Higher Education

Disciplinary Differences in University Teaching

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Synonyms

Curriculum; Disciplinary epistemologies; Education; Knowledge

General Definition

Disciplinary differences in university teaching are often analyzed through the hard/soft, pure/applied taxonomy. They concern curriculum content, epistemology, and organization of knowledge, teaching, learning, and assessment practices, as well as acquired generic skills and modes of research training.

Disciplinary differences have been the object of research for several decades. Kuhn (1962) distinguished between disciplines with strong paradigms and those with weak or nonexistent ones. Biglan (1973), focusing on research, classified the disciplines in soft and hard (depending on the strength of disciplinary paradigm) and pure and applied (depending on the degree to which they are concerned with application). Becher and Trowler's seminal book *Academic Tribes and Territories* (2001) looked into how disciplinary epistemology (based on Biglan's typology) influences academic cultures, practices, and attitudes but mostly at the level of research. Disciplinary differences are, however, also reflected in teaching and learning (Neumann 2001; Neumann et al. 2002). For example, following research on students' learning styles, Kolb (1981) developed Biglan's typology further as follows: hard-pure (or abstract-reflective) disciplines which included natural sciences and mathematics; hard-applied (or abstract-active) disciplines included the science-based professions, particularly engineering; soft-pure (or concrete-reflective) disciplines included humanities and social sciences; and soft-applied (or concrete-active) disciplines included the social professions like law, education, and social work.

The hard/soft, pure/applied taxonomy has become a reference in higher education studies; hence, it forms the basis for the discussion of disciplinary differences in university teaching. However, subgroupings such as social sciences or humanities will sometimes be referred to. The discussion on disciplinary differences includes the following dimensions which are relevant to teaching practice and which have been the object of research: curricular content, teaching and learning, assessment, generic skills, and research training. The last one has been included to cover the education provision in postgraduate degrees.

Notwithstanding the fact that disciplinary epistemologies and cultures influence teaching practices, one must avoid the danger of epistemological essentialism, that is, to assume a deterministic relation between knowledge characteristics of a discipline and academic practices (Trowler 2014). Instead, it must be acknowledged that a variety of factors, including social and individual ones, influence learning and teaching practices (Trowler et al. 2012). Additionally, disciplines are also becoming increasingly intertwined through more intense and frequent interdisciplinary research; therefore, traditional academic territories and tribal boundaries are becoming increasingly blurred (Krause 2012).

Curricular Content

Becher and Trowler (2001) argue that hard disciplines are concerned with universals and quantities and are impersonal and value-free, while soft disciplines are concerned with particulars and qualities and are personal and value-laden. The former are convergent because they agree on theoretical and methodological questions within the discipline, while the latter are divergent as far as their epistemological territory and the methods to advance knowledge in the field are concerned. This is related to the strength of disciplinary boundaries and connectedness. According to Lattuca and Stark (1994), while the teaching of humanities and social sciences acknowledges the need for cross-fertilization with other disciplines and the connections with the external world, this connectedness is less relevant in the teaching of natural sciences. In this case, at the undergraduate level, it is the connections between principles and concepts within the field that are important; awareness that scientific phenomena are interrelated and have links with the social world only occurs at advanced study levels.

These epistemological differences are reflected in the nature of curricular content. In hard fields, knowledge is linear and hierarchical, while in soft

areas, it is nonlinear, open, and loose (Neumann et al. 2002). In hard disciplines, curricular coherence is the norm, that is, a sequential organization of knowledge and techniques; in soft disciplines it is a curricular diversity in terms of the field's conceptualization, organization, and sequencing of knowledge (Lattuca and Stark 1994). Cole (1983) also reported that there is greater consensus on undergraduate curricula among educators in the natural sciences than in the social sciences. Having analyzed course content in various disciplines, Donald (1983) similarly found different knowledge structures: courses in hard disciplines were tightly structured, with highly related concepts and principles in a hierarchical relationship; social sciences courses were more loosely structured, represented through webs or clusters of concepts where certain key concepts acted as pivots or organizers for others; and humanities displayed open structures with little interdependence between concepts.

Teaching and Learning

Epistemology and the organization of disciplinary knowledge in the curriculum translate into different approaches to teaching and learning. As reported by several authors (Braxton 1995; Donald 1983; Lattuca and Stark 1994; Neumann et al. 2002), in pure fields with strong paradigms, knowledge is taught systematically, gradually building up from more basic to advanced concepts. Especially at the undergraduate level, the focus tends to be on knowledge structuring and acquisition, which translates into "sequential learning" (Lattuca and Stark 1994) and an "all-or-none learning pattern" (Donald 1983). In contrast, the presence of contending theories and multiple methodological perspectives in soft fields encourages a discursive approach to teaching, student participation, and generally, student-centered methods (Braxton 1995). The greater need for dialogue in these disciplines is also evident in the larger amount of time spent on seminar teaching in social sciences and the humanities (Smeby 1996) and in the prevalence of face-to-face class meetings where ideas are debated (Neumann et al. 2002). In natural sciences and medicine, most time is spent on laboratory work, exercises, and field trips (Smeby 1996), and large-group lectures are common (Neumann et al. 2002). The variety of theoretical and methodological perspectives is probably the reason why it is more time-consuming to prepare teaching in soft disciplines, compared to natural sciences or medicine, for example. In the former, where syllabuses are controversial, it is difficult to use textbooks, whereas they are more common in the latter (Smeby 1996).

Disciplinary paradigms also influence student learning: hard disciplines emphasize cognitive goals like logical reasoning and learning facts, principles, and concepts, while soft disciplines emphasize broad general knowledge, character and intellectual development, and critical perspectives (Braxton 1995; Neumann et al. 2002). Hard-applied areas emphasize integration and application of existing knowledge, while soft-applied areas emphasize development of reflective practice and lifelong learning (Neumann et al. 2002). In hard fields, learning implies memorization of facts and data and problem-solving abilities, while in soft fields, students must be able to interpret and evaluate ideas and actions and be competent in oral and written expression (Neumann et al. 2002). These patterns apparently influence students' approaches to learning, as interdisciplinary differences have also been documented in this respect (Parpala et al. 2010). In general, students from natural sciences and applied sciences are more disposed to adopt a surface approach to learning, focused mainly on the factual memorization and the performance on the exams. In contrast, students in the humanities and social sciences are more inclined to adopt a deep approach to learning, as these study fields seem to encourage internal motivation, theoretical work, critical thinking, and intellectual growth for their students.

Assessment

Disciplinary differences concerning student assessment methodologies are also evident when

comparing hard-soft and pure-applied fields of study (Kwok 2004; Neumann et al. 2002). Neumann et al.'s (2002) analysis found that assessment in hard-pure curricula tends to be specific and focused on exam questions which rely mainly on the quantitative nature of knowledge. The emphasis is put on knowledge memorization and fact retention needed to the application of knowledge and to solving logical problems. Hence, the types of assessment most used are examinations, practical work, laboratory reports, numeric calculations, and multiple-choice quizzes (Jessop and Maleckar 2016). Conversely, in soft-pure fields, essay questions, short-answer questions, and oral presentations are key features of student assessment, perceived as a continuous and systematic process. The analysis and synthesis of course content is stressed (Neumann et al. 2002). In hard-applied programs, there is a preference for exam questions, especially problem-solving, simulations, and case studies (Neumann et al. 2002; Jessop and Maleckar 2016). Here, methodologies such as project-based learning or problem-based learning are particularly applied (Bell 2010). The emphasis is put on a practical competence, that is, the application of theory to practice and the factual understanding (Jessop and Maleckar 2016). In soft-applied programs, simulation case studies, project-based assignments, as well as students' self- and peer-assessment become dominant. Assessment is focused on the personal growth of students and on the application of theory into practice.

In sum, according to Jessop and Maleckar (2016) and Swarat et al. (2017), assessment in hard-pure disciplines tends to be more knowledge-driven, content-focused, cumulative and quantitative, and teacher-centered. In turn, soft-pure sciences are more language focused and tend to adopt more interpretive, divergent, critical approaches and are strongly aligned with a student-centered perspective (Swarat et al. 2017). Teachers of arts or humanities tend to use strategies to foster students' participation and engagement, whereas those in natural sciences are more devoted to the structuration and organization of discipline content and knowledge (Krause 2012).

Generic Skills

Historically, generic attributes have been viewed as super-disciplinary, separated from the disciplinary content, being transversal and independent of scientific subjects. Several studies, however, conclude that the way they are conceptualized and taught is quite different depending on discipline (Brew 2008; Jones 2009). In each discipline, the same generic skill has a very particular construction and interpretation, even though there are some parallels between disciplines (Jones 2009). For instance, although critical thinking is perceived as a nuclear skill in a wide range of disciplines, the way this skill is put into practice differs substantially according to discipline (Soares et al. 2017).

Interdisciplinary variations in students' generic skill scores have also been found in the literature, suggesting that different skills may be enhanced through involvement in different study fields. As pointed out by Badcock et al. (2010), arts students, on average, tended to score highly on critical thinking and interpersonal understanding, engineering students scored highly in problem-solving, and science students performed better in written communication skills. Thus, learning environments and pedagogical practices in these different disciplines may be leading to differentiated skill development (for instance, the need for both report and argument writing in science may be explaining the higher score in written communication among science students). In the same line, Kwok (2004) showed the existence of differences in the university graduates' perceptions regarding the types of developed skills, across Biglan's (1973) categories. Graduates of soft fields described greater development of writing and oral communication skills than graduates of hard fields. In turn, graduates of applied courses reported a greater development of teamwork skills than graduates of pure fields.

Research Training

The knowledge structures and the stage of development of disciplinary paradigms also

account for differences in research training and supervision. Whereas hard fields with strong paradigms allow for a directed supervision model, the competing paradigms in soft disciplines make it more difficult to implement such a supervisory relationship (Smeby 2000). Soft areas characterized by divergent paradigms and interests comprise numerous distinct areas and topics, giving research students plenty of options to choose from. It is thus less likely their research will be related to the supervisor's area of expertise, explaining why loose supervision is the norm. In contrast, in natural sciences students are often given research topics directly associated with the supervisor's specialism (Smeby 1998). This is also reflected in the time spent on supervision per student: higher in natural sciences than in the humanities and the social sciences (Smeby 1996, 2000). Furthermore, Smeby (1996) and Becher and Trowler (2001) report that whereas in the arts supervision is commonly subsumed under teaching, in hard sciences it is integral to research, since students' work makes a direct contribution to the department's research effort.

Research organization in the discipline also influences graduate education. According to Smeby (1996), in natural sciences and medicine, research education follows an apprenticeship model. It is common for students to work in a team alongside other students and staff members on common research tasks. Students' work becomes an essential part of the common effort, creating a mutual dependency in the relationship between staff and research students: students get involved in real research, and staff have a genuine interest in the topic and progress, as results will contribute to their own research. This is a first step for socialization into the disciplinary paradigm. In contrast, both students and faculty members in the humanities and the social sciences work more independently (Smeby 1996). This was also related to research output. Teaching staff in the natural sciences and medicine who supervised many students published more than colleagues with fewer students, even after taking into account the effect of joint authorship. No correlations between the number of supervised students and professors' productivity was noted in the social sciences and the humanities (Smeby 1996).

Cross-References

- ▶ Internationalization of the Curriculum in the Disciplines, Critical Perspectives
- ▶ Learning Outcomes in European Higher Education

References

Badcock, Paul B.T., Philippa E. Pattison, and Kerri Lee Harris. 2010. Developing generic skills through university study: A study of arts, science and engineering in Australia. *Higher Education* 60 (4): 441–458.

Becher, Tony, and Paul Trowler. 2001. *Academic tribes and territories: Intellectual enquiry and the culture of disciplines*. 2nd ed. Buckingham: SRHE and Open University Press.

Bell, Stephanie. 2010. Project-based learning for the 21st century: Skills for the future. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas* 83 (2): 39–43.

Biglan, Anthony. 1973. The characteristics of subject matter in different academic areas. *Journal of Applied Psychology* 57 (3): 195–203.

Braxton, John M. 1995. Disciplines with an Affinity for the Improvement of Undergraduate Education. In *Disciplinary Differences in Teaching and Learning: Implications for Practice,* ed. N. Hativa & M. Marincovich, 59–64. San Francisco: Jossey-Bass Publishers.

Brew, Angela. 2008. Disciplinary and interdisciplinary affiliations of experienced researchers. *Higher Education* 56 (4): 432–438.

Cole, Stephen. 1983. The hierarchy of the sciences? *American Journal of Sociology* 89 (1): 111–139.

Donald, Janet, G. 1983. Knowledge Structures - Methods for Exploring Course Content. *Journal of Higher Education,* 54(1): 31–41.

Jessop, Tansy, and Barbara Maleckar. 2016. The influence of disciplinary assessment patterns on student learning: A comparative study. *Studies in Higher Education* 41 (4): 696–711.

Jones, Anna. 2009. Redisciplining generic attributes: The disciplinary context in focus. *Studies in Higher Education* 34 (1): 85–100.

Kolb, David A. 1981. Learning styles and disciplinary differences. In *The modern American College*, ed. A. Chickering, 232–255. San Francisco: Josey-Bass.

Krause, Kerri-Lee D. 2012. Challenging perspectives on learning and teaching in the disciplines: The academic voice. *Studies in Higher Education* 39 (1): 2–19.

Kuhn, Thomas S. 1962. *The structure of scientific revolutions*. Chicago: University of Chicago Press.
Kwok, Matthew. 2004. Disciplinary differences in the development of employability skills of recent university graduates in Manitoba: Some initial findings. *Higher Education Perspectives 1*(1): 60–77.
Lattuca, Lisa R., and Joan S. Stark. 1994. Will disciplinary perspectives impede curricular reform? *The Journal of Higher Education* 65 (4): 401–426.
Neumann, Ruth. 2001. Disciplinary differences and university teaching. *Studies in Higher Education* 26 (2): 135–146.
Neumann, Ruth, Sharon Parry, and Tony Becher. 2002. Teaching and learning in their disciplinary contexts: A conceptual analysis. *Studies in Higher Education* 27 (4): 405–417.
Parpala, Anna, Sari Lindblom-Ylänne, Erkki Komulainen, Topi Litmanen, and Laura Hirsto. 2010. Students' approaches to learning and their experiences of the teaching-learning environment in different disciplines. *The British Journal of Educational Psychology* 80 (Pt 2): 269–282.
Smeby, Jens-Christian. 1996. Disciplinary differences in university teaching. *Studies in Higher Education* 21 (1): 69–79.
Smeby, Jens-Christian. 1998. Knowledge production and knowledge transmission. The interaction between research and teaching at Universities. *Teaching in Higher Education* 3 (1): 5–20.
Smeby, Jens-Christian. 2000. Disciplinary differences in Norwegian graduate education. *Studies in Higher Education* 25 (1): 53–67.
Soares, Diana, Amanda Franco, and Diana Dias. 2017. Translating critical thinking skills to higher education practices. In *INTED2017 Proceedings*, 9195–9200. Valencia: IATED.
Swarat, Su, Pamella H. Oliver, Tran Lisa, J.G. Childers, Binod Tiwari, and Jyenny Lee Babcock. 2017. How disciplinary differences shape student learning outcome assessment: A case study. *AERA Open* 3 (1): 1–12.
Trowler, Paul. 2014. Depicting and researching disciplines: Strong and moderate essentialist approaches. *Studies in Higher Education* 39 (10): 1720–1731.
Trowler, Paul, M. Saunders, and V. Bamber. 2012. *Tribes and territories in the 21st century: Rethinking the significance of disciplines in higher education*. London: Routledge.

Disciplinary Epistemologies

► Disciplinary Differences in University Teaching

Disciplinary Versus Institutional Approaches, Higher Education

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Synonyms

Agent theory; Disciplinary cultures; Historical institutionalism; Institutional culture; New institutionalism; Rational choice institutionalism; Resource dependence theory; Sociological institutionalism; Systems of higher education

Definition

Institutional perspectives focus on HEIs ar organisations and disciplinary perspectives focus on HEIs as cultural entities.

General Description

This entry discusses the strengths and weaknesses of cultural and institutional approaches to higher education and higher education research.

Disciplinary Versus Institutional Approaches

Universities and other higher education institutions (HEIs) can be approached from two main perspectives. The first one defines HEIs as organizations with their formal structures and processes. The second one approaches HEIs from the perspective of academic communities and disciplinary cultures. These two perspectives not only reveal different aspects of HEIs as organizations and as cultural entities based on networks of academics and international epistemic traditions. These two perspectives also can be defined as organizing principles of HEIs where

organizational aspect focus attention to HEIs as actors with their decision-making and resource allocation structures and processes, whereas teaching, research, and third mission activities of HEIs are rooted in international disciplinary-based academic cultures. These two organizing principles of HEIs also can be seen as dominant perspectives in higher education research.

Burton R. Clark (1983) discussed in his classical book higher education as a system consisting of three different levels and defined HEIs as matrix organizations. According to Clark, vertical dimension describes HEIs as hierarchical organizations with different institutional levels, whereas the horizontal dimensions describe the orientation of academics toward international academic communities and disciplines. Becher and Kogan (1992) continued with this tradition by defining four levels in the national system of higher education. For Kogan and Becher, the levels were as follows: individual, basic unit, institution, and central authority (national level). Both Clark (1983) and Becher and Kogan (1992) define each of the levels as having their own norms, values and objectives, or external and internal normative and operational modes (according to Becher and Kogan 1992). Without going deeper into these traditional system models of higher education, it can be said that this tradition recognized HEIs as a part of a system of higher education with their own values, processes, and operational goals. This tradition also recognized that HEIs are not monolithic entities but consist of a variety of actors (both individual academics, operational basic units, and academic groups) which may have and do have different ideas of what a HEI should be doing.

The system approach was further developed by Kogan et al. (2000, 20) when they suggested that each level of the system of higher education should be defined as a field of social action "where a field is an institutionalized area of activity in which actors struggle about something that is of importance to them." This perspective challenged the traditional top-down or bottom-up reform strategies – and traditional reform analyses – which assumed that the implementation of a reform is a rational process where HEIs just implement national policies or international policy initiatives.

The system approach to higher education did not, however, pay much attention to the nature of differences, especially disciplinary differences, inside HEIs. It also paid little attention to historical developments of national higher education systems or HEIs.

This traditional system approach has been challenged both by disciplinary cultures approach, which aims to understand different academic communities, and institutional approaches which aim to explain institutional behavior. These will be discussed below.

Disciplinary Cultures in Higher Education Research

According to disciplinary cultures perspective, academic communities can be understood by focusing analysis on epistemic traditions and disciplinary cultures with their different theoretical foundations, methods of enquiry, and interests of knowledge. These differences are related, in turn, to different phenomena under investigation like human body (e.g., medicine) or to different phenomena in physical world (sciences) or to norms, values, and beliefs of human beings and their communities (e.g., in anthropology, history, sociology). It is easy to see that different phenomena investigated should be analyzed by using different theoretical and methodological approaches in order to understand or explain them. These differences between epistemic traditions and academic disciplines have developed over the history of scientific research. According to Wilhelm Dilthey, the main dividing line goes between sciences aiming to *explain* phenomena in nature with the help of general laws and abstractions, whereas epistemic traditions interested in human behavior seek to *understand* social phenomena.

This traditional distinction was further strengthened by C.P. Snow who claimed that there can be found two worlds in universities, those of humanities (or literary intellectuals) and sciences, which did not communicate with each other (Snow 1959). Snow's simplified and

provocative argumentation gave, in turn, one of the starting points for Tony Becher's book "Academic Tribes and Territories – Academic enquiry and the cultures of disciplines" (1989) which has become one of the milestones in the study of disciplinary cultures in higher education research. Becher's book has been a seminal study because it introduced the categories of "hard" and "soft" interests of knowledge which are, in turn, related to the methods of enquiry. "Soft" refers to disciplines (such as sociology) which use interpretative methods of enquiry (like analyses of interviews or interpretations of texts) in order to understand human behavior, whereas "hard" disciplines (such as physics) explain natural phenomena with the help of theories – the laws of nature – and normally use quantitative methods in their empirical analyses. The second cultural dimension is the nature of research which Becher describes as the difference between "pure" and "applied" research. "Pure" refers to disciplines which derivate their research topics from theories, whereas "applied" refers to disciplines which take their research topics mainly from real-life problems and issues.

Becher also paid attention to social dimensions of academic communities by making a distinction between urban and rural modes of research containing different patterns of communication and publishing research outcomes. "Urban" researchers (typically physicists) work in international research teams and have big networks of colleagues, whereas rural academics (like historians) work often alone and aim to publish books. Becher also paid attention to social cohesion of academic communities maintaining that there can be found both convergent and divergent disciplinary communities (Becher and Trowler 2001).

Combining these categories we can see that inside academia there can be found four main categories: "hard pure," "hard applied," "soft pure," and "soft applied." These categories have proved to be useful heuristics for higher education research because they help to pay attention to disciplinary-related differences in academic work (individualistic vs. team work), communication and publishing (articles vs. books), and funding of research (STEM fields vs. social sciences) thus helping to see the dimensions of differences inside HEIs. However, these categories are less useful as criteria for categorizing disciplines empirically because they are more like ideal types (in the Weberian sense) than empirical descriptions.

In addition to disciplinary cultures, higher education institutions have been analyzed as organizational cultures (Tierney 1988; Tierney and Lanford 2018). When analyzing universities as cultural entities, researchers should pay attention to six main issues. According to Tierney, these are as follows: (1) the mission of a HEI, because mission statements describe the core activities of HEIs; (2) environments of HEIs both in terms of geography, architecture, and digital communication; (3) socialization of students and staff into the values of the HEI; (4) information: what is information, who has it, and how is it disseminated?; (5) strategy of HEI by paying attention to official and actual strategies; (6) leadership by analyzing both formal and informal leaders in a HEI under investigation. The strength of this perspective is to pay attention to higher education institutions as complex cultural entities. This perspective also makes it easier to understand that HEIs have remarkable differences in their goals, structures, and processes even though all HEIs have many similarities as for their basic tasks of teaching, research, and third mission activities.

The study of institutional cultures comes close to the perspective of disciplinary cultures because both of these approaches emphasize the nature of HEIs as cultural entities consisting of different academic communities and institutional actors with their different definitions on the purposes and objectives of higher education. In this regard, these perspectives do not assume HEIs as actors per se but see HEIs as consisting of many actors, communities, and interest groups.

Institutional Perspectives to Study HEIs

A popular perspective to study HEIs as institutions and organizations in higher education research is opened by new institutional (or neo-institutional) research. This approach is

based on the assumption that every field of organizations can be defined as an institutional field because one can find similar processes of homogenization among organization in the given field. In their classical study, Dimaggio and Powell (1983, 147) asked: what can lead organisations, after becoming an institutional field, to adopt a common set of patterns, characteristics and specific behaviour, leading them to be increasingly homogenous? They explained organizations' tendency to imitate other organizations by identifying three main processes of isomorphism or mimetic processes which forces units to resemble each other. These processes of imitation have been defined as follows: *coercive*, *mimetic*, and *normative* (DiMaggio and Powell 1983, 150). According to Powell (2007, 2): "Coercive factors involved political pressures and the force of the state, providing regulatory oversight and control; normative factors stemmed from the potent influence of the professions and the role of education; and mimetic forces drew on habitual, taken-for-granted responses to circumstances of uncertainty" (Powell 2007, 2). In more details, the existence of a common legal environment affects many aspects of an organization's behavior and structure (DiMaggio and Powell 1983). In addition, organizations do not compete only for resources and/or clients, but they also compete for political power and legitimacy in their field. This can be called as competitive isomorphism. All of these mechanisms are usually used as factors which explain adoption because according to Greenwood et al. (2008, 7): "Coercive isomorphism occurs because organizations are motivated to avoid sanctions available to organizations on which they are dependent. Normative isomorphism occurs because organizations are motivated to respect social obligations. And mimetic isomorphism occurs because organizations are motivated by their interpretation of others' successful behavior."

New institutionalism is, however, not a monolithic research approach. In order to see the differences under the umbrella concept of new institutionalism, Hall and Taylor (1996) have divided it into three main schools of thought: the rational choice institutionalism (associated with the economic institutionalism), the historical (or comparative) institutionalism, and the sociological (or organizational) institutionalism. These will be described briefly below.

Rational choice institutionalism is rooted in rational choice theory. This academic perspective applies economic models to the study of institutions. Rational choice theory assumes that actors are rational and therefore make decisions in terms of their utility. However, sociological research has shown that this is not necessarily the case. According to Diogo (2014, 155) "rational choice institutionalism assumes that institutions are created by utility-maximizing individuals with clear intentions." One of the theoretical approaches utilized in rational choice institutionalism is *agent theory* which aims to describe ubiquitous agency relationship, where one entity (the principal) delegates work to another entity (the agent), who performs that work. However, Kivistö (2007) has shown that this approach does not fit well with higher education research because it does not capture well the wide range of other than economic aspects influencing government-university relationships. During the last decades, neoliberal ideology and New Public Management have supported rational choice school of thought by advocating that organizations must make rational choices in order to aim for efficiency and high performance. In HEIs, this view has supported managerialism and the need to compete in an increasingly global scale.

Researchers in historical institutionalism are interested in explaining HEIs with the help of their history. Most historical institutionalists also see that HEIs are *path dependent* meaning that contemporary and future actions of HEIs depend on past experiences and decisions made. In other words, contemporary decisions are limited by choices and decisions made in the past. Path dependence perspective also is helpful in explaining why policy continuity is more probable than policy change. Furthermore, according to Gornizka (1999) *resources dependency theory* aims to analyze the rationale on how organizations make active and rational choices to manage

their dependency on those parts of the environment that control vital resources (Gornizka 1999, 7). According to Thelen (1999), historical institutionalists agree with rational choice scholars that actors operate in a strategic manner. However, historical analysis helps to understand why certain goals, policies, ideas, and so forth are emphasized over others and why there are different national responses to similar challenges. According to this school of thought culture, society and organizational identity are important for the institutions and therefore on the behavior of their actors. Therefore, HEIs are not only affected by the strategic calculations of individuals but also their basic preferences and identity (see Hall and Taylor 1996).

According to Hall and Taylor (1996), sociological institutionalism defines institutions broadly, including not only rules, procedures, and norms but also the symbols, cognitive schema, and moral patterns that guide human action, establishing a systemic relationship between individuals and institutions. Sociological and historical institutionalisms pay particular attention to the contexts which help to shape policy change, mediate between actors, and alter conditions in which decisions are reached. Sociological institutionalism also emphasizes the importance of a structure over agency. In historical and sociological institutionalism, however, human action is more context-driven and goal-driven than in rational choice institutionalism, where context matters less. In addition, from a sociological perspective, "(. . .) culture is extremely important because it contains the bedrock cognitive similarities that cause people to share perceptions of the world around them. (. . .). Therefore, culture is one of the most important driving forces behind the institutionalisation of human behaviour" (Aspinwall and Schneider 2000, 8).

A more recent approach based on actor-centered institutionalist approach has been utilized in the higher education field when analyzing policy networks and multilevel and multi-actor governance reforms like the Bologna Process (e.g., Witte 2006). This perspective combines rational choice theory with new institutionalism and aims to explain policies and policy outcomes from intentional actions of interdependent actors. This approach acknowledges that intentional actors are shaped by their institutional settings. The concept of "network" is used here in order to describe how informal institutional settings help to overcome collective action problems and transaction costs of negotiations (Kersbergen and van Waardern 2004; Witte 2006; Diogo 2014).

Palmer et al. (2008) have noted, however, that new institutionalism as a theoretical framework has problems in explaining the connections between organizational contexts and organization's internal social dynamics. This makes new institutionalism theoretically weak for analyzing internal dynamics of organizational change because it does not help to understand and explain, for example, why some HEIs implement radical changes, whereas others do nothing despite the fact that they have experienced same institutional pressures. This is where the approaches of disciplinary cultures and institutional cultures can be a useful as intellectual perspectives because they reveal different rationalities and communities functioning inside HEIs.

All the academic traditions discussed above aim to explain either how HEIs function or how they are related to their societal contexts. However, they approach two main organizing principles of HEIs (disciplines and academic communities vs. hierarchies and formal organization) from different intellectual perspectives. As for higher education researchers, one of the main challenges is to find a balanced combination utilizing different theoretical approaches. The main rational for this kind of eclectic argument is the fact that HEIs consist both of academic communities and formal organizations which all have different relationships with their surrounding societies and international academic communities.

Cross-References

▶ Institutional Culture in Higher Education

References

Aspinwall, M., and G. Schneider. 2000. Same menu, separate tables: The Institutionalist turn in political science and the study of European integration. *European Journal of Political Research* 38 (1): 1–36.

Becher, T. 1989. *Academic tribes and territories. The intellectual enquiry and the cultures of disciplines*. Bury St Edmunds: The Society for Research into Higher Education & Open University Press.

Becher, T., and M. Kogan. 1992. *Process and structure in higher education*. 2nd ed. London/New York: Routledge.

Becher, T., and B. Trowler. 2001. *Academic tribes and territories. Intellectual enquiry and the culture of disciplines*. Buckingham: The Society for Research into Higher Education & Open University Press.

Clark, B.R. 1983. *The higher education system. Academic organisation in cross-national perspective*. Berkeley: University of California Press.

Dimaggio, P.J., and W.W. Powell. 1983. The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review* 48 (2): 147–160.

Diogo, S. 2014. Changes in Finnish and Portuguese higher education governance: Comparing responses to the Bologna process and new public management. Dissertation, Universidade de Aveiro.

Gornizka, Å. 1999. Governmental policies and organisational change in higher education. *Higher Education* 38 (1): 5–31.

Greenwood, R., C. Oliver, K. Sahlin, and R. Suddaby. 2008. Introduction. In *The SAGE handbook of organizational institutionalism*, ed. R. Greenwood, C. Oliver, K. Sahlin, and R. Suddaby, 1–46. London: Sage.

Hall, P., and R. Taylor. 1996. Political science and the three new institutionalisms. *Political Studies* 44 (5): 936–957.

Kersbergen, K., and F. van Waardern. 2004. 'Governance' as a bridge between disciplines: Cross-disciplinary inspiration regarding shifts in governance and problems of governability, accountability and legitimacy. *European Journal of Political Research* 43: 143–171.

Kivistö, J. 2007. *Agency theory as a framework for the government-university relationships*. Tampere: Tampere University Press.

Kogan, M., M. Bauer, I. Bleiklie, and M. Henkel. 2000. *Transforming higher education. A comparative study.* London/Philadelphia: Jessica Kingsley Publishers.

Palmer, D., N. Biggart, and B. Dick. 2008. Is the new institutionalism a theory? In *The SAGE handbook of organizational institutionalism*, ed. R. Greenwood, C. Oliver, K. Sahlin, and R. Suddaby, 739–768. London: SAGE.

Powell, W. 2007. The new institutionalism. In *The international encyclopedia of organization studies*, 769–780. London: SAGE.

Snow, C.P. 1959. *The two cultures and the scientific revolution*, The Rede lecture 1959. New York: Cambridge University Press.

Thelen, K. 1999. Historical institutionalism in comparative politics. *Annual Review of Political Science* 2: 369–404.

Tierney, W.G. 1988. Organizational culture in higher education: Defining the essentials. *Journal of Higher Education* 59 (1): 2–12.

Tierney, W.G., and M. Lanford. 2018. Institutional culture in higher education. In *Encyclopedia of international higher education systems and institutions*, eds. Jung Cheol Shin, Pedro Nuno Teixeira. Dordrecht: Springer Science+Business Media

Witte, J. 2006. *Change of degrees and degrees of change: Comparing adaptations of European higher education systems in the context of the Bologna process*. Doctoral Dissertation. Center for Higher Education Policy Studies: University of Twente.

Discovery and Development of New Products

▶ Innovation Studies in Higher Education Research

Distance Education

▶ Distance Teaching Universities

Distance Higher Education Institutions

▶ Distance Teaching Universities

Distance Teaching Institutions

▶ Distance Teaching Universities

Distance Teaching Universities

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Synonyms

Distance education; Distance higher education institutions; Distance teaching institutions; Open universities

Definition

Distance teaching universities are higher education institutions that provide academic studies to off-campus students scattered in diverse locations both within national boundaries and beyond.

Introduction

Millions of students study today in different-type distance teaching institutions throughout the world (Bates 2015; Garrett 2016; Guri-Rosenblit 2016). Higher education institutions offering studies through distance teaching methods vary enormously in how they were initiated, the clienteles that they aim to serve, how they are funded, and the kinds of programs they offer. Distance education as a form of higher education offered by universities exists since the second half of the nineteenth century. The University of London is considered to be the first university to offer distance higher education (Bell and Tight 1993). The University of London opened in 1858 all of its nonmedical examinations, from matriculation level upwards, to candidates anywhere in the world. The University of South Africa (UNISA) is held to be the first full-fledged autonomous distance teaching university (DTU). Established in 1873 as the University of Cape of Good Hope, it was based on the model of the University of London as an external examining board. It started teaching at a distance in 1946, after all of its eleven constituent colleges had gradually developed into autonomous degree granting institutions. In 1962 it was officially established as a DTU through a government decree (Boucher 1973). The establishment of the UK Open University (UKOU) in 1969 constituted a landmark occasion, one that gave distance education a new legitimacy and opened up new prospects. The UKOU has inspired the establishment of many large-scale DTUs worldwide. The emergence of the digital technologies in the 1990s encouraged a growing number of traditional campus-based universities to offer online courses and degrees to off-campus students, as well as boosted the foundation of many new online providers, both private and public (Allen and Seaman 2015; Bates 2015; Bates and Sangra 2011; Branch et al. 2015; Garrett 2016).

Distance teaching at university level is provided nowadays through a variety of higher education institutions. The most prominent modes of distance teaching institutions until the 1990s were the single-mode distance teaching universities, the dual-mode universities that teach concurrently on- and off-campus students, and the extensions in US universities. The digital technologies have prompted the emergence of many new distance education providers. Some are totally new institutions while others are operated by veteran campus-based universities. A few are public institutions whereas many are for-profit private ventures. The major modes of universities offering distance higher education are briefly outlined below.

Single-Mode Distance Teaching Universities

Most of the large single-mode DTUs were established in many national jurisdictions since the early 1970s, following the model of the

UKOU. The establishment of the UKOU in 1969 marked a new era in distance higher education and gave rise to a new brand of DTUs. Many heralded the new DTUs as the most important development in higher education in recent decades, as a radical challenge to the concept of a university, as a new species of university, and as one of the marvels of higher education (Daniel 1996; Garrett 2016; Guri-Rosenblit 1999, 2016; Holmberg 1986; Keegan and Rumble 1982; Perraton 2000; Perry 1977; Reddy 1988; Rumble and Harry 1982). One conspicuous characteristic that distinguishes most of these universities from their early predecessors is their being a product of a top-down governmental planning to fulfill national missions. The main mission of the autonomous large-scale DTUS has been to broaden access to higher education by offering high-quality education at a lower cost, particularly to second-chance students, who for a variety of reasons could not have attended a traditional university. There are currently over thirty single-mode DTUs in various parts of the world (Guri-Rosenblit 2016).

The single-mode DTUs are treated in the relevant literature as a generic group, but they differ from each other in many respects (Guri-Rosenblit 1999, 2016). Some are operating as national universities, while others function on a limited provincial level. Few of the DTUs adopted an open admission policy (like the UKOU, Athabasca University in Canada, The Open University of Israel), while most others require the same entry requirements as their conventional counterparts. Some are huge mega universities teaching millions of students whereas others teach a few thousand students. Indira Gandhi National University is considered to be the largest university in the world, teaching in 2014 over 4 million students. The Open University of China had in 2014 over 2.7 million students and Anadolu University in Turkey – 1.9 million students (Guri-Rosenblit 2016). Most of the huge single-mode DTUs are still based mainly on printed materials, satellite, or radio and television broadcast, while a few operate as online universities.

Many of the veteran DTUs are based on the industrial model of producing printed self-study materials, while others use the mass media as their main delivery method. For instance, The Open University of China that was established in 1979 as China Central Radio and TV University, and has been renamed as The Open University of China in 2012, uses to this date the mass media as its main delivery method, and so does The Open University of Japan, which was established in 1981 as The University of the Air, and has been renamed in 2007 as the Open University of Japan.

One of the main areas in which the single-mode distance teaching universities, based on the industrial model of the UKOU, choose to excel is the development of high-quality study materials, produced by teams of experts and designed to stimulate and improve self-study (Bates 2015; Daniel 1996; Guri-Rosenblit 1999; Holmberg 1986). The well-articulated study materials have been used extensively not only by the DTUs' students but also by many students at conventional universities. The production of such courses is most expensive. But they are developed by a small number of academics and studied by large numbers of students. The simple underlying formula of these DTUs' is – as the number of students increases, the cost per student decreases (Daniel 1996; Peters 1983, 1994).

The establishment of new single-mode DTUs has slowed down since the mid-1980s. A few new single-mode universities were established in the 1990s, like the Universidad Oberta de Catalunya (The Open University of Catalonia) that was founded in 1994, and operates as an online university. Many single-mode DTUS have incorporated online provision into their instructional system in the last two decades (Conole 2014; Guri-Rosenblit 2010).

Dual-Mode Universities

Dual-mode universities constitute a leading model in distance education provision. Dual-mode universities teach simultaneously on-campus and off-campus students, and usually the same admission requirements apply to both categories of students. The underlying idea

behind the dual-mode model is that the same curricula can be offered to both on- and off-campus students through appropriate channels of communication.

Before the digital era, this model has been activated mainly in Australia and in Canada, as well as in several Eastern European countries (Guri-Rosenblit 1999). Distance education at university level has a long history in Australia and in Canada due to the vastness of their lands and the huge distances between different cities and inhabited areas. The sheer size of these two countries has turned the provision of distance teaching from elementary to tertiary level education to a must. Australia has deliberately decided not to establish a single-mode distance teaching university, but rather to distribute responsibility for distance education provision between different campus universities. In 1989, eight national distance education centers were established in leading Australian universities. Many Canadian universities offer various forms of distance education to part-time adults since the end of the nineteenth century. Canada operates both a single-mode DTU (Athabasca University) and dual-mode distance teaching universities. In the former Soviet Union, hundreds of departments within conventional universities offered correspondence education since the 1920s (Guri-Rosenblit 1999; Peters 1983).

Nowadays, the new digital technologies enable any campus university to reach out to students outside its residential campus, and offer online courses to both off-campus and on-campus students. The new technologies have prompted many higher education institutions to enter the "distance education business" at various levels of experimentation and application. The digital technologies have actually turned the dual-mode provision into a leading model in most higher education systems worldwide, as many conventional universities decided to adopt the advanced technologies for reaching out to students outside their campus boundaries (Baggaley and Belawati 2007; Bates 2015; Bates and Sangra 2011; Branch et al. 2015; Guri-Rosenblit 2010, 2016; Latchem and Jung 2010; Paul 2014).

Extensions

University extensions are mainly an American model (Rasmussen 1989). The foundation of a correspondence program at Illinois State University in 1874 can be taken as the start of distance education at university level in the USA. The University of Chicago under William Harper offered the first university sponsored correspondence course in 1891, and the University of Wisconsin offered an extension course in 1892 (Guri-Rosenblit 1999).

Many university extensions have been initiated by the Smith-Lever Act of 1914. The extension movement purported to aid in diffusing useful and practical information on a variety of themes among the people of the United States by the land-grant universities. Currently, most of the American universities, including many of the leading research universities, have an extension division, providing courses for adults in a large variety of subjects (Allen and Seaman 2015; Bradburn 2002).

Some extensions have turned into autonomous universities, like the University of Maryland University College (UMUC) that constitutes currently the largest public DTU in the USA. It has been established in 1920s as an extension of The University of Maryland. In 1970 UMUC has become an autonomous DTU granting academic degrees from bachelor to PhD.

Blended-Mode Universities

An important impact of the digital technologies has been the initiation of the blended mode in higher education, in which face-to-face encounters are combined with online teaching for campus students. The blended mode can be activated at a course level (some of the lectures are provided face-to-face and some online) or at a program level (some of the courses are taught face-to-face and some are offered online).

In the last two decades many campus-based universities, as well as new for-profit providers of distance higher education, offer a blend of face-

to-face interaction with online provision. Many higher education institutions employ nowadays the digital technologies in their instructional system (Allen and Seaman 2015; Bates and Sangra 2011; Guri-Rosenblit 2010; Paul 2014). Also, many DTUs employ the blended mode by enabling their distant students to meet in face-to-face tutorials.

New Online Providers

The digital technologies have prompted the emergence of many new distance education institutions offering mainly online programs and degrees. The new distance education providers constitute a diverse group. Some are totally new institutions, while many are operated by veteran campus-based universities. Some are public institutions whereas many others are for-profit private ventures. Some are offering a whole range of academic degrees, whereas many provide a limited number of professional diplomas and continuing education courses. Some are stand-alone fully accredited universities, such as Phoenix University, which is the largest private DTU in the USA, or Universidad Oberta de Catalunya, which from its outset was founded as an online university. Others are based on partnership between several universities like The Western Governors University that was established 1997 by the governors of 19 US States (Guri-Rosenblit 2010).

The massive open online courses (MOOCs) phenomenon is a recent development in distance education. MOOCs were first introduced in 2008 and emerged as a popular mode of learning since 2012. A MOOC is an online course aimed at unlimited participation and open access via the web. In addition to traditional course materials such as filmed lectures, readings, and problems sets many MOOCs provide interactive user forums to support community interactions among students, professors, and teaching assistants. MOOCs were initiated by elite American universities, and now many universities around the world are following suit (Guri-Rosenblit 2016; Lewin 2013; Pappano 2014). In Europe the MOOCs movement is led by the European Association of Distance Teaching Universities (EADTU). EADTU has initiated in January 2014 the HOME project that stands for *Higher Education Online: MOOCs the European Way*. The aim of HOME is to develop and strengthen an open network for European cooperation on open education in general, and MOOCs in particular. UKOU has initiated in 2012 the FutureLearn venture which is a MOOC platform that it owns as a commercial subsidiary and develops courses with 72 academic institutions and specialist organizations.

The open educational resources (OER) movement has also gained momentum in the last decade, and is led both by DTUs and conventional universities (Garrett 2016; Guri-Rosenblit 2016). The open-source movement provides an illuminating example of collaboration among a growing number of higher education institutions. It holds a special promise for DTUs and other distance education providers. It has the potential to reduce the costs of developing high-quality materials, to bridge over the digital gap between developing and developed countries and between poor and rich, and to assist in ensuring quality.

Future Trends

The major challenge facing today DTUs, particularly the single-mode large-scale DTUs, is the growing competition from conventional universities, the corporate world and new ventures offering currently courses and programs online. In a large survey conducted recently by The Observatory on Borderless Higher Education on the state of DTUs in the Commonwealth, Richard Garrett concluded that DTUs must prove nowadays their relevance, since the boundaries between distance and campus universities are blurred, and the competition between diverse distance education providers is likely to grow (Garrett 2016).

In spite of the growing competition, DTUs still hold a huge potential for accommodating growing numbers of diverse student clienteles in the future. By their very nature, DTUs can expand widely

and be most flexible in catering to the needs of a wide range of heterogeneous student clienteles. As demand for higher education surges worldwide, the DTUs mission of accessible, high-quality provision of higher education at a lower cost, as compared to campus universities, still holds an immense relevance.

It seems that DTUs will accommodate in the future growing numbers of professionals aiming to update their knowledge during their career cycles, as well as lifelong learners wishing to acquire new knowledge and new skills in a plethora of domains. Lifelong learning has become today the leitmotif and dominant slogan for most higher education systems worldwide (Bates and Sangra 2011; Guri-Rosenblit 2010, 2016). Lifelong learning forms the cornerstone of the idea of a learning society which encourages its citizens to study on an ongoing basis, and which should result, among other things, in the enrichment of the social fabric and in a collective well-being of any given society. Bates and Sangra (2011) claim that lifelong learning has become critical for the economic development of the knowledge-based economies, and they predict that lifelong learning for professional update will grow immensely in the future and will be at least as great as the market for students leaving high school for university and college studies.

DTUs by their very nature are inclined to create a closer interface with labor markets and the corporate world. From the outset, many DTUs have appealed to professional groups, such as teachers, nurses, engineers, technicians, and public employees, and have designed a variety of programs geared toward professional upgrading. Several DTUs have redefined throughout the years their initial priorities in order to meet changes in labor markets and societal demands.

Furthermore, international students will constitute in the future a growing component of the student body of distance education providers. Policy makers of DTUS will have to pay more attention to ways of taking up and adapting to diverse international markets, by translating study materials, finding suitable personnel to run special programs designed for transnational students and designing appropriate support systems. It is most likely, that DTUs will become most noticeable in the future among the leading universities that promote globalization, international networks, and collaborative projects in higher education.

Cross-References

- ▶ Digital Humanities in and for Higher Education
- ▶ E-Learning in Higher Education

References

Allen, I., and J. Seaman. 2015. *Grade level: Tracking online education in the United States*. Babson: Survey Research Group.

Baggaley, B., and T. Belawati, eds. 2007. *Distance education technology in Asia*. Lahore: Virtual University of Pakistan.

Bates, A.W. 2015. *Teaching in a digital age: Guidelines for designing teaching and learning for a digital age*. Victoria: Open Textbook Project.

Bates, A.W., and A. Sangra. 2011. *Managing technology in higher education: Strategies for transforming teaching and learning*. San Francisco: Jossey-Bass.

Bell, R., and M. Tight. 1993. *Open universities: A British tradition?* Buckingham: The Society of Research into Higher Education/The Open University Press.

Boucher, M. 1973. *Spes in Arduis: A history of the University of South Africa*. Pretoria: UNISA Press.

Bradburn, E.M. 2002. *Distance education instruction by postsecondary faculty and staff at degree-granting institutions.* NCES 2002-155. Washington, DC: US Department of Education, National Center for Education Statistics.

Branch, J., P. Bartholomew, and C. Nygaard, eds. 2015. *Technology enhanced learning in higher education*. Faringdon: Libri.

Conole, G. 2014. The use of technology in distance education. In *Online distance education: Towards a research Agenda*, ed. T. Anderson and O. Zawacki-Richter, 217–235. Edmonton: Athabasca University Press.

Daniel, J.S. 1996. *The mega-universities and the knowledge media*. London: Kogan Page.

Garrett, R. 2016. *The state of open universities in the commonwealth: A perspective on performance, competition and innovation*. Burnaby: Commonwealth of Learning.

Guri-Rosenblit, S. 1999. *Distance and campus universities: Tensions and interactions*. Oxford: Pergamon Press/International Association of Universities.

Guri-Rosenblit, S. 2010. *Digital technologies in higher education: Sweeping expectations and actual effects*. New York: Nova Science.
Guri-Rosenblit, S. 2016. Distance higher education in the digital era: Challenges and prospects. *Distance Education in China* 6: 16–25. (in Chinese).
Holmberg, B. 1986. *Growth and structure of distance education*. Beckenham: Croom Helm.
Keegan, D., and G. Rumble. 1982. Distance teaching universities at university level. In *The distance teaching universities*, ed. G. Rumble and K. Harry, 15–31. London: Croom Helm.
Latchem, C.R., and I. Jung. 2010. *Distance and blended learning: Opening up Asian education and training*. Abingdon: Routledge.
Lewin, T. 2013. Universities abroad join partnership on the web. *New York Times,* 6 March.
Pappano, L. 2014. The year of the MOOC. *The New York Times,* 18 April.
Paul R. 2014. Organization and management of online and distance learning. In *Online distance education: Towards a research Agenda*, ed. T. Anderson and O. Zawacki-Richter, 175–196. Edmonton: Athabasca University Press.
Perraton, H. 2000. *Open and distance learning in the developing world*. London: Routledge.
Perry, W. 1977. *The open university.* San Francisco: Jossey-Bass.
Peters, O. 1983. Distance teaching and industrial production. In *Distance education: International perspectives*, ed. D. Sewart, D. Keegan, and B. Holmberg, 95–113. London: Croom Helm.
Peters, O. 1994. Distance education and industrial production: A comparative interpretation in outline. In *Otto Peters on distance education*, ed. M. Keegan, 107–127. London: Routledge.
Rasmussen, W.D. 1989. *Taking the university to the people: Seventy-five years of cooperative extension*. Ames: Iowa University Press.
Reddy, G.R., ed. 1988. *Open universities: The ivory towers thrown open*. New Delhi: Sterling.
Rumble, G., and K. Harry, eds. 1982. *The distance teaching universities*. London: Croom Helm.

Diversification in Higher Education

► Privatization and Diversity in Higher Education

Diversity

► Widening Access to Higher Education

Diversity and Higher Education

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Synonyms

Heterogeneity; Inclusion; Multicultural; Pluralism; Social justice

Definition

The representation and inclusion of individuals from a broad range of cultural, physical, and psychological categories within postsecondary education, with a particular emphasis on those who are historically underserved or underrepresented.

What Is Diversity?

Colleges and universities have come to embrace the notion of diversity. For example, many include diversity as part of their institutional mission. Campuses often include a "diversity course" for students as a requirement to graduate. Advertisements for faculty and professional staff positions ask applicants to include a statement on their philosophy of diversity. There are also campuses that evaluate how faculty engage with diversity as a criterion for promotion and tenure. However, there is a general lack of clarity in regard to the definition of diversity and what is meant when the term is used. The dissenting opinion by Clarence Thomas in the US Supreme Court decision of the affirmative action case, Grutter v. Bollinger, (2003) further reinforced the amorphous definition of diversity, stating that diversity is a "certain appearance, from the shape of the desks and tables in its classrooms to the color of the students sitting in them." Simply stated, diversity refers to difference and how much individuals and groups

from different backgrounds and social identity groups are present, are engaging, and feel supported in a campus community. Most often, conversations about diversity focus on the representation and inclusion of historically marginalized groups.

The term diversity is perhaps most often used in reference to numerical representation. Thus, to some extent, we can assess campus diversity by counting the number of individuals from various social identity groups on campus. For example, we can look at campus demographics and determine whether or not an environment is diverse by the percentage of students, faculty, staff, and administrators embracing different racial/ethnic identities, faith traditions, or sexual identities.

In the same way, we can look at demographics across the postsecondary sector to elucidate compositional or numeric diversity; in this way, diversity is not only an institutional consideration but a consideration throughout higher education. For example, we use the US context and race, ethnicity, and gender to demonstrate the current status and need for increased diversity in postsecondary education. In 2014 (the most recent year data were available at time of writing), 58.3% of US resident undergraduate students identified as White (NCES 2015). By 2044, the US Census (Colby and Ortman 2015) projects that over half of all Americans will identify with a racial or ethnic category other than White, non-Hispanic. This projection suggests that US postsecondary education will also become increasingly more racially and ethnically diverse, beginning with the undergraduate student population.

Of course, presenting aggregated numeric data oversimplifies diversity in higher education. This demographic portrait fails to account for how student, faculty, staff, and administrative populations differ across institutional types or within specific disciplines. In addition, there is no consideration for individuals' intersectional and interlocking identities. It also does not consider campus climate and systemic issues of racism, sexism, and other forms of oppression that we discuss in more detail below. However, it does establish a foundation upon which diversity can be further explored.

Although not numerically representative of the US population at large, undergraduate students are more diverse than other campus groups. In fact, regarding race and gender, undergraduate students are more diverse than graduate students; who are more diverse than nontenure track faculty; who are more diverse than tenure-track assistant professors; who are more diverse than tenure-track associate professors; who are more diverse than tenure-track full professors; who are more diverse than campus leaders, such as department chairs, deans, provosts, and presidents and chancellors (Hill et al. 2016; NCES 2015). Regarding women, many argue that this inverse relationship between diversity and "prestige" is a pipeline problem (e.g., there are not enough women with degrees or experience to reach parity). However, women have been the majority of college students since the 1970s and now make up the majority of graduate students.

Although there has been some numerical progress among certain populations, campuses have much work to do in regard to cultivating the actionable dimensions of diversity that the Association of American Medical Colleges (2013) refers as Diversity 3.0. Growth in diversity in higher education is predicated on colleges and universities establishing a campus climate that is welcoming and inclusive. The importance of campus climate cannot be underestimated; a welcoming and inclusive climate for all should result in increased diversity not only for racially and ethnically minoritized individuals and women but also among many other identities, including those who identify as gender nonconforming; individuals with disabilities; gay, lesbian, bisexual, and queer individuals; those from low-income backgrounds; nonnative English speakers; and individuals born outside the United States to name a few.

Expanding the Definition

While counts and percentages can provide a numerical snapshot of an environment, there are questions that require deeper consideration of how populations are counted and what measures

would actually indicate that a campus is diverse. Chang and Yamamura (2006) offer a review of ten measures to assess levels of diversity, which include the diversity range, or difference between the most and least well-represented group, and the dissimilarity index, which is a more complex measure of segregation. They found that although many of these measures are correlated with one another, they are conceptually distinct, and scholars and practitioners alike must be mindful of how they choose to represent the numerical diversity in their campus communities.

Diversity goes beyond numbers, incorporating action and the quality of the educational experience on campus. Baez (2004) argued that we must consider how diversity is operationalized and who benefits from it. Considering diversity in this way centers issues of power, oppression, and privilege, rather than numeric representation. Numbers matter, but having a campus community that is committed to confronting oppression and discrimination to create a climate where historically underrepresented and underserved people feel welcomed is most critical. Along these lines, the Association of American Colleges and Universities released a report that defined diversity as representing "a set of campus-based educational activities designed to include students from all backgrounds and to enhance the educational experiences of all students" (Garcia et al. 2001, p. 2). Gurin et al. (2002) and Milem (2003) also offered conceptualizations of diversity that include the integration of diversity-related initiatives, or activities in and outside of the classroom that address the experiences of marginalized populations or provide opportunities to develop cultural competence. Thus, diversity goes beyond being an adjective or descriptor for a campus community to a verb – actions that an institution is taking to address the experiences and support students, faculty, and staff from marginalized backgrounds, creating inclusive campus communities where all can learn.

Who Is Included?

Diversity, as Ahmed (2012) argued, is a transnational concept; however, the ways in which it is manifested is local. Who and which groups have been excluded or included will vary across contexts, creating distinctive understandings of what diversity means across environments. For example, diversity in the United States has historically focused on race, ethnicity, and gender, expanding in recent decades to include sexual identity, religion, and physical ability. In India, conversations about diversity largely address language, religion, and caste. In Brazil, diversity conversations and affirmative action policies primarily focus on Afro-Brazilians and those from low-income backgrounds. Australian diversity and equity policies address the needs of aboriginal students, those from low-income backgrounds, and students from rural areas.

To unpack diversity, we will again rely primarily on examples from the United States, the local context of the authors. As institutions began to attend to issues of diversity in the 1970s and 1980s, campus initiatives focused on increasing access and meeting the needs of students from racial and ethnic groups underrepresented in higher education, specifically Blacks, Latinos, and Native Americans (Smith 2009). Institutions also have emphasized the importance of including women in higher education, and they have been central in the diversity discourse. Although women comprise over half of all undergraduate and graduate students, diversity initiatives continue to work toward increasing their representation in the sciences, professoriate, and leadership positions.

Demographic shifts, increased attention to multiple marginalized social identity groups, and legal challenges led to broader conceptualizations of diversity as higher education entered the twenty-first century. Although many campuses continue to embrace a definition of diversity that includes race/ethnicity and gender, an expanded understanding of marginalization and oppression has pushed institutions to add sexual orientation and identity, physical ability, class, and religious background (Smith 2009). Some have pushed discussions of diversity even further, making it synonymous with any kind of difference in background, perspective, or upbringing. In this conceptualization, a campus can be diverse based on students' geographic origin, skills and talents, academic interests, and political perspectives.

As the definition of diversity has gotten increasingly broad, some note that it has lost its power and meaning. Although perhaps more inclusive in its recognition that all have unique contributions to make to a college or university community, the perspective that "each person is diverse" dilutes the concept of diversity. Such a perspective diminishes the realities (both historical and current) of racism, sexism, genderism, heterosexism, homophobia, able-ism, classism, xenophobia, and other experiences of oppression and discrimination. Further, by understanding diversity in this way, the goals of diversity are no longer about promoting social justice, inclusion, equity, and opportunity. Rather, the sentiment suggests that having freckles or writing left-handed can be as important to learning and living in a global society as being Black or transgender, or understanding and eliminating racism and genderism.

Working for Diversity

As the concept of diversity has expanded, some question about its relevance and value (Chang 2005). Some wonder whether intentional efforts to increase diversity compromise institutional quality, as they assume programs that target those from underrepresented backgrounds are also less qualified or unqualified, employment, promotion, and/or tenure. Some also argue that these efforts put individuals at risk of failure because they are not well-matched for the institutions they are attending or at which they work, because the material is too rigorous, and expectations are too high. It is important to note, however, that ample social science evidence shows that programs aimed to increase diversity do not sacrifice institutional quality (Smith 2009). For example, students generally perform better and are more likely to be retained at more selective institutions than those they may be overqualified to attend (Alon and Tienda 2005).

As the US Supreme Court has considered the continued need and constitutional basis for race- and gender-based admission policies, there has been little support for arguments that highlight the role these policies play in promoting equitable outcomes and social justice. Rather, the Supreme Court has supported the "diversity rationale," which focuses on how diverse campus communities promote learning and enhance students' abilities to engage across difference in a global society. Consistent with this argument, a generation of scholars has found that exposure and opportunities to engage with those from different racial and ethnic backgrounds result in positive learning outcomes (e.g., see antonio et al. 2004; Chang et al. 2006; Gurin et al. 2002; Milem 2003).

In addition to the diversity rationale, there are many other reasons why institutions and their communities engage in diversity work. For example, some work toward diversity goals because of a social and/or moral obligation. On the surface, this is noble; however, if this is the primary motivation, long-term goals, including those consistant with the diversity rationale, tend to be unattainable. Specifically, other motivations may take precedence over time. For example, when budgets decline, diversity programs often are among the first to be cut. In addition, doing diversity work as a moral imperative is premised on those with privilege "helping" those who are less fortunate, which reaffirms the chasm between those with power and those who are oppressed (Johnson 2006).

Others work toward diversity goals, or do diversity work, because it is best for the organization. With this approach, diversity is understood as a way to stay competitive for the best faculty, staff, and students. This "business case" for diversity is compelling because it should lead to greater efficiencies and productivity as well. However, one of the shortcomings of this approach is that the goal becomes less about diversity and more about the bottom line. The importance of diversity can get lost when operating from this perspective. In addition, like the moral case, the focus tends to be on short-term outcomes, not long-term changes (Johnson 2006).

Instead, Johnson (2006) argued that to be successful in doing diversity work and achieving diversity goals, individuals should have a personal investment in diversity; individuals must understand the systemic nature of oppression and privilege and what role they play in

perpetuating or interrupting the system that seeks to marginalize, tokenize, and create barriers for true diversity. Approaching diversity goals in this way is difficult and can create discord and discomfort. However, to achieve success, diversity work should not be about managing conflict and dissent (i.e., diversity management). If it is, power and oppression are overlooked, negating what the true goals of diversity should be (Ahmed 2012).

Cross-References

- Inequality in Higher Education
- Merit and Equality in Higher Education Access
- Stratification in Higher Education

References

Ahmed, Sara. 2012. *On being included: Racism and diversity in institutional life*. Durham: Duke University Press.

Alon, Sigal, and Marta Tienda. 2005. Assessing the "mismatch" hypothesis: Differences in college graduation rates by institutional selectivity. *Sociology of Education* 78(4): 294–315.

antonio, anthony lising, Mitchell J. Chang, Kenji Hakuta, David A. Kenny, Shana Levin, and Jeffrey F. Milem. 2004. Effects of racial diversity on complex thinking in college students. *Psychological Science* 15(8): 507–510.

Association of American Medical Colleges (AAMC). 2013. *Assessing institutional culture and climate: Webcast supplemental guide*. Washington, DC: AAMC.

Baez, Benjamin. 2004. The study of diversity: The "knowledge of difference" and the limits of science. *The Journal of Higher Education* 75(3): 285–306.

Chang, Mitchell. 2005. Reconsidering the diversity rationale. *Liberal Education* 91(1): 6–13.

Chang, Mitchell J., and Erica Yamamura. 2006. Quantitative approaches to measuring student body diversity: Some examples and thoughts. *Higher Education in a Global Society: Achieving Diversity, Equity and Excellence* 5: 369–386.

Chang, Mitchell, Nida Denson, Victor Saenz, and Kimberly Misa. 2006. The educational benefits of sustaining cross-racial interaction among undergraduates. *The Journal of Higher Education* 77(3): 430–455.

Colby, Sandra, and Jennifer Ortman. 2015. Projections of the size and composition of the U.S. population: 2014 to 2060: Population estimates and projections. Current Population Reports. https://www.census.gov/content/dam/Census/library/publications/2015/demo/p25-1143.pdf. Accessed 16 May 2016.

Garcia, Mildred, Cynthia Hudgins, Caryn McTighe Musil, Michael T. Nettles, William E. Sedlacek, and Daryl G. Smith. 2001. *Assessing campus diversity initiatives: A guide for campus practitioners. Understanding the difference diversity makes: Assessing campus diversity initiatives series*. Washington, DC: Association of American Colleges & Universities.

Grutter v. Bollinger. 2003. 123 S. Ct. 2325.

Gurin, Patricia, Eric Dey, Sylvia Hurtado, and Gerald Gurin. 2002. Diversity and higher education: Theory and impact on educational outcomes. *Harvard Educational Review* 72(3): 330–367.

Hill, Catherine, Kevin Miller, Kathleen Benson, and Grace Handley. 2016. *Barriers and bias: The status of women in leadership*. Washington, DC: American Association of University Women.

Johnson, Allan. 2006. *Privilege, power, and difference*. 2nd ed. Boston: McGraw Hill.

Milem, Jeffrey F. 2003. The educational benefits of diversity: Evidence from multiple sectors. In *Compelling interest: Examining the evidence on racial dynamics in higher education*, ed. M. Chang, D. Witt, J. Jones, and K. Hakuta, 126–169. Palo Alto: Stanford University Press.

National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS). 2015 Spring. Fall enrollment component. http://nces.ed.gov/programs/digest/2015menu_tables.asp. Accessed 3 June 2016.

Smith, Daryl G. 2009. *Diversity's promise for higher education: Making it work*. Baltimore: JHU Press.

Diversity and Leadership in Higher Education

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The movement of people across global contexts has brought people into contact from diverse cultural and linguistic backgrounds. The contact between diverse populations has resulted in organizations, such as educational organizations, implementing practices that open their institutional climate to change in the organizational culture (Mazur 2010). In some cases, the contact between diverse populations has resulted in racial and social justice discussions regarding higher education, such as South Africa (Aguirre and Martinez 2003b; Banks 2008). To accommodate

change in the organizational culture requires the implementation of leadership practices that lead for diversity. For example, leadership practices that lead for diversity value multicultural differences and motivate organizational members to regard the social capital brought by diverse populations as vital to organizational change and survival (Aguirre 2008).

My purpose in this paper is to develop a conceptual framework for discussing the nexus between diversity and leadership practices in higher education. While the conceptual framework discussed in this paper focuses on institutions of higher education in the United States, the proposals presented are designed to be generalizable to institutions of higher education in other global contexts and their desire to be inclusive organizations. The proposals outlined in this paper are guided by the questions: What type of leadership practices *transition* the institutional climate in higher education to address diversity initiatives? What type of leadership practices *transform* the institutional climate in higher education into an inclusive community for diversity initiatives? While the term *diversity* is used in higher education to refer to multiple types of communities based on cultural, racial, ethnic, religious or sexual identity characteristics, I limit the use of the term in this paper to racial and ethnic minority communities, or persons of color. In this paper, I use the term *leadership practices* to identify actions and/or initiatives in higher education that seek to implement strategic planning models to alter the institutional climate for the inclusion of diversity.

A caveat is in order before proceeding with a discussion regarding the nexus of diversity and leadership in higher education. For the purpose of conceptual clarity, and to avoid definitional confusion, I propose the following: *diversity* is a social force associated with the life experiences of racial and ethnic minority persons that are absent from mainstream institutions in U.S. society, especially higher education. The absence of these life experiences from higher education is a direct result from the positioning of racial and ethnic minority communities on the margins of U.S. society (Aguirre and Turner 2011). Unsurprisingly, a discussion of diversity initiatives in higher education too often finds itself mired in social justice arguments that reinforce the exclusionary context for diversity in higher education rather than broadening the boundaries in higher education to be inclusive of diversity.

Leadership is traditionally described in the organizational literature as a form of power nested in the personal qualities of a leader to elicit voluntary compliance from followers (Etzioni 1965) or as a person's ability to influence followers to do something that is required or experience sanctions from non-compliance (Steers and Black 1994). One can observe from these two definitions that leadership involves the capacity to get persons to do something they wouldn't otherwise do. Implicit in these two definitions is that there is a high degree of homogeneity among organizational members that facilitates a shared understanding for the expression of power. In contrast, diversity is a social force that challenges homogeneity in organizational culture. The challenge for diversity leadership is to develop a leadership capacity from the synergistic relationship between diversity and leadership to promote diversity as an emergent dimension in organizational structure.

The Context for Diversity in U.S. Higher Education

Ever since the introduction of the term *diversity rationale* by Justice Powell in his opinion regarding *Regents of the University of California v. Bakke*, allowing the use of race as one factor in university admission policies, *diversity* has been portrayed as a threat to the principles of merit that undergrid higher education (Aguirre and Martinez 2003a). Justice Powell's opinion called for the structuring of higher education to meet the challenges posed by increasing racial and ethnic diversity in the U.S. population. The increasing numbers of racial and ethnic minority students were soon knocking on the door of higher education and demanding that it transform itself into an inclusive learning community (Aguirre and Martinez 2014). However, the institutional

climate in higher organization has been resistant to efforts focused on transforming higher education into an inclusive institution, as can be observed in *Hopwood (1998)*, *Fischer I (2013)*, and *Fischer II (2016)*. According to Alger (1997: 20), diversity in higher education has "become an end in itself, rather than a means to a greater educational end," and because "universities have failed to establish the fundamental link between diversity and their educational missions".

Justice Powell's opinion in *Bakke* was more than just a call to diversify university admissions, it was also a call for institutions to develop a leadership capacity for structuring higher education into an inclusive learning community. Instead of becoming a vehicle for transforming higher education, *diversity leadership* faced a hostile institutional climate in higher education (Aguirre and Martinez 2006). To support the push for diversity initiatives in higher education they had to be buttressed by government programs and the establishment of diversity units, such as campus diversity officers, to monitor the implementation of diversity initiatives (Evans and Chun 2014; Palmer et al. 2013; Wilson 2013). The dilemma for diversity leadership was finding legitimacy in a hostile institutional climate resistant to change. If the institutional climate in higher education is hostile to diversity initiatives efforts, how then can higher education develop a leadership capacity that leads for diversity? How do leadership practices in higher education respond to diversity?

Diversity Leadership as a Concern for Higher Education

Diversity has social capital implications for higher education. If one conceptualizes diversity as a means to an end for building and promoting an inclusive community in higher education, then diversity is important to higher education because it challenges higher education to implement institutional policies and organizational practices that promote a civic culture inclusive of diversity (Butler 2000; Checkoway 2001). Regarding the social capital implications of diversity to higher education, the inclusion of diversity in higher education's institutional climate has the potential of transforming higher education into an inclusive learning community. An inclusive learning community that encourages social contact between diverse (e.g. sex, race, ethnicity, religion, etc.) participants in higher education in order to extend the networks available in society vital to building the social and institutional fabric of society (Beem 1999; Putnam 1995). According to Baez (2000: 44), "only through an education that emphasized diversity could individuals understand the world, recognize inequities, and gain the tools needed to remedy those inequities." As a result, the incorporation of diversity into the institutional climate of higher education challenges a structural arrangement in society that reinforces the position of diverse populations at the margins of society (Campbell 2000).

How may one conceptualize the framework for diversity leadership in higher education? Let's start by treating *diversity leadership* as a practice that functions at both organizational and personal dimensions in higher education's institutional climate. As such, the principles features of diversity leadership are (a) its potential to engage persons in practices that identify them with diversity initiatives, and (b) its potential to change the institutional climate (e.g. values, beliefs, perceptions, etc.) by implementing diversity initiatives into the organizational culture (Aguirre and Martinez 2006). The engagement of persons with practices that seek to implement diversity initiatives into higher education's goal attainment processes socializes persons to share a vision or a mind-set of *what needs to change in the institutional climate.* In particular, the implementation of diversity initiatives into higher education's institutional climate situates diversity leadership to lead for changes in institutional perceptions, beliefs, or values that resist the inclusion of diversity goals. Diversity leadership thus empowers organizational members in higher education with a shared vision or mind-set that change is necessary for the inclusion of diversity initiatives in the institutional climate. This conceptualization of diversity leadership is consistent with observations in the organizational literature that describe leadership as

coping with change, defining the direction of change, and engaging persons in the change process (Eddy and Murphy 1997; Elton 1992; Kotter 1990).

An obstacle to practicing diversity leadership in higher education is the absence of effective leadership practices in the organizational culture of higher education that legitimate diversity (Evans and Chun 2014; Palmer et al. 2013; Wilson 2013). The absence of effective leadership practices has resulted in a perception that *diversity* is another word for affirmative action or social justice in higher education (Aguirre and Martinez 2014; Myers 1997; Ramirez 2000). While the former term links diversity to external practices mandated by socio-legal decisions and the latter term links diversity with efforts to attain equitable venues for the presence of minority persons, I argue that diversity stands alone as a vehicle to change the institutional climate in higher education from an exclusionary one to an inclusive one. Unsurprisingly, the confusion that arises from the association of diversity with affirmative action and social justice in higher education, especially after *Hopwood,* has increased resistance in higher education's institutional climate to diversity initiatives.

Practicing Diversity Leadership

An audience of stake holders in higher education that are often identified as potential change agents for diversity initiatives are minority or faculty of color (Aguirre 2000; Abdul-Raheem 2016). Minority or faculty of color are situated organizationally to enable them to create and maintain mentoring and recruiting networks for minority faculty that can serve to promote leadership roles for minority faculty (Ebbers et al. 2000; Hoops 2001; HR Reporter 2001). As participants in higher education's institutional climate minority faculty are positioned to participate in the construction of institutional strategic plans that include diversity initiatives. As agents for diversity in higher education minority faculty have the potential of promoting diversity initiatives in the organizational culture of higher education as nested in the social reality that defines organizational behavior.

The research literature on minority faculty argues that while minority faculty could serve as potential change agents for promoting diversity initiatives in higher education, they are constrained by the obstacles they face regarding their participation in the institutional climate (Aguirre 2000, 2010). According to the research literature, minority faculty face significant obstacles in their career advancement, their inclusion in strategic planning, and participation in leadership roles in higher education (for example, see: Cintron et al. 2002; Dade et al. 2015; Diggs et al. 2009; Turner and Gonzalez 2008). As a result, a general observation made in the research literature is that minority faculty are located at the periphery of the institutional climate in higher education.

Unsurprisingly, Contreras (1998: 151) asks the following question, "Can faculty of color become viable authoritative agents of leadership in a superficial multicultural academe?" Contreras proposes the notion of *leading from the margins* as a possible strategy for minority faculty. While *leading from the margins* recognizes that minority faculty are marginalized in higher education's institutional climate, it does not prevent the utilization by minority faculty of institutional resources and networks, such as research focused activities, to collectively enhance their presence and identifiability in higher education. In this sense, the collective promotion of diversity can be utilized to lead for change in mainstream decision making and participatory contexts in higher education (Aguirre 1987; Turner and Myers 2000). The goal of diversity leadership is to change organizational practices, such as the distribution of power and privilege, that serve as obstacles to the practice of diversity leadership.

However, instead of focusing on the situating of minority faculty in the institutional climate of higher education, one can focus on the *synergistic* association between diversity and leadership. The synergistic association between diversity and leadership is based on the conceptualization of diversity as a social force for promoting change in the structuration of higher education and

leadership as an institutional practice for nesting diversity in the social relations that promote participation in the institutional climate. While the synergistic association between diversity and leadership can be perceived as an ideal type association between diversity and leadership, it nevertheless serves as a framework for conceptualizing leadership practices and diversity in higher education.

Synergism Between Diversity and Leadership

For illustrative purposes I will outline two frameworks for conceptualizing the association between leadership and diversity: (1) leadership practices for diversity, and (2) diversity for leadership practices. The principal difference between the two frameworks is that *leadership practices for diversity* seek to transform the institutional climate to an inclusive one for diversity while *diversity for leadership practices* transition the institutional climate to appropriate the identifiability of diversity. Comparatively speaking, the first framework illustrates the use of leadership practices to transform the institutional climate to be inclusive of diversity initiatives while the second framework illustrates the use of leadership practices to appropriate diversity into the institutional climate (Aguirre and Martinez 2002). A cautionary note regarding the two frameworks: the frameworks are heuristic tools for understanding a process, not the specification of a method for defining the association between leadership practices and diversity. For the purpose of illustrating each of the frameworks I will discuss the leadership practices associated with each framework along three dimensions: *research*, *academic*, and *educational*.

Leadership Practices for Diversity

Within this framework leadership practices promote diversity initiatives as a vehicle for *transforming* core elements – such as, perceptions, attitudes and values – in the institutional climate. A central focus of the leadership practices is to transform an exclusional institutional climate to an inclusionary one for diversity. Each dimension can be conceptualized as follows regarding leadership practices for diversity.

Research

Leadership practices for diversity promote building institutional capacity that will give presence to minority faculty in the institutional climate by implementing research networks that will enhance their contribution to the knowledge building process of the organization. For example, research networks can be established to promote the study of diversity and its contributions to society, serve as a clearinghouse for generating research funding, and provide mentorship opportunities for undergraduate and graduate minority students.

Academic

Leadership practices for diversity focus on transforming the institutional climate by empowering minority faculty as change agents for diversity. For example, sponsorship activities can be developed for minority faculty to participate as stakeholders in governance activities that define and shape academic work. Minority faculty can be agents for diversity by promoting competing mind-sets into governance activities that shape institutional policies that sort and select who occupies leadership roles, such as president of the academic senate or chairpersons of standing academic committees.

Educational

Leadership practices for diversity implement curricular changes in the institutional climate to reflect the emergence of diversity in society's social fabric. For example, the implementation of a multicultural curriculum augments the educational mission of higher education by exposing faculty and students to world views that illustrate how diversity shapes society and multicultural life experiences. The intent is to transform a curriculum nested in a Eurocentric or Westernized social reality that excludes diversity initiatives.

Diversity for Leadership Practices

Diversity for leadership practices seek to *transition* the institutional climate to address diversity

issues; that is, appropriate diversity into the institutional climate. As with all major initiatives in higher education, these leadership practices attempt to position the institutional climate to make strategic gains in its efforts to show its receptiveness of diversity initiatives.

Research

Diversity for leadership practices seeks to increase the institutional climate's awareness of diversity initiatives. As such, the institutional climate utilizes diversity issues to show its readiness to accommodate them. Regarding the research mission of higher education, sponsorship activities for minority faculty can be utilized to increase their participation in the acquisition of valued resources, such as research funding. The leadership practices transition the institutional climate to increase contact between minority faculty and other stakeholders in the expansion of opportunities for research production. That is, the institutional climate is *prepped* to increase its familiarity with diversity, e.g. minority faculty and diverse communities.

Academic

Diversity for leadership practices promote proactive responses in the institutional climate to diversity initiatives. As such, the leadership practices transition the institutional climate from one of neglect to one of accommodation. For example, the accommodation of diversity in the institutional climate is facilitated by the creation of *diversity identifiable offices,* such as Vice Chancellor for Diversity & Affirmative Action. These offices promote the image of an institutional climate that welcomes diversity, without necessarily altering the exclusion of minority faculty from core decision-making activities in the institutional climate.

Educational

Diversity for leadership practices introduce into the institutional climate the perception that diversity is an emergent social force in society. Collaborative activities, for example, can be promoted with organizations and/or legislative bodies outside of higher education, and the institutional climate, to alter the curriculum to respond to diversity initiatives by offering learning opportunities, such as internships or community-based classes. The intent of the leadership practices is to enhance the institutional climate's response to diversity as a valued thread in society's social fabric.

A Contrastive Analysis

How the institutional climate of higher education responds to diversity initiatives depends on its investment in changing the organizational culture of higher education. Institutions of higher education that change the organizational culture through the infusion of new resources for strengthening the inclusion of diversity initiatives in the institutional climate and the re-allocation of existing resources to support an infrastructure for promoting diversity initiatives are positioned to support leadership practices for diversity. The utilization of resources to promote diversity initiatives and changing resource allocation practices are vital to measuring a higher education's inclusion of diversity initiatives in the institutional climate.

In contrast, institutions of higher education that utilize resources to appropriate diversity initiatives into the institutional climate do so in order to create a perception that diversity initiatives are being addressed (e.g. observable motives). The purpose of diversity for leadership practices is to facilitate the institutional climate's response to diversity initiatives in such a manner that it appears to be responding to diversity but not structuring organizational strategies that transform the institutional climate to be inclusive of diversity. While diversity for leadership practices are able to facilitate higher education's pursuit of observable motives regarding diversity initiatives, the leadership practices do not produce measureable results for evaluating the institutional climate's inclusion of diversity initiatives.

Institutions of higher education that promote leadership practices for diversity are more likely than institutions utilizing diversity for leadership

practices to result in the inclusion of diversity initiatives in the organizational culture and institutional climate because *diversity and inclusion are promoted as a unified practice. That is, diversity and inclusion have a synergistic relationship that attains actualization with the transformation of higher education.* By comparison, institutions of higher education that utilize diversity for leadership practices simply construct stages for the presentation of diversity initiatives in the institutional climate. However, these leadership practices are not successful in changing the institutional climate to be inclusive of diversity initiatives because *diversity and inclusion are treated as separate practices. Institutions of higher education that utilize these practices for addressing diversity initiatives are at risk of creating competing goals for diversity and inclusion in the institutional climate.*

Concluding Remarks

Diversity has deep roots in the history and culture of American society, and as a result, a tenacious hold on its social fabric. Institutions of higher education have not been very responsive to the issues raised by rapidly growing diverse communities in the United States (Adserias et al. 2016). Higher education's response to diversity initiatives is not unexpected given that it is relatively conservative about changing its institutional practices. In a certain sense, the institutional climate in higher education has neglected its educational and social responsibility to respond to diversity initiators (Karkouti 2016). In order to understand how higher education may respond to diversity initiatives I have discussed two conceptual frameworks for examining the association between leadership and diversity. My purpose has been to use the frameworks as heuristic tools for examining the type of leadership practices higher education can utilize in its response to diversity initiatives. By contrasting the two frameworks I have discussed how the institutional climate in higher education responds to diversity depends on its decision to either transform or transition the organizational culture.

As so often happens with essays like this one, several, if not many, questions are not answered. Someone may ask, "Is it possible to employ a hybrid framework in addressing diversity initiatives that utilizes the best practices of the two frameworks?" It is beyond the scope of the discussion in this paper, and perhaps not a choice one would make. For one thing, a hybrid framework requires the construction of a conceptual framework that depicts change as a dynamic process yet with measured outcomes over time. In this context, diversity initiatives only serve to accommodate organizational practices and not a catalyst for changing them. As such, the institutional climate could determine which time frame would be the tipping point for deciding that diversity initiatives had received sufficient attention. As a result, diversity initiatives are not actualized in the institutional climate; instead, they are relegated to being the quiet and unwelcome visitor in the institutional climate.

While the discussion in this paper has focused on faculty in higher education, the observations offered in this paper extend to making the campus more inclusive of minority staff and students. For example, the degree to which minority faculty feel they are part of curricular decisions and the institution's pedagogy will affect their social relations with students, which in turn, foster a sense of belonging and inclusiveness among students (Hurtado and Alvarado 2013; Egalite and Kisida 2016). The inclusion of minority faculty into the core activities of the institution will have a similar effect on staff members' identification of themselves within the institution. One particular approach institutions of higher education may utilize is to include the diverse community of faculty, staff and students into their mission statements. The frameworks, transitional and transformative, outlined in this paper challenge institutions to make inclusive diversity for faculty, staff and students as either a transitional phase in the organizational culture or a transformative change of the organizational culture.

Finally, I hope the discussion in this paper will motivate higher education to regard diversity leadership as a passionate plea for changing the organizational culture, and removing the resistance in the institutional climate to its inclusion. Diversity leadership offers the best hope to higher education for removing the stigma of diversity leadership as a threat to organizational culture. Diversity leadership is a change agent in higher education for removing obstructionist and exclusionary practices that erase the presence of diverse populations, and condemns them to silence. Diversity leadership's effectiveness will be determined by higher education's ability to respond energetically and emotionally in its commitment to change the organizational culture to be inclusive of diversity. However, to date, higher education's inability to be passionate in its response to diversity continues the exclusion of diverse populations.

References

Abdul-Raheem, J. 2016. Faculty diversity and tenure in higher education. *Journal of Cultural Diversity* 23: 53–56.

Aguirre, A., Jr. 2010. Diversity as interest-convergence in academia: a critical race theory story. *Social Identities* 16, 763–774.

Adserias, R.P., L.J. Charleston, and J.F.L. Jackson. 2016. What style of leadership is best suited to direct organizational change to fuel institutional diversity in higher education. *Race Ethnicity and Education* 20: 315–331.

Aguirre, A., Jr. 1987. An interpretative analysis of Chicano Faculty in Academe. *The Social Science Journal* 24: 71–81.

Aguirre, A., Jr. 2000. *Women and minority Faculty in the Academic Workplace: Recruitment, retention, and academic culture*, ASHE-ERIC Higher Education Report. Vol. 27., Number 6. San Francisco: Jossey-Bass.

Aguirre, A., Jr. 2008. Diversity, social capital and leadership practices: Building inclusive learning organizations. *International Journal of Management and Decision Making* 9: 526–542.

Aguirre, A., Jr., and R.O. Martinez. 2002. Leadership practices and diversity in higher education: Transitional and transformational frameworks. *Journal of Leadership Studies* 8: 53–62.

Aguirre, A., Jr., and R.O. Martinez. 2003a. The diversity rationale in higher education: An overview of the contemporary legal context. *Social Justice* 30: 138–152.

Aguirre, A., Jr., and R.O. Martinez. 2003b. The post-colonial university: Racial issues in south African and American institutions. *Safundi: The Journal of South African and American Studies* 12: 1–12.

Aguirre, Jr., A., und R.O. Martinez. 2006. *Diversity leadership in higher education*. ASHE Higher Education Report, v. 32 no. 3. San Francisco: Jossey-Bass.

Aguirre, A., Jr., and R.O. Martinez. 2014. Closing the gap: Affirmative action in higher education, the utilization of the diversity rationale, and select examples of legal challenges between 1995 and 2002. In *Affirmative action*, ed. J.A. Beckman, vol. I, 159–178. Denver: Praeger.

Aguirre, A., Jr., and J. Turner. 2011. *American ethnicity: The dynamics and consequences of discrimination*. 7th ed. New York: McGraw-Hill.

Alger, Jonathan. 1997. The educational value of diversity. *Academe* 83: 20–24.

Baez, B. 2000. Diversity and its contradictions. *Academe* 86: 43–47.

Banks, J. 2008. Diversity, group identity, and citizenship education in a global age. *Educational Researcher* 37: 129–139.

Beem, C. 1999. *The necessity of politics: Reclaiming american public life*. Chicago: University of Chicago Press.

Butler, J. 2000. Democracy, diversity, and civic engagement. *Academe* 86: 52–56.

Campbell, A. 2000. Cultural diversity: Practising what we preach in higher education. *Teaching in Higher Education* 5: 373–385.

Checkoway, B. 2001. Renewing the civic mission of the American research university. *Journal of Higher Education* 72: 125–158.

Cintron, L., J. Cintron, and C. Canton, eds. 2002. *The politics of survival in academia: Narratives of integrity, resilience, and success*. New York: Rowman & Littlefield.

Contreras, A.R. 1998. Leading from the margins in the ivory tower. In *The multicultural campus: Strategies for transforming higher education*, ed. Leonard A. Valverde and Louis A. Castenell Jr., 137–166. Walnut Creek: AltaMira Press.

Dade, K., C. Tartakov, C. Hargrave, and P. Leigh. 2015. Assessing the impact of racism on black faculty in white academe: A collective case study of African American female faculty. *The Western Journal of Black Studies* 39: 134–146.

Diggs, G., D. Garrison-Wade, D. Estrada, and R. Galindo. 2009. Smiling faces and colored spaces: The experiences of faculty of color pursuing tenure in the academy. *Urban Review* 41: 312–333.

Ebbers, L., G. Gallisath, and V. Rockel. 2000. The leadership institute for a new century: LINCING women and minorities into Tomorrow's community college

leadership roles. *Community College Journal of Research & Practice* 24: 375–383.
Eddy, J., and S. Murphy. 1997. 21st century leadership practices needed for higher education. *Education* 117: 327–331.
Egalite, A., and B. Kisida. 2016. *The many ways teacher diversity may benefit students*. Washington, DC: Brookings Institution.
Elton, L. 1992. Research, teaching and scholarship in an expanding higher education system. *Higher Education Quarterly* 46: 252–268.
Etzioni, A. 1965. Dual leadership in complex organizations. *American Sociological Review* 30: 688–698.
Evans, A., and E. Chun. 2014. The department chair as the engine of diversity transformation. *Academic Leader* 30: 4–8.
Hoops, S. 2001. Minority faculty in high demand; Texas deans try a variety of ways to find non-Anglo law professors. *Texas Lawyer* (March 26), p. 40.
HR Reporter. 2001. New president adds diversity in leadership roles at Boise University. (March 23), p. 4.
Hurtado, S., and A. Alvarado. 2013. Diversity in teaching and learning: Affirming students as empowered learners. *Diversity and Democracy* 16: 1–12.
Karkouti, I.M. 2016. Professional leadership practices and diversity issues in the U.S. higher education system: A research synthesis. *Education* 136: 405–412.
Kotter, J. 1990. What leaders do. *Harvard Business Review* (May–June), pp. 103–111.
Mazur, B. 2010. Cultural diversity in organizational theory and practice. *Journal of Intercultural Management* 2: 5–15.
Myers, S.L., Jr. 1997. Why diversity is a smoke screen for affirmative action, *Change* 29, 24–32.
Palmer, R., J. Wood, and D. Spencer. 2013. Diverging interests: Balancing racial diversity and race-sensitive policies across state higher education systems. *Journal of Black Studies* 44: 406–425.
Putnam, R. 1995. Bowling alone: America's declining social capital. *Journal of Democracy* 6: 65–78.
Ramirez, S. 2000. The new cultural diversity and title VII. *Michigan Journal of Race & Law* 6: 107–179.
Steers, R., and S. Black. 1994. *Organizational behavior*. 5th ed. New York: Harper Collins.
Turner, C., and J. Gonzalez. 2008. Faculty of color in academe: What 20 years of literature tells us. *Journal of Diversity in Higher Education* 1: 139–168.
Turner, C., and S. Myers. 2000. *Faculty of color in academe: Bittersweet success*. Boston: Allyn and Bacon.
Wilson, J. 2013. Emerging trend: The chief diversity officer phenomenon within higher education. *The Journal of Negro Education* 82: 433–445.

Doctoral Education

► Doctoral Studies in Europe

Doctoral Student Socialization

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Synonyms

Development; Graduate professionalization; Professional identity; Training

Definition

The most widely used definition of doctoral student socialization refers to the process as one in which an individual interacts, integrates, and learns the values, skills, attitudes, norms, and knowledge to effectively take part in a group (Merton et al. 1957; Brim 1966; Bragg 1976; Baird 1990; Weidman et al. 2001; Austin 2002; Weidman and Stein 2003). The internalization of membership happens informally and formally, ultimately resulting in integration, role commitment to the member group, and role acquisition in the chosen group or organization. Doctoral student socialization takes place throughout the graduate career and facilitates the students' integration into professional, department, and disciplinary networks, thereby socializing the student to graduate school and to the chosen professional pathway.

Historical Aspects

Socialization theory is a common and valuable theoretical framework for understanding and shaping research on graduate students' professionalization in all its complexity (Antony 2002; Austin 2002; Clark and Corcoran 1986; Gardner 2007; Weidman et al. 2001). The frequency of the use of socialization theory as a theoretical framework to research graduate students' experiences

can be attributed to its sociological foundations. The application of socialization theory to understand graduate studies can be traced to Merton's (1957) work on reference group theory and the sociology of medical education. In this research, medical students' attitudes toward their studies, faculty, patients, medical profession, and specialization were empirically investigated (Merton et al. 1957; Merton 1957). Socialization is defined by Merton et al. as "the processes through which [a person] develops [a sense of] professional self, with its characteristic values, attitudes, knowledge and skills ... which govern [his or her] behavior in a wide variety of professional situations" (1957, 287).

In relation to higher education, Bragg (1976) emphasized the crucial role the socialization process plays in learning, "because it is the socialization process that allows education to achieve its goals." (p. 3). The socialization process comprehensively engages all aspects of learning, both affective and cognitive. Building upon Brim's (1966) work and specific to graduate education, Weidman et al. (2001) defined socialization as "the processes through which individuals gain the knowledge, skills, and values necessary for successful entry into a professional career requiring an advanced level of specialized knowledge and skills" (p. iii). As the degree process comes to completion, students should be able to answer these questions, "(1) What do I do with the skills I have learned? (2) What am I supposed to look like and act like in my professional field? and (3) What do I, as a professional, look like to other professionals as I perform my new roles?" (p. 6). How one acts, how one perceives the profession and one's place in it, and how one are regarded by others in the field upon entry is critical as graduate students learn to mold themselves to the expected role and behavior patterns of the profession and learning is internalized (Austin and McDaniels 2006, 400).

Key Principles and Concepts

Over the last 50 years, socialization theory has been adapted in many ways to explain the professionalization process of doctoral students. Theoretical arguments about doctoral student socialization range from sociology and the modernist perspective to postmodern interpretations from higher education scholars (Merton 1957; Tierney 1997). In the frequently cited monograph on graduate student socialization, Weidman et al. (2001) adopted the sociological idea of role acquisition theory to theorize on graduate student socialization. They adapted the four stages of passage to role acquisition originally described by Thornton and Nardi (1975), which include anticipatory, formal, informal, and personal stages, for the graduate school context. At each stage students engage in the academic culture, assume greater academic responsibility, and experience increased academic identity and commitment for the roles and responsibilities associated with the profession. The stages involve core elements including knowledge acquisition, investment, and involvement whereby students become more active and engaged in their roles and responsibilities as graduate students and as emerging experts in the chosen academic field or discipline. These elements of engagement can occur throughout the students' academic and social experiences. Further, students can reside in multiple stages at any one time during their education depending on the students' level of understanding, cultural learning, skill development, and role expectations and familiarity. A central concept of doctoral student socialization concerns organizational aspects of professionalization including occupational or professional settings, such as time and place and where the work/training occurs.

Disciplinary Influences

As graduate students adjust to their current role in a department and institution, they are also in training for their future roles in a specific field with its own cultural norms, values, and habits of mind. Even though a large portion of the literature grasps doctoral student socialization as a "monolithic enterprise," there is significant

variation regarding how doctoral students experience the socialization process (Gardner 2007). There are distinct disciplinary differences in the ways socialization transpires and developmental aspects to consider. Empirically based studies on doctoral education discuss and disaggregate the distinct differences across disciplines and social groups to better describe the socialization processes in doctoral education across disciplines and time to degree (Gardner 2007; Golde 1998). Socialization can vary significantly by whom is being socialized, who is doing the socialization, and in what setting.

Although socialization may occur at the institutional and departmental levels of an organization, the department and discipline may be the most influential context of graduate student socialization as it is the primary locus for where the students' experiences occur (Golde 2005; Gardner 2010a, b; Austin et al. 2012). The academic department establishes the disciplinary context where implicit and explicit norms are expressed and programmatic opportunities are created to facilitate students' socialization into the profession. This locus of control at the departmental level may pose an additional challenge for students in graduate education who may be part-time students and are therefore not well integrated into the departmental culture or for students who may have interdisciplinary degree programs spanning multiple cultures.

Several studies have shown that inadequate socialization may be associated with graduate student attrition (Gardner 2007; Golde 1998; Lovitts 2001). There are many other seminal studies that have explored the issue of graduate student socialization in the context of researcher independence (Gardner 2008), disciplinary context (Gardner 2007, 2010c), professional service (Ward 2010), and preparation of future faculty (Austin 2002). This line of research holds much promise as socialization has been characterized as a nonlinear, dynamic, interactive process (Ward 2010; Kraus 2012) that can occur at multiple levels and within distinct contexts in graduate education (Gardner 2007).

Future Directions

A major area of critique in the current literature on graduate student socialization is that the process has not accounted for individual student differences (Antony 2002), and has been underexplored for culturally diverse students and other student subpopulations (Gardner 2007). In looking at power relationships, equity issues race/ethnicity, gender, and citizenship/internationalization may also be at play and merit further attention (Gopaul 2011; Gardner and Gopaul 2012; Felder et al. 2014). Future research needs to more fully consider how identity and intersectionality of one's multiple identities shape doctoral student socialization.

References

Antony, James Soto. 2002. Reexamining doctoral student socialization and professional development: Moving beyond the congruence and assimilation orientation. In *Higher education: Handbook of theory and research*, 349–380. Dordrecht: Springer.

Austin, Ann E. 2002. Preparing the next generation of faculty: Graduate school as socialization to the academic career. *The Journal of Higher Education* 73 (1): 94–122. https://doi.org/10.1353/jhe.2002.0001.

Austin, Ann E., and Melissa McDaniels. 2006. Preparing the professoriate of the future: Graduate student socialization or faculty roles. In *Higher education: Handbook of theory and research*, vol. XXI, 397–456. Dordrecht: Springer. https://doi.org/10.1007/1-4020-4512-3_8.

Austin, Ann E, Kevin Kruger, Susan K Gardner, and Pilar Mendoza. 2012. *On becoming a scholar: Socialization and development in doctoral education*. Sterling : Stylus Publishing, LLC.

Baird, Leonard L. 1990. The melancholy of anatomy: The personal and professional development of graduate and professional school students. In *Higher education: Handbook of theory and research*, vol. 6, 361–392. Dordrecht: Springer.

Bragg, Ann Kieffer. 1976. *The socialization process in higher education*. ERIC/Higher Education Research Report No. 7. Publications Department, American Association for Higher Education.

Brim, Orville G. 1966. In *Socialization after childhood*, ed. Stanton Wheeler. New York: Wiley.

Clark, Shirley M., and Mary Corcoran. 1986. Perspectives on the professional socialization of women faculty: A case of accumulative disadvantage? *The Journal of Higher Education* 57 (1): 20–43. https://doi.org/10.2307/1981464. Ohio State University Press.

Felder, Pamela Petrease, Howard C. Stevenson, and Marybeth Gasman. 2014. Understanding race in doctoral student socialization. *International Journal of Doctoral Studies* 9: 21–42.

Gardner, Susan K. 2007. 'I heard it through the grapevine': Doctoral student socialization in chemistry and history. *Higher Education* 54 (5): 723–740. https://doi.org/10.1007/s10734-006-9020-x. Dordrecht: Springer Netherlands.

Gardner, Susan K. 2008. What's too much and what's too little?: The process of becoming an independent researcher in doctoral education. *The Journal of Higher Education* 79 (3): 326–350. https://doi.org/10.1353/jhe.0.0007. Columbus: Ohio State University Press.

Gardner, Susan K. 2010a. Contrasting the socialization experiences of doctoral students in high- and low-completing departments: A qualitative analysis of disciplinary contexts at one institution. *The Journal of Higher Education* 81 (1): 61–81. https://doi.org/10.1353/jhe.0.0081. Columbus: Ohio State University Press.

Gardner, Susan K. 2010b. Keeping up with the joneses: Socialization and culture in doctoral education at one striving institution. *The Journal of Higher Education* 81 (6): 728–749. https://doi.org/10.1353/jhe.2010.0013. Ohio State University Press.

Gardner, Susan K. 2010c. Faculty perspectives on doctoral student socialization in five disciplines. *International Journal of Doctoral Studies* 5: 39+.

Gardner, Susan K., and Bryan Gopaul. 2012. The part-time doctoral student experience. *International Journal of Doctoral Studies* 7: 63. Informing Science Institute.

Golde, Chris M. 1998. Beginning graduate school: Explaining first-year doctoral attrition. *New Directions for Higher Education* 101: 55–64. https://doi.org/10.1002/he.10105.

Golde, Chris M. 2005. The role of the department and discipline in doctoral student attrition: Lessons from four departments. *The Journal of Higher Education* 76 (6): 669–700. https://doi.org/10.1353/jhe.2005.0039. Columbus: Ohio State University Press.

Gopaul, Bryan. 2011. Distinction in doctoral education: Using Bourdieu's tools to assess the socialization of doctoral students. *Equity & Excellence in Education* 44 (1): 10–21. https://doi.org/10.1080/10665684.2011.539468.

Kraus, Amanda. 2012. Engaging theories and models to inform practice. In *Stepping up to stepping out: Helping students prepare for life after college: New directions for student services*, ed. Jill Parker and George S. McClellan, vol. 138, 13–27. Hoboken: Wiley. https://doi.org/10.1002/ss.20003.

Lovitts, Barbara E. 2001. *Leaving the Ivory Tower: The causes and consequences of departure from doctoral study*. Lanham: Rowman & Littlefield.

Merton, Robert King. 1957. *Social theory and social structure*. Glencoe: Free Press.

Merton, Robert King, George G. Reader, and Patricia L. Kendall. 1957. In *The student-physician: Introductory studies in the sociology of medical education*, ed. Columbia University. Bureau of Applied Social Research. Cambridge: Published for the Commonwealth Fund by Harvard University Press.

Thornton, R., and P. Nardi. 1975. The dynamics of role acquisition. *American Journal of Sociology* 80 (4): 870. https://doi.org/10.1086/225897.

Tierney, William G. 1997. Organizational socialization in higher education. *The Journal of Higher Education* 68 (1): 1–16. https://doi.org/10.2307/2959934.

Ward, Kelly A. 2010. Doctoral student socialization for service. In *On becoming a scholar: Socialization and development in doctoral education*, ed. Susan K. Gardner and Pilar Mendoza. Sterling: Stylus.

Weidman, John C., and Elizabeth L. Stein. 2003. Socialization of doctoral students to academic norms. *Research in Higher Education* 44 (6): 641–656. https://doi.org/10.1023/A:1026123508335.

Weidman, John C, Darla J Twale, and Elizabeth Leahy Stein. 2001. Socialization of graduate and professional students in higher education: A perilous passage? ASHE-ERIC Higher Education Report 28.3:1–118.

Doctoral Students, Doctoral Candidates

▶ Graduate Education Developments in an International Context

Doctoral Studies in Europe

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Synonyms

Doctoral education; Doctoral training; Graduate education (US); PhD studies; Postgraduate education (UK)

Definition

Doctoral studies are training through independent research under supervision aiming at creating new knowledge, leading to a doctoral degree, most

commonly the PhD degree. Holders of a doctoral degree are expected to, among other things, have the "ability to conceive, design, implement and adapt a substantial process of research with scholarly integrity" according to the Dublin Descriptors (EHEA 2017).

Doctoral Studies as Academic Apprenticeship

While the title has existed since the Middle Ages, the present model of doctoral education spread from the German-speaking countries to the rest of the world during the latter half of the nineteenth and early twentieth centuries and remained stable as training first and foremost for a career in academic research. This common model has resulted in a fairly uniform understanding of doctoral studies across the globe with slight variations. Doctoral studies have traditionally been conducted as an academic apprenticeship where the doctoral candidate or early stage researcher (in many countries the term "student" is seen as unfitting for this stage of independence) works independently but under the supervision of an experienced researcher to produce new research results. These results are to be challenged by senior researchers, who evaluate if the work lives up to the standards and rigor of the field and is sufficiently original.

The Knowledge Society

In the beginning of the twenty-first century, the pure apprenticeship model with little institutional interference in the relation between supervisor and supervisee came increasingly under pressure, leading to a push for more professional structures such as doctoral schools. The decades before and after the Millennium were marked by the political and economic discourse of the knowledge society and the idea that economic growth depend on knowledge and innovation. This discourse was accompanied by dramatic growth in public and private investments in research and development. As part of this development, the number of doctorate graduates also rose, particularly in 2000–2010. This was part of a global development, as emerging markets aimed at moving up the value chain towards more knowledge-intensive products. Attention to doctoral studies also grew in the developing world, although from very low starting points (Jorgensen 2012; van't Land 2011). Career perspectives have changed for researchers as growth in the numbers of doctorate holders have widely outpaced growth on the academic labor market, and – simultaneously – private sector research spending has risen faster than public spending. Doctoral studies still lead to significantly better careers and higher employment rates, but these careers tend to be much more diverse and only a very limited number of graduates can expect life-long careers in academic research. The large majority will enter nonacademic positions in the private and public sector. This development has put into question the adequacy of a pure apprenticeship model with training and acculturation in and for the academic world.

Professionalization of Doctoral Studies Management

The response to these developments from the side of Europe's universities was to increase the professionalism in the management of doctoral studies. Through the years of reforms during the Bologna Process and the establishment of the European Higher Education Area, higher education institutions in many systems gained more autonomy and professionalized their overall management, for example, through quality management systems. In doctoral studies, European universities established doctoral schools as management units and saw the development of this field as an institutional, strategic priority. Outside Europe, institutional responsibility for doctoral studies had often rested with the Graduate Dean, particularly in the United States, but also for instance in Australia. The European system developed a more diversified approach with doctoral schools either at the program of faculty level, or a combination of these with a central, more strategic unit (European University Association 2014, p. 6). Doctoral education was no longer a fully private relation between

supervisor and supervisee, but institutions took action and responsibility to for example ensure the quality of supervisors, provide career guidance and skills provision for nonacademic jobs, define and monitor key performance indicators such as time to degree, and lay out a strategy for developing provision overall. The term "doctoral education professional" emerged to define managers and administrators specializing in this area (see the Professionals in Doctoral Education (PRIDE) Project, www.pride-network.eu/).

New Challenges

Importantly, this professionalization did not overturn the classical core of doctoral studies, original research under supervision. Although doctoral candidates would have more systematic offers of transferable skills courses and mobility options, the daily work in the laboratory or library would be little different from earlier generations. In all systems, supervisors still have large discretionary power to manage their doctoral candidates. There are large differences between the various disciplines in terms of this daily work. In the humanities, the doctoral candidate will often work in a highly individual manner and meetings with the supervisor are arranged at certain, at times long, intervals. In the experimental sciences, doctoral candidates will often be part of a team that works closely together in the laboratory. With the increased importance of "big science" involving extensive international collaborations and large infrastructures (e.g., astronomy or high-energy physics) the possibility for doctoral candidates to individually produce knowledge is somewhat more limited. Such discrepancies result in various interpretations of what an "original" contribution should consist of (Clarke and Lunt 2014).

Recently, the debate on and establishment of more professional structures for doctoral education has moved onward, focusing on how to tackle substantive challenges through the newly established doctoral schools. These challenges are closely connected to the change in the way research is conducted (European University Association 2016).

Digitalization, including use of big data and especially open access to data and publications, is important for doctoral education. At the middle of the 2010s, universities find themselves in a situation where the generation of supervisors have not necessarily more experience than their "digital native" supervisees. At the same time, universities are developing infrastructure and policies for open access, which need to be part of the training of early stage researchers. There is also an issue about communication of research and the use of social media for this, which needs to be addressed in doctoral studies.

Research ethics and integrity is another challenge, which has gained importance through the 2010s. There have been a number of scandals regarding research ethics as well as a general concern about reproducibility and validity of results, partly due to the performance pressure on researchers. This has led to greater attention to how new researchers are trained in matters of ethics and integrity and how this is integrated in doctoral studies both in terms of formal training and the daily research work.

As a third challenge, the increasingly global nature of research has had a very visible impact on doctoral studies. In knowledge-based economies, especially in the USA and Europe, international recruitment of doctoral candidates is essential to retain the talent base. In the European Union (EU), for example, 24% of doctoral candidates come from non-EU countries (European Commission 2015, p. 26). Moreover, doctoral candidates are often more mobile and thus an important part of international research collaborations, going from one country to another on longer or shorter visits. This brings challenges regarding the integration of international researchers in the home university, as well as equipping doctoral candidates with the intercultural skills to work in a global setting.

Non-PhD doctorates

Another issue accompanying the growing diversity of researcher careers is the appearance of doctorates that differ from the traditional PhD,

notably professional doctorates. These are mostly known in the Anglophone world, the United Kingdom, United States, and Australia, as doctorates that are closely related to a professional practice, and often targeted at professionals who want to gain an academic perspective on their work. Professional doctorates are well established in the fields of education and management, while other disciplines are skeptical about the degree.

Industrial doctorates, importantly, are in the vast majority PhD degrees, which happen to be done in collaboration with a nonacademic partner. They are normally assessed with the same procedure and criteria as PhDs done exclusively in an academic environment.

References

Clarke, Gill, and Ingrid Lunt. 2014. The concept of 'originality' in the Ph.D.: How is it interpreted by examiners? *Assessment & Evaluation in Higher Education* 39: 803–820.

European Commission. 2015. *European Research Area. Facts and figures 2014*. Brussels: European Commission.

European Higher Education Area (EHEA). *An overarching framework of qualifications for the EHEA*. https://www.ehea.info/cid102059/wg-frameworks-qualification-2003-2005.html. Accessed Aug 2017.

European University Association. 2014. *Europe's Universities: Main drivers in achieving the European Research Area*. Brussels: EUA. http://www.eua.be/Libraries/publications-homepage-list/EUA_ERA_Publication_04_14_web.pdf?sfvrsn=4. Accessed Dec 2016.

European University Association. 2016. *Doctoral Education – Taking Salzburg forward. Implementation and new challenges*. Brussels: EUA. http://www.eua.be/Libraries/publications-homepage-list/Doctoral-Education_Taking-Salzburg-Forward. Accessed Dec 2016.

Jorgensen, Thomas Ekman. 2012. *CODOC – Cooperation on Doctoral Education between Africa, Asia, Latin America and Europe*. Brussels: EUA. http://www.eua.be/Libraries/publications-homepage-list/EUA_CODOC_web. Accessed Dec 2016.

van't Land, Hilligje. 2011. *The changing nature of Doctoral Studies in sub-Saharan Africa*. Paris: IAU. http://iau-aiu.net/sites/all/files/IAU_Final_Report_Doctoral_Programmes_in_Africa.pdf. Accessed Dec 2016.

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