Foreword


Volumes 24.2 and 24.3 will be the final issues of the journal.

We would like to take this opportunity to thank our editors and the editorial board for their hard work and support of the journal over the years; the authors, who have contributed their knowledge and experience in this field; and also our many readers.

We also give our thanks to Wanda Ollis, who has edited these last two issues.
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Cost-sharing reform of tertiary education in China and its equity impact

by

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China has made huge strides in expanding access to higher education since the 1980s. The main approach to achieve mass higher education was cost-sharing reforms of tertiary education. This article examines the policy reforms that affected tuition, fees and subsidies for tertiary students since the end of the 1980s and looks at the effects in terms of equity and access. It also examines institutional responses to the various policy changes as they competed for state funds. Using relevant literature, officially published statistical data and results from the related surveys, it identifies the patterns of inequality among four disadvantaged groups. Finally, it analyses the major determinants/contributors to inequality of access to higher education including state and institutional policies and practices, and tuition-related and student-support related factors.
La réforme du partage des coûts dans l’enseignement supérieur en Chine et son impact sur l’équité

par

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Depuis les années 80, la Chine a fait preuve d’énormes progrès dans l’expansion de l’accès à l’enseignement supérieur. Le partage des coûts de l’enseignement supérieur a constitué la principale approche pour parvenir à un enseignement supérieur de masse. Cet article examine les réformes politiques qui ont un impact sur les frais de scolarité et les allocations des étudiants dans l’enseignement supérieur depuis la fin des années 80 et se penche sur leurs effets en termes d’équité et d’accès. Il examine également les réponses des institutions face aux divers changements de politiques dans la compétition pour les fonds publics. En s’appuyant sur la documentation pertinente, les données statistiques officielles publiées et les résultats des enquêtes sur le sujet, il identifie les motifs de l’inégalité parmi quatre groupes défavorisés. Enfin, il analyse les principaux déterminants/contributeurs à l’inégalité d’accès à l’enseignement supérieur, y compris les politiques et les pratiques de l’État et des institutions, et les facteurs liés aux frais de scolarité et de soutien aux élèves.
Introduction

China has made huge strides in expanding access to higher education since the 1980s. Over a span of less than 20 years, the number of students in tertiary education doubled that of the United States and became the largest body of tertiary education students in the world (UNESCO Institute for Statistics, 2011). During this time, China shifted from a system of free tertiary education to a cost-sharing system. The shift to cost sharing, however, altered the demographics of students, thus changing equity.

This article first places education reforms in historical context and then outlines the history of education policy reforms since the early 1950s, and discusses how these have affected equity. It examines the major determinants/contributors to inequality of access to higher education by looking at state policy changes regarding public funding schemes, the changing costs and increased demand, HEI practices, and public and private mechanisms to aid in educational costs.

Historical context

After the foundation of the People’s Republic of China, the tertiary education system focused on restructuring universities and colleges and building new public institutions. Nonetheless, tertiary enrolment progressed slowly in the 1950s and 1960s and even stalled during the Cultural Revolution (1966-1976).

Tertiary education development gathered momentum after the government repositioned the role of education and higher education in economic and social development and launched the strategy of revitalising the country through science and technology and education in late 1978, parallel to the initiation of the “opening and reform programme”.

The university entrance examination was reinstituted in 1978. The competition for limited places in universities and colleges, especially prestigious ones, intensified after 1978. Eagerness grew for children to attend university with the introduction of the one-child policy.

At the beginning of the 1990s, the government was committed to advancing higher education by building first-class universities and expanding enrolment, thus tertiary enrolment increased drastically (Figure 1). The entry rate at the tertiary level was 1.2% in 1980 and by 2009 it rocketed to 24.2%, with
an annual average growth rate of 9.1% between 1978 and 2009 (Yan, 2010). In terms of numbers, the tertiary student population grew from 856 000 in 1978 to 21.447 million in 2009 (Table 1).

At the same time, China shifted from a planned economy to a market economy. Market forces penetrated, to a significant degree, into every lifestyle (Lieberthal, 2004: 290). Fee charging was introduced into primary, secondary and tertiary education by the government to compensate for declining government education expenditures, which were lagging behind growing enrolment.

Market forces also changed the nature of relationships between the state and individuals (Lieberthal, 2004: 290). Before the reforms, tertiary graduates were assigned a job by the state and allotted an urban residence (hukou in Chinese, which is linked with urban welfare and implicit social status) and the fringe benefits of status as “state’s cadres” – comparable to the status of public servants. After the reforms, tertiary graduates lost this status and employment and living quarters became the responsibility of individuals.
Reform of tuition fees and subsidies

The reform on public subsidies for tertiary students in China is parallel to the reform on tuition and fees. Through sixty years of reform, China has shifted from a system of free higher education to a cost-sharing system with a range of student support schemes. A summary of each era of reform highlights the changes and achievements that have led to the present mass high enrolment in HEIs in China and how this has changed the equity demographic.

- **1952-1970s: Free tertiary education and universal student grant (“People’s Grant” period)**
  - public HEIs exclusively funded by the state;
  - no fees, state covers all costs;
  - state-planned enrolment numbers;
  - students receive a monthly grant (allowance);
  - accommodation supplied by the state; and
  - upon graduation, students were assigned to work at various “units” (employers).

- **Mid-1970s – 1984**
  - increased enrolment led to declining government funds to maintain the People’s Grant;
  - living standards rose, giving way to increased demand for higher education;
  - the state limited the People’s Grant to students from low-income families on a means tested basis; and
  - the intended recipients of the People’s Grant reduced from 75% students to 60%.

- **1983-1988: Inception of fee-paying students and abolition of student grant**
  - structural reform in 1985 led to three admissions schemes:
    - state-planned enrolment,
    - contracted enrolment with employers, and
    - fee-paying enrolment.
  - the People’s Grant was abolished and replaced by the “people’s scholarships” in 1986, which went through several schematic changes through the end of the 1980s;
  - student loan scheme introduced by the state; and
  - 1987 marked the commencement of a new system that was dominated by scholarships and loan aids, complemented by subsidy to a small proportion of student with financial difficulty (Wang, Y., 2010: 50).
1989-1993: Development of three enrolment schemes and decentralisation of fee charging:

- Fee charging started in all tertiary institutions based on a 1989 policy document that mandated charging all tertiary students tuition and boarding fees (with the exception of those enrolled in teacher education programmes);
- Three enrolment schemes emerge, each with a different cost-sharing responsibility component:
  - I) State-planned scheme – students admitted by the state-planned enrolment scheme pay tuition while the university provides accommodation and food tickets on a monthly basis;
  - II) Contracted scheme – employers responsible for tuition and miscellaneous institutional fees for students enrolled under contract with employers;
  - III) Fee-paying students' scheme – students pay all educational costs, including tuition and fees specified by the higher education institutions (Xiong, 2010: 101).

After these changes, the era of free higher education formally ended in China and all students were responsible for paying either portions or all of their university education.

During this time, tuition fees rose, increasing the burden on students and state resources. The government created new funding channels more in line with the development of a socialist market economy (Wang T., 2010: 50; Brandenburg and Zhu, 2007). In addition, fees were largely decentralised, and the provincial level governments set their own rates and standards. Unsurprisingly, the higher tuition fees in combination with the rising prices increased the financial burden faced by tertiary students, which led to another era of change.

1994-1997: Unification of three enrolment schemes and universal fee-paying system

- Introduction of government pilot scheme to unify the 3 admission schemes and fee standards in 37 ministry-affiliated universities and extended to all HEIs by 1997 (Xiong, 2010: 100);
- Fee-charging standards were set on the basis of actual education costs of different higher education institutions, taking into account the economic development of the local region, the conditions of the higher education institutions; and individual affordability factors;
- Tuition and fees kept rising, at an annual growth rate of 20% on average between 1990 and 1997;
the percentage of the government allocation in higher education expenditure decreased; and

the contribution of the tuition and fees from students increased progressively.

1998-2012: Rapidly expanded enrolment and development of student support systems

rapid expansion of tertiary education after state policy changes to stimulating economic growth after the Asian financial crisis;

tertiary enrolment rose about 47% to 1.56 million from 1.08 million in 1998 to 1999;

gross enrolment increased from 9.8% in 1998 to about 23% in 2009 (Table 2); and

tuition and fees charged by HEIs rose to make up for resource shortage due to insufficient public funding (Figure 2).

Although new forms of subsidies (scholarships) and grants were introduced in the 1980s and 1990s after the abolition of the People's Grant, public subsidies available to students were few and inconsistent. Moreover, the total amount relative to expenditure on tertiary education was minimal. It was not until the beginning of the 21st century that a wide choice of student-assistance schemes were developed through a mix of a public loan funds, commercial banks and grants (OECD, 2010: 42). The system essentially comprises five components:

1. Scholarships: Scholarships sponsored by the state, the institutions, and private entities and individuals. The former two are funded by governmental allocation.

2. Loans: Includes commercial and public loans. The former are provided by the commercial bank (lender) for profit-making purpose, and the latter are provided or issued by the government for assisting students from low-income families to complete their higher education.
3. Work-study programmes: Teaching, research, administration posts or other logistics offered by HEIs for students from low-income families.

4. Means-tested grants: Funds earmarked by the central and local governments to support students with financial difficulties, including interim and regular grants for living costs.

5. Tuition exemptions: Reducing, exempting or deferring payment of tuition and fees by qualified students (this includes students in special programmes, low-income families and those intending to work in remote areas after graduation).

Since 2001, the government has increased the amount of earmarked funds for scholarships and grants, from USD 24 million in 2002 to USD 122 million in 2005, and then to USD 2 billion in 2007 and further to USD 4.5 billion in 2009. The expenditure on grants and scholarships for students maintained at a level of about 6% of current expenditure of tertiary education institutions.
Patterns of inequality

As the economy advanced in China, social disparities also widened, in terms of income inequality, rural-urban income gaps and the growing disparity between highly educated urban professionals and the urban working class (Dollar, 2007). The tertiary education reforms have also decreased access and thus, reinforced social and economic disparity among economically and culturally disadvantaged groups. This section examines the impact of HEI policy changes on four disadvantaged groups: lower-income families, women, minorities and people living with disabilities.

Students from lower-income families

Financial barriers prevent many students from lower-income families from accessing tertiary education. The percentage of students from lower-income families, as a percentage of the total enrolment, has decreased since the initiation of cost-sharing reforms. In contrast, the proportion of students from higher-income families has increased (Xiong, 2010: 101).

Students from farmers’ and workers’ families accounted for 45.2% (20.2% and 25% respectively) of the total enrolment in 8 tertiary education institutions in Beijing in 1980, falling to 21% by 1990 (Yan, 2010). Table 3 illustrates the distribution of tertiary students among various social groups.
Socio-economic background also affects access to popular programmes with superior employment prospects. A survey of 37 institutions across the country in 1998 shows that students from higher-income families were concentrated in better fields of education and more prestigious institutions, while the students from low-income families were more likely to be admitted into less popular programmes associated with lower fees and in mediocre institutions (Yan, 2010; Fan, 2005).

Students from low-income families attending HEIs often face financial difficulties, which limit their academic performance. For example, engaging in paid work while a student to cover costs reduces time and energy to devote to studies, thus outcomes may suffer (Jing et al., 2010).

**Female students**

Women and men are equal according to Chinese laws and regulations and therefore should have equal education opportunities. Female students often perform better than male students in secondary school, which would suggest that it should lead to greater chances of success in university entrance examinations. Statistics show, however, that the proportion of female tertiary students increased gradually, up to a level of male students in 2009 (Figure 4).

Nonetheless, female graduates have a lower chance of success in employment compared with their male counterparts. While the demand for skills in the labour market diminished and the tertiary graduates’ first-time success rate in job hunting decreased, the employment of female graduates upon degree completion is lower than male graduates with the same educational attainment (Liu, 2011).

Apart from better employment opportunities, male graduates also earn higher starting salaries. According to a survey of 34 tertiary education institutions in 16 provinces covering the east, middle and west of China in 2005, there was a significant disparity in starting salaries between female and male graduates. Female graduates earned the equivalent of USD 184 to male graduates USD 199.1 – a discrepancy of USD 15.

**Table 3. The percentage of offspring as tertiary students among various parental livelihood groups**

<table>
<thead>
<tr>
<th>Parental livelihood</th>
<th>The proportion in total employment (%)</th>
<th>Offspring in total tertiary enrolment (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmers</td>
<td>80.77</td>
<td>15.56-31.4</td>
</tr>
<tr>
<td>Workers</td>
<td>8.3</td>
<td>20.8-32.86</td>
</tr>
<tr>
<td>Technicians</td>
<td>4.16</td>
<td>12.7-16.58</td>
</tr>
<tr>
<td>Public servants, military personnel, company employees and others</td>
<td>6.77</td>
<td>35-35.1</td>
</tr>
</tbody>
</table>

Students from minority groups in China (e.g. non-Han Chinese) can choose to enrol at specialty higher education institutions established for minorities or regular HEIs. Since 1950, China has established fourteen higher education institutions targeting minority students. For those going to regular institutions, students may choose to study either special programmes for minority students or regular programmes.

Affirmative policies to improve access to tertiary education for students from minority groups have existed in one form or another since the education reforms began. As a result, the percentage of the minority students has risen from 0.93% in 1950 to about 6% in the late 1980s, and maintained the same level until 2009 (Figure 5).

The proportion of minority entrants relative to the total entrants of tertiary education should be no less than the proportion of the minority population relative to the total population mandated in a 1981 policy document. Table 4 shows the proportion of minority students against the proportion of minority population from the six national censuses. It shows that the proportion of minority students kept rising and remained stable since the turn of the century in spite of a slight drop that occurred after the universal fee-paying system was instituted in 1997.

Minority students are less likely to go to prestigious urban universities. In many cases, the number of entrants admitted into such HEIs from all high minority-populated regions is minimal compared to the total number of entrants from one non-minority-populated city or province. For example in 2008, the Tsinghua University enrolled 296 entrants from one city, Beijing,
compared to 239 entrants from 8 minority-populated provinces and autonomous regions. Similarly, the Peking University enrolled 470 students from Beijing, and merely 224 from 8 minority-populated provinces – 6.8% of the total entrants that year. In the same year, the Zhejiang University recruited 157 minority entrants from 8 minority-populated provinces and autonomous regions, compared with 2 044 entrants in Zhejiang province (Liu, 2010).

### Students with disabilities

In China, special education programmes for students living with disabilities were offered in three ways: special education programmes in regular higher education institutions; separate departments or schools within the regular higher education institutions; and stand-alone tertiary special education institutions (Lin, 2010). By the end of 2006, special education programmes were available in 8 tertiary education institutions and 14 institutions have their own special education departments or schools tailored to students with disabilities (Huang et al., 2010).
By 2010, 7,674 people living with disabilities were admitted into regular tertiary education institutions and 1,057 entered special education colleges (China Disabled Persons' Federation, 2010). According to the fifth national census (2006), the number of people living with disabilities in China totalled 82.69 million, of which 0.94 million have tertiary education attainment, equivalent to 1.13% of the total, which is much lower than the national average for able-bodied Chinese of 5.18% (Renminwang, 2007).

Most tertiary education programmes for people living with disabilities are limited to the undergraduate level and narrow fields of study, which contributes to difficulties in securing employment upon graduation (Huang et al., 2010).

**Determinants of inequality**

This section analyses the contributing factors to inequality that have arisen alongside policy and state budget changes.

**The cost of tertiary education**

Economic factors, especially for students from low-income families, are the most prominent barriers that limit access to tertiary education, educational achievement and even future labour-market outcomes. Tuition, living costs and fees in excess of means have made tertiary education a major financial burden for some lower-income students and an unaffordable luxury for many lower-income families. Educational reforms and changes in state subsidies and cost-partnership arrangements have led to declining enrolments in certain demographics creating distinct and different patterns of inequity in the past half a century, but particularly since the onset of the socialist market economy.

The rise in tuition fees, as shown in Table 5, depicts the steady and drastic increases relative to per capita incomes, especially during the period 1998-2004. While moderate increases in per capita income have also occurred during this period, the percentage of tuition fees to income, without any other factors included, illustrate that tertiary education in China has become a luxury.

**Financial gaps from enlarged enrolment**

The rising tuition and fees are largely attributable to the stringency of public funding in tertiary education. Public investment in tertiary education has lagged behind the growing scale of tertiary education, despite what is mandated in the *Education Law of the People’s Republic of China*, “proportion of the public expenditure to GDP should be increased as the national economy advances and the fiscal revenues increases” (1995). From 1998 to 2007, HEI graduates increased about five-fold. Tertiary enrolment rose at a rate of 39.5% between 1999 and 2007, while public expenditure on educational
institutions increased at a much lower rate of 29% over the same period. This exerted great pressure on tertiary education institutions for income generation, as shown in Table 6.

Table 5. Annual tuition per student at tertiary education level relative to per capita annual income of urban and rural households (1990-2006)

<table>
<thead>
<tr>
<th>Year</th>
<th>Urban Households</th>
<th>Rural Households</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>1 510</td>
<td>686</td>
</tr>
<tr>
<td>1996</td>
<td>4 839</td>
<td>1 926</td>
</tr>
<tr>
<td>1997</td>
<td>5 160</td>
<td>2 090</td>
</tr>
<tr>
<td>1998</td>
<td>5 425</td>
<td>2 162</td>
</tr>
<tr>
<td>1999</td>
<td>5 845</td>
<td>2 210</td>
</tr>
<tr>
<td>2000</td>
<td>6 280</td>
<td>2 253</td>
</tr>
<tr>
<td>2001</td>
<td>6 860</td>
<td>2 366</td>
</tr>
<tr>
<td>2002</td>
<td>7 703</td>
<td>2 476</td>
</tr>
<tr>
<td>2004</td>
<td>9 422</td>
<td>2 936</td>
</tr>
<tr>
<td>2006</td>
<td>11 760</td>
<td>3 587</td>
</tr>
<tr>
<td>2008</td>
<td>15 780</td>
<td>4 761</td>
</tr>
</tbody>
</table>

Of which, % of tuition:
- Urban households: 13, 12.6, 21.8, 65, 55, 56.53, 56.78, 54.8, 50.8, 44.5, 36.1
- Rural households: 29, 31.7, 53.8, 162, 145, 157.5, 164.6, 170.6, 163.0, 145.9, 119.5


Table 6. A comparison of education expenditure, GDP and public expenditure

<table>
<thead>
<tr>
<th>Year</th>
<th>Education Institution per Student (yuan)</th>
<th>GDP (trillion yuan)</th>
<th>Public Expenditure per Student (yuan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>14 963</td>
<td>13.6</td>
<td>6 522</td>
</tr>
<tr>
<td>2007</td>
<td>15 333</td>
<td>25.7</td>
<td>6 395</td>
</tr>
</tbody>
</table>

Growth rate (%):
- Education Institutions: 2.5
- GDP: 8.9
- Public Expenditure: –2


**Increasing tuition and fees for income generation**

As the power of decision for tuition and fees was decentralised in the early 1990s, universities and colleges filled the financial gap by changing more tuition and fees. Thus, the funding structure of tertiary education in China changed dramatically. While the percentage of the governmental allocation decreased, income generated by the HEIs accounted for more and more of the expenditure, among which the contribution of tuition and fees to tertiary education expenditure increased progressively (Table 7).

**Replication of regional disparity in accessibility to tertiary education**

The economic development levels of various regions – associated with lower GDP per capita and lower per capita net income – impacted local students’ affordability and accessibility to tertiary education. The structural
reforms of 1985, which decentralised education responsibilities, led to geographic inequalities in primary and secondary education facilities throughout China. Education quality, reflected as spending per student, was strong in the prosperous regions that had the capacity to equip schools with better infrastructure, learning facilities and teaching resources. As a result, students from those regions are much more likely to perform better in HEI entrance examinations, which is the most important pre-condition for securing enrolment in prestigious universities.

In contrast, students from minority groups are more likely to perform at lower levels in national university entrance examinations as most of the minority autonomous regions are under-developed. Schools in these regions, typically, are under-resourced and the educational quality relatively low. Hence, minority groups are marginalised from tertiary education in at least three ways: geographically, economically and pre-tertiary educational quality.

**Complex structural mechanisms and lack of accountability**

As fees and informal charges were left to the discretion of HEIs (i.e. there were no policy mechanisms in place to cap amounts), many tertiary education institutions abused this discretion passing on funding shortages to students for income generation. Income from student fees and charges was also used to bestow fringe benefits to university faculty. The government neither instituted accountability requirements nor did HEIs develop internal accountability mechanisms. Consequently, various kinds of informal charges prevailed in universities and colleges. According to state auditing reports, the amount of informal charges or overcharges added up to approximately USD 105 million by 2007 (Li, 2007).

Tuition and fees were inflated as education costs were exaggerated by HEIs to compete for resources under the special funding system. The system distributes state funds to educational institutions under two budgetary lines: expenditure per student and earmarked funds. HEIs altered accounting reports

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**Table 7. Sources of higher education funding and contribution of tuitions and fees (%) (1978-2010)**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Government allocation</strong></td>
<td>95.9</td>
<td>87.7</td>
<td>81.8</td>
<td>73.57</td>
<td>67.62</td>
<td>64.24</td>
<td>55.19</td>
<td>43.98</td>
<td>47.59</td>
<td>48.75</td>
</tr>
<tr>
<td><strong>Income generated by HEIs</strong></td>
<td>4.1</td>
<td>12.3</td>
<td>18.2</td>
<td>26.43</td>
<td>32.38</td>
<td>35.76</td>
<td>44.81</td>
<td>46.74</td>
<td>44.28</td>
<td>43.46</td>
</tr>
<tr>
<td><strong>Of which, tuition and fees</strong></td>
<td>0.0</td>
<td>1.8</td>
<td>4.6</td>
<td>11.89</td>
<td>15.72</td>
<td>27.92</td>
<td>29.63</td>
<td>43.9</td>
<td>47.59</td>
<td>43.46</td>
</tr>
</tbody>
</table>

largely by inflating educational costs – to the education ministry or related authority to secure more earmarked funds. This was exacerbated because there were no adequate cost-accounting mechanisms and HEIs lack both incentives and constraints to minimise educational costs (Xiong, 2010). Inflated education costs were partially transferred to increased tuition and fees.

In 2000, shortly after the rapid expansion of tertiary enrolment, the government increased public spending on subsidies to tertiary students (Figure 6). However, the growth rate of the subsidy expenditure – compared with the growth rate of the total educational expenditure – fluctuated between 2000 and 2010, illustrating that in several years of the decade growth rates of subsidy expenditures were not aligned to reach the majority of the students from disadvantaged groups. This suggests allocation problems versus insufficient government budgetary support.

In 2009, 5.27 million students (23.06% of the total enrolment) were enrolled in HEIs. Students from extremely poor families accounted for 1.66 million of this total (7.27% of the total enrolment) (Shan et al., 2011). Public expenditures on subsidies to tertiary education in 2009 amounted to USD 3.54 billion. Thus, the available subsidy for each low-income student, on average, was USD 672.20. Yet, tuitions and fees charges for most programmes at regular HEIs were approximately USD 878.40 (University Entrance Examination Channel, China Education Online, 2011; Feng, 2009: 35).
Student loans are, in theory, another avenue for students to finance their education. However, student loan schemes are unpopular with banks largely due to several disincentives that conflict with banks’ profit-making goals. Disincentives include those associated with high levels of default, which are particularly problematic due to high rates of unemployment and longer duration in transition times from school to the workforce; lack of tracking mechanisms for those who default; and high administration costs. Like other developing countries, extending student loan schemes is associated with less developed credit cultures and less developed legal and regulatory frameworks in support of data collection (Johnstone and Marcucci, 2010).

Potential students are not motivated to apply for students loans for two significant reasons. First, a cost-benefit analysis is usually focussed on the short-term disadvantages of debt burden versus the long-term advantages of tertiary education, such as better work opportunities with better salaries. As the conditions governing student loans are onerous (e.g. repayments begin the first month after graduation and do not take unemployment whilst searching for work into consideration; loss of credit rating for defaults, short repayment

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**Figure 7.** The growth rate of subsidy expenditures compared with the growth rate of the total tertiary education expenditure

schedules, and burdensome payment amounts), it is not surprising that short-term cost analyses over-ride long term analyses. Second, the formal demands for endorsement, proof of character and the complexity of student-loan applications present barriers. A survey of 8,120 students in 6 provinces in 2007 noted that only 18.54% of students enrolling in tertiary education applied for a student loan and among those only 67.02% succeeded in obtaining the loan (Wang and Wei, 2011). Table 8 shows the proportion of students benefiting from the various student aid mechanisms.

### Table 8. The proportion of students benefiting from various student loans in a province (2008)

<table>
<thead>
<tr>
<th></th>
<th>Government-funded</th>
<th>Non-government-funded</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Grant</td>
<td>Scholarship</td>
</tr>
<tr>
<td>Amount (USD)</td>
<td>201</td>
<td>666</td>
</tr>
<tr>
<td>Proportion</td>
<td>43%</td>
<td>6%</td>
</tr>
</tbody>
</table>


The determinants of inequality appear to be associated with lack of accountability institutions and mechanisms that could channel the resources to the target group efficiently and effectively.

### Conclusions

In 30 years China shifted from a government-funded, free tertiary education system to a cost-sharing system. The reform paralleled the transition from a planned to socialist market economy and rapid economic progress. As a result, both the educational cost structure and the system of state resource distribution changed completely.

These changes shifted inequality patterns among four disadvantaged groups: students from low-income families, women, students from minority groups and students with disabilities.

The determinants of inequality appear to be associated with seven overlapping and entwined factors, specifically:

- rapid economic growth;
- increasing demand for tertiary education;
- state budgetary and policy decisions;
- HEI institutional practices that employed various strategies to compete for limited state resources;
- socio-cultural norms and practices;
● extensive regional social and economic diversity; and
● lack of accountability institutions and mechanisms that could channel the resources to various target groups efficiently and effectively.

The major barriers to equity should first be attributed to the enlarging tuition and fees that exceed the financial capacity of students from low socio-economic background, which were exacerbated by informal charges and exaggerated educational costs made by the educational institutions. However, these occurred alongside changing state policies, funding schemes and instruments, social change and rapid economic growth. Since China has not implemented accountability mechanisms to monitor or evaluate HEI practices, or to oversee the appropriate dispersal of grants and subsidies, disadvantaged groups that are specific targets of various schemes are not benefitting from them as intended. This article has shown that cost-sharing reforms have been on the right track but require additional funds, improved oversight, and accountability measures to ensure available resources reach the target groups efficiently and effectively.

As tertiary education is expected to continue expanding in the next decade, it would be useful to look at other countries’ experiences and lessons to guide future reforms. It is clear that the overall education reform depends on management and policy reforms, particularly in the area of governance and accountability. Identifying the appropriate mode for China and then initiating pilot reforms of accountability mechanisms to evaluate and monitor education-cost sharing schemes should be the next step in the education reform goals of the country.

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References


Development of Southern Cross University College

by

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Southern Cross University, Australia

Southern Cross University (SCU) has established a pathways college to increase access to and widen participation in higher education for people in regional areas of Australia. While many Australian universities have preparatory colleges associated with them, SCU College has been designed to make it unique in the sector. SCU College will operate under close contractual collaboration with the two vocational education institutes of Technical and Further Education (TAFE) in its footprint, North Coast TAFE and the Gold Coast Institute of TAFE. The core offerings of SCU College will be generic associate degrees in arts, business, allied health and science, offered on SCU campuses, at learning centres on the campuses of the three partners and by distance. Graduates from the College will be able to articulate into SCU degree courses. Survey data reveal that there are thousands of people in this region who are not qualified for direct entry into university, who do not wish to study at TAFE institutes and who are unable or unwilling to travel to study. The associate degrees are designed to provide generic skills for these people within a discipline context with enhanced study support from local College staff.

The author demonstrates the process involved in creating the SCU pathways College noting that its creation fills an educational gap that responds to removing barriers and enhancing access, as well as successful outcomes noting that in detailing the main steps, strategies and design necessities involved may be of value for duplicating similar institutions, in Australia and elsewhere.
Développement du College de l’Université Southern Cross

par

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L’Université Southern Cross (Southern Cross University, SCU), a mis en place une filière fournissant des diplômes universitaires sur deux ans en vue d’accroître et d’élargir l’accès à l’enseignement supérieur aux personnes des régions d’Australie. Alors que de nombreuses universités australiennes possèdent des unités préparatoires qui leur sont associés, le College de l’Université Southern Cross (SCU College) a été conçu pour être unique dans ce secteur. Le College de l’Université Southern Cross collaborera étroitement et de manière contractuelle avec les deux instituts de formation professionnelle d’éducation technique et complémentaire (TAFE, Technical and Further Education) : le North Coast TAFE et le Gold Coast Institute of TAFE. Le cœur de l’offre proposée par le Collège de l’Université Southern Cross consiste en des diplômes généraux validant deux années d’études dans les arts, les affaires, la santé et la science. Les cours sont accessibles sur les campus SCU, dans les centres d’apprentissage des campus des trois partenaires et à distance. Les diplômés du College seront ensuite en mesure de transférer leurs acquis pour suivre les cursus de l’Université Southern Cross. Les données d’enquêtes révèlent que des milliers de personnes ne sont pas qualifiées pour rentrer directement à l’université, ne souhaitent pas étudier dans les instituts TAFE et ne sont pas en mesure ou excluent de parcourir de longues distances pour étudier. Ces diplômes sont conçus pour fournir des compétences générales à ces personnes dans le contexte d’une discipline avec un soutien accru à l’étude de la part du personnel du College local.

Introduction

Australia’s tertiary education system has two streams: vocational education and training (VET) and higher education (university). In principle, the VET sector provides skills and competency training for industry while higher education attends to the more theoretical education and preparation for professional employment. There are private and public providers in each sector. In practice, the divide is not so precise.

Most Australian universities are established under acts by states and territories; the exceptions being the Australian National University (established under the Australian Federal Government); Bond University (a private, not-for-profit institution) and Notre Dame and the Australian Catholic University; both entities of the Roman Catholic Church, but incorporated in a state. The government component of the funding for all universities, except Bond University, comes largely from the federal government. The bulk of this funding is for the teaching of undergraduate courses through a relative funding model in which the amount of allocated funding depends on which cost cluster a subject sits. Students also contribute to the cost of courses by accruing a debt at a rate depending on the cost band of each course. There are fewer bands than clusters and the proportion of cost borne by a student varies between 20% and 80% of their deemed course costs. Until 2011, the government and each university agreed on a student-load profile, which was funded by the government, and supported by student contributions.

The publically funded entities in the VET sector, known as Technical and Further Education institutes (TAFE), are state-based and state-funded institutions. Certificates, diplomas and advanced diplomas are the primary awards delivered by TAFEs. In some cases, TAFEs offer associate degrees and even bachelor degrees.

University awards are largely bachelor, masters and doctoral degrees, although sub-bachelor degree awards, such as diplomas and associate degrees, may be offered, as well as postgraduate certificates and diplomas. Universities also receive funding through government and other agencies to undertake research. Currently, five universities operate as dual-sector institutions having both higher education and VET divisions. Four of these institutions are in Victoria and the other is Charles Darwin University in the Northern Territory. Two other universities are actively pursuing becoming dual-sector institutes.
During 2010 and 2011, the Australian Qualifications Council, a body responsible to the federal, state and territory governments, undertook an extensive revision of the framework that describes education qualifications at the secondary and tertiary levels (Australian Qualifications Framework, 2011). Under the revised framework, all secondary and tertiary institutions allocate awards based on one of ten levels defined by learning outcomes. Diplomas and associate degrees fall into Levels 5 and 6, respectively, of the Australian Qualifications Framework (AQF), regardless of whether VET or higher education institutions (HEIs) are the delivery institutions. It is in this space, between TAFE and university, that the Southern Cross University (SCU) College was established.

In 2008, the Australian government commissioned a wide-ranging review into higher education, conducted by a panel chaired by Professor Denise Bradley (Commonwealth of Australia, 2008). The review (known as the Bradley Review) found that the number of Australians with a bachelor’s degree, as a proportion of its population, was static, while the proportion was increasing in most other member countries of the Organisation for Economic Development and Co-operation (OECD). The review recommended a target stating that 40% of all 25 to 34 year old Australians should hold a bachelor’s degree or higher by 2020. The government amended this target shifting the deadline to 2025 (Commonwealth of Australia, 2009). In 2008, this figure was 29%.

The principle action designed to achieve this target was to widen participation in higher education. In 2007, only 15% of the lowest quartile of socio-economic status (SES) groups participated in higher education rather than the proportionate allocation of 25%. In addition, the success rate of low SES students was markedly lower than that of students from higher SES groups. The government accepted the Bradley Review recommendation that a target of 20% participation by low SES students be set for 2020. Consequently, the federal government has established a programme to provide universities with extra support to improve the retention of low SES students already enrolled in tertiary education, and provides funds for projects aimed at widening participation in higher education by this group.

One aspect of higher education enrolment not addressed by the Bradley Review or the government to date is the gender imbalance. Currently around 60% of enrolled undergraduates are female. Lifting the participation level of males to the female level would enable the 40% graduate target to be reached quickly.

In 2012, the government abolished the requirement to limit the number of students enrolled in a government-funded undergraduate course. In principle, this means that students can enrol in their bachelor’s course of choice at their preferred university, as long as they qualify for admission.
Southern Cross University operates chiefly in the region from the mid-north coast of New South Wales to the Gold Coast in south Queensland and inland to the Great Dividing Range, an area of about 3 500 square kilometres. It has campuses at Lismore, Coffs Harbour and the Gold Coast. It also has a small centre in Sydney focusing on hotel management and a number of transnational collaborations. Approximately 16 000 students are enrolled in SCU courses with around 30% studying through distance education. A little over 20% of students enrol directly from secondary school; the mean age of undergraduates is 24 years. Many students do not enrol on a full-time basis, as they have either work or family responsibilities, or both, thus, the effective full-time student load is 10 000.

The northeast corner of New South Wales and the southern end of the Gold Coast have a very high incidence of low SES areas (approximately 50%). As a result, around 23% of students enrolled at SCU are from a low SES community. With the exception of the Gold Coast, which has a population of just over 530 000 (Gold Coast City Council, 2012) there are no major cities in the SCU footprint. Lismore is the largest at 45 000 residents. The other major tertiary institution in the coastal north of New South Wales is North Coast TAFE (NCT), which has a presence in 17 towns and cities along a stretch of about 600 kilometres south from the Queensland border.

The Gold Coast Institute of TAFE (GCIT) operates as a semi-autonomous body providing VET courses to the Gold Coast City community. The southern end of Gold Coast City, where SCU is establishing a new campus, has the lowest higher education participation rate of any major metropolitan area in Australia.

Initially, SCU decided to address the issue of widening participation in higher education across its footprint by negotiating pathways from NCT and GCIT diplomas and advanced diplomas into SCU degree courses. Many such pathways have now been formalised with TAFE graduates receiving the requisite amount of advanced standing into the SCU courses. The uptake has been variable.

However, comprehensive confidential surveys, by independent marketing organisations, showed that there were many people in the region who neither qualified for admission to SCU courses nor wished to enrol in TAFE programmes. These surveys also showed that most potential students in the region did not wish to travel to SCU campuses to study because of work, family or other lifestyle reasons. The range of factors influenced both the reasons for the establishment of SCU College and the form it took.
Preparation for SCU College

In January 2011, the Executive of SCU approved recommendations to establish a working group to develop a business plan for a pathways entity to be called SCU College.

The guiding principles for the College included the key features to promote education goals, enhance access and the learning environment, such as:

- a focus on learning, with enhanced support for domestic and international students in sub-degree programmes and those wanting to bridge the gap to university-level study;
- the promotion of regional relevance and the expansion of opportunities for higher education study across northern New South Wales and south-eastern Queensland through collaboration with the TAFEs and other partners; and
- to provide another channel for the growth of SCU without compromising the quality of programmes and support of the institution.

The SCU College concept was developed through studying the operations of existing pathway colleges in Australia. In most of the universities that included a college or similar entity, the college was operated by a third party, usually a private provider. Two universities, the University of Canberra and the University of Western Sydney, operated their colleges in a more integrated manner. The study of these colleges and information and advice garnered from meetings with key officers of the institutions led to comprehensive and rigorous operational parameters for SCU College. These parameters included:

- The need to maintain agility of decision-making within and by the college (in financial, operational and academic matters).
- The need to have in place appropriate governance structures and mechanisms.
- The need for the students of the college to identify with SCU as “university” students to promote equity among students (i.e. to ensure the same status among students whether taking courses at SCU or SCU college). At the outset, this goal was incorporated by proposing a packaged offer and providing university student ID numbers to all students.
- The need to ensure SCU College staff and students have effective access to the relevant SCU systems. In some cases, specific functions may be outsourced, with the aim of limiting duplication between the two entities.
- The need to foster quality teaching to enhance student support.
- The need for staff to be teaching-focussed to improve learning outcomes.
- The need for a framework to be in place to ensure the respect of SCU College operations within the broader University community including executive responsibility, promoting representation on relevant committees and ensuring adherence to University quality assurance practices.
An added dimension to the design and eventual structure of SCU College entailed co-operation with the two TAFE institutes. It was decided that SCU would remain exclusively a higher education entity and that the College would not deliver VET courses (rare among university colleges in Australia); thus not only does SCU maintain integrity, it avoids creating a directly competitive environment with the TAFE institutes. Furthermore, the TAFEs were invited to be collaborators in the enterprise. This strategy envisaged creating more venues for educational institutional growth among all three types of institutions and, more importantly, integrated plans to offer more programmes to meet the diverse needs and goals of the potential student population. The TAFE institutes also offer an expanded number of locations for SCU College operation. The concept was born of the desire to establish learning sites at strategic TAFE locations so that students can gain study support locally. When used in combination with course delivery by technology, there is evidence that many more students will take the step and enrol in programmes and courses. Embedding SCU College in the communities across the SCU footprint will raise its profile and provide greater opportunities to widen participation in higher education by members of those communities.

Another decision that sets SCU College apart from other university-based colleges in Australia was that the pathway courses were to be two-year associate degrees rather than one-year diplomas. The strategy was to design quite general courses that provided students with the skills to study successfully at university and then demonstrating this by having them study University units as part of their course. Initially, four general associate degrees in arts, business, health and science were proposed, which would articulate into SCU courses with varying levels of advanced standing. For example, the associate degree of arts might provide two years of advanced standing into the Bachelor of Arts and one year into a Bachelor of Education degree. During the design phase, the planned associate degree of health grew into offering an associate degree of allied health with pathways into the SCU courses in the growing field of allied health disciplines, such as occupational therapy, podiatry and speech pathology.

The rules decided upon for admission into an associate degree are sufficiently relaxed from those for standard admission into SCU to encourage enrolment, yet realistic to candidates’ educational goals (i.e. studying at college for an applied or professional degree/diploma and/or one that includes VET courses or as a pathway to university). With this in mind, admission requires candidates to have achieved educational standards that qualify them for a tertiary-entrance rank of a defined level, but the rank is below that required for direct admission into an SCU degree course. As well, students who are admitted to a degree course but are identified early in that course as
being at risk of failing will be invited to transfer their enrolment to the relevant associate degree.

To create a reliable student support network, the SCU College staff will always support students enrolled in an associate degree offered by the College. For example, staff from the College or a TAFE might deliver early units, at a specific location using a combination of face-to-face and technology, but there is dedicated College staff available to provide additional support at other College sites. When a student studies a University unit, they receive all of the tuition that any other University student receives, but in addition, access additional support for their studies through the College.

The College includes two other existing pathway activities: English language tuition (English Language Centres) and a tertiary enabling programme (Preparing for Success). SCU has a number of articulation arrangements with institutions in China in which students undertake the first two years of their course in China followed by two years in Australia. Most of these students require English language training before embarking on coursework at SCU. In addition, other international students require training to meet the language admission requirements for their chosen course. The SCU English Language Centres were established on each of its three campuses to provide such training. The English Language Centres also offer short courses for groups of international students who wish to visit Australia for short periods. The SCU International Office managed the centres until the establishment of SCU College. As pathway activities, however, both logically sit as part of SCU College, hence management of them was transferred to the College in July 2012.

The SCU tertiary enabling programme, Preparing for Success was created for candidates lacking education qualifications for admittance to a university degree. Most Australian universities have such courses, which are funded by the government through its enabling programme. Students who successfully complete such a course are guaranteed admission to a university degree course but without any advanced standing. The SCU course runs for one session full-time equivalent and has been growing steadily over the past five years. Completion rates are good and, more significantly, nearly 80% of students who complete the course successfully seek admission to an SCU degree course. The synergies between Preparing for Success and the College associate degrees are very strong; therefore, the decision to transfer its operations to the College was logical.

In terms of organisational structures, it was originally decided to establish SCU College as a not for profit, wholly owned entity of the University. As a wholly owned entity, the College would be able to negotiate its own agreements with collaborators, buy its services and have its own industrial
conditions. As the details of the College operations developed, however, it became clear that a separate organisation structure would be an impediment rather than an asset. For example, government supported student places cannot be invested in a third party and therefore SCU would need to establish a “phantom” organisational unit within the University to receive these places and then purchase the teaching from the College. There were also enhanced and onerous reporting requirements for the wholly owned entity. Finally, a new “enterprise agreement” would have to be negotiated with the representative unions for those few staff who would be actually employed by the College. Consequently, SCU was established as an organisational unit within the University in the same way as a school or support unit.

College operations were designed to be handled differently from the University, however. The College will have a Board of Management chaired by the Deputy Vice-Chancellor and consisting of representatives from SCU Executive, GCIT, NCT, the Chair of the SCU Academic Board, two independent external members and the Director. However, the academic courses hosted in the College will be accredited by the SCU Academic Board, in the same way as courses from the schools.

It was decided that the College will receive all revenues from its operations and that it will purchase services from within the University, such as access to information technology, finance, human resources, student services and the teaching of units where appropriate via Service Level Agreements (SLA). The exact financial model for schools to deliver their units to College students has yet to be finalised. The College will also purchase services from NCT and GCIT such as some unit delivery, student support and facilities via contractual arrangements.

In May 2011, a Business Plan for the establishment and operation of SCU College was approved by the SCU Council. Forward estimates showed that the College should have a total student load (effective full time) in its associate degrees and enabling courses of around 2 400 by 2015 with a net return to the University of AUD 1.68 million per annum. The increase in participation in the College will flow through to increased enrolments in SCU bachelor degree courses as well.

In 2011, a Memorandum of Understanding was signed with GCIT setting a framework for developing the collaboration with them in relation to the College. In 2012, a more detailed memorandum of understanding (MOU) was signed with NCT which, as well as agreeing to a planning framework, identified six NCT campuses on which there could be established College learning sites.

The final element of preparation for the College was to apply for funding from the government through the Structural Adjustment Fund (SAF) in 2011.
The funding application was primarily for capital investment in a building to accommodate a headquarters for SCU College together with general teaching space, and information and communication technology. The IT equipment and associated software systems are designed to deliver a comprehensive personal learning environment (PLE) for all SCU students including College students. The PLE will ultimately consist of a learning management system, a unit and course management system and a student administration system. All students will be able to obtain all course information and learning resources through the PLE.

The College headquarters were planned to be part of a six-storey, six-thousand square metre building constructed at the Gold Coast campus. The College Directorate and administration as well as PLE staff will be housed in the building. Part of the SAF funding will be used to equip all College sites across the University and TAFE campuses and learning sites with state of the art audio and video equipment so that communication between all sites of the College is seamless.

The total cost of the College and PLE project was AUD 46 million and the SAF request was for approximately AUD 33 million. In late 2011, SCU was awarded AUD 32.18 million through the SAF scheme.

**Operationalising SCU College**

The awarding of the SAF grant coincided with the commencement of the recruitment for the director. The recruitment was successful with Dr. Jane Thomson, a senior academic with experience in developing access programmes, appointed. The director commenced in January 2012 and SCU College began as a formal entity at the same time.

The business plan for SCU College was developed on the assumption that the government plan to remove student enrolment limits in 2012; in other words, that there would be no controls on the number of students who enrolled in the College associate degrees. However, in late 2011, the federal minister for higher education issued a clarification that differentiated between non-designated courses (most bachelor degrees) and designated courses (all sub bachelor degrees and all postgraduate courses that had been allocated government supported student places. The removal of the limits on enrolment was to be confined to non-designated courses only and universities had to negotiate student load with government for designated courses. The College requested and received 100 full-time places for the College associate degrees for 2012 and 260 full-time places for the enabling course. While the College was successful in obtaining an increase in the enabling load to 360 for 2013, the government has declined to increase the number of places for the associate degrees beyond that of the pipeline for the original 100 so that only 175 places are available in 2013 with no increases on the horizon.
There were a number of major projects to complete before the College became operational on 1 July 2012 under the headings of organisational structure, curricula development, SLA negotiations and staffing. As well, the board of management had to be constituted.

The director developed an organisational structure for the College that has the three main activities, English language training, the “Preparing for Success” enabling programme and associate degrees as separate divisions, with the heads of each reporting directly to the director. Because most administrative support is provided by SCU support areas, the administrative staffing requirements of the College are minimal.

The successful development of the curricula for the new associate degrees of allied health and business took much work and a focussed commitment by all parties involved (i.e. all those with an interest in the particular course) to meet the 2012 opening date for the College. This achievement relied on maintaining good communications among the parties.

An associate degree of arts was launched in the first session of 2013 and an associate degree of science is planned for commencement in session one of 2014. Currently the effective full-time student load (EFTSL) enrolled across the 3 associate degrees is 43 with a further 260 EFTSL enrolled in Preparing for Success. While the enrolment number for the associate degrees is less than anticipated, it does represent a solid foundation on which to build the College. However, there does seem to be some lack of acceptance or understanding in the community in relation to the associate degree vehicle. In addition, the academic score required for admission into the associate degrees does enable a student admission into full degree courses at some other universities, and that route is still seen as a preference by many potential candidates. Whether the associate degree is the best product for the College will be the subject of review before the end of 2013.

The early focus for delivery of the associate degrees has been the Gold Coast Tweed region of the SCU footprint. The partnership with GCIT has seen staff from that institution being contracted to deliver some of the foundation units in the business course, which has been the subject of joint marketing activities. GCIT has disestablished two of its business diploma courses in recognition of the mutual benefits of the joint delivery. The development of the partnership with NCT has not progressed as quickly, partly because of the TAFE structure in New South Wales. However, the first College Learning Centre should open on the Grafton campus of NCT in mid-2013.

The director, Jane Thomson, resigned in March 2013 and was replaced by Professor Janet Taylor who was the SCU Director of Teaching and Learning. Professor Taylor has moved quickly to conceptualise the Learning Centres and review the structures of pathways courses.
Conclusion

SCU College was created to provide greater access to higher education for youth and adults in a region of Australia where the opportunities outside of vocational education training and traditional higher education institutes were few. It is a “pathways” vehicle that is integrally linked as part of Southern Cross University, thus students are not only offered the full range of university services, they are, in essence, university students, not college or Vet students. Designing the College in this way allows for easy transfers from sub-degree to degree courses without enrolling in a new institution. Moreover, egalitarianism principles are built into the system by design to minimise or negate possible prejudices and elitism. As much of the potential student population of SCU College come from lower socio-economic backgrounds or from educational backgrounds that provided limited higher education opportunities, it is situated as an HEI with huge potential to educate and train the cadre of semi-professionals and professionals in demand by the tertiary, quaternary and quinary sector growth (i.e. post-industrial knowledge society) industries of the Australian economy. The Preparing for Success enabling programme and the English language training centres add to the College profile as one that supports domestic and international students in developing the necessary skills and knowledge to be admitted into and to complete degree courses. In addition, as the College works in co-operation with the regional VET institutes, NCT and GCIT, it is able to provide close support for students across a large geographic area through a diverse array of linked training and academic courses and programmes.

Developing this specific College should be seen as a process that could be duplicated by other universities throughout the world. SCU College is unique in Australia; it may be a model for the HEI needs of other parts of the country, as well other nations where the educational system has gaps that either elide the populations without adequate access to tertiary education or have not found the right institutional mix to provide for wider access. Highlighting and discussing the main considerations that went into each of the steps, processes and inputs necessary to create a well-placed pathways College – meant to address the educational gaps, inadequacies and inequalities (geographic, education history and socio-economic obstacles) faced by many otherwise willing students, which often lead to lifelong barriers to entering a higher education institute – provides invaluable insight, as well as lessons learned for other institutions considering such an undertaking. While the legal and political requirements will differ from nation to nation and region to region, the development of other HEIs that offer the types of educational-support systems and opportunities similar to those offered by SCU College could respond to the education and human capacity needs in many parts of the globe.
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References


Improving the quality of teaching in a state-owned, regional university

by
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The authors present a case study discussing student-oriented initiatives to enhance academic achievement. They focus on the academic, psychosocial and motivational weaknesses of students showing how these can be overcome with strategic projects to aid students in their first year of higher education. The case study, a multi-million US dollar project at a regional, state-owned university, the University of Bío-Bío, occurred over a three-year span – 2007-10. The various initiatives created under the auspices of the project take into account the reality that 78.9% of the students are from the lower socio-economic quintiles of the population and have gaps in their linguistic and scientific knowledge, and lack the skills, learning attitudes, learning strategies and motivation necessary for success.

By means of descriptive analysis and gap analysis, it is shown that the implementation of additional academic, psychosocial and motivational support initiatives reduce student dropout rates to 8.7% and 33.7% (in first and third year, respectively); reduce course completion times to 5.1, 5.6 and 7.7 years (in 4-, 5- and 6-year courses, respectively); improve employment, with satisfaction levels of 85% and 95% among graduates and employers; and increase accredited programmes by 82%.

This article contributes to the body of knowledge focusing on methods to enhance national and international education systems, providing strategies to reduce the gap between students’ skills upon admission and those needed to attain academic success in higher education.
Cette étude de cas porte sur les initiatives visant à augmenter la réussite scolaire en se focalisant sur les étudiants. Les auteurs mettent l’accent sur les faiblesses académiques, psychosociales et motivationnelles, des étudiants pour démontrer comment elles peuvent être surmontées par le biais de projets stratégiques ciblant les étudiants de première année de l’enseignement supérieur. Cette étude de cas présente un projet de plusieurs millions de dollars USD dans le cadre d’une université régionale publique, l’Université de Bio-Bío, qui s’est déroulé sur une période de trois ans (de 2007 à 2010). Les différentes initiatives créées sous ce projet tiennent compte de la réalité selon laquelle 78.9 % des étudiants appartiennent au quintile socio-économique inférieur de la population, connaissent des lacunes linguistiques et scientifiques et manquent des compétences, des stratégies d’apprentissage, et de la motivation nécessaires à la réussite scolaire.

Il est démontré sous forme d’analyse descriptive et d’analyse des écarts que la mise en œuvre de mesures supplémentaires de soutien scolaire, d’aide psychosociale et de motivation diminue les taux d’abandon à 8.7 % et 33.7 % (respectivement en première et troisième année) ; réduit les délais de fin de cycle à 5.1, 5.6 et 7.7 ans (respectivement pour les cursus de 4, 5 et 6 ans) ; améliore l’emploi avec des niveaux de satisfaction de 85 % des diplômés et de 95 % des employeurs et augmente les programmes de certification de 82 %.

Cet article contribue à l’ensemble des connaissances portant sur les méthodes d’amélioration des systèmes d’éducation nationaux et internationaux, fournissant des stratégies visant à réduire l’écart entre les compétences des élèves au moment de l’admission et celles nécessaires à la réussite scolaire dans l’enseignement supérieur.
Introduction

The results of tests designed to measure the quality of education in Chile demonstrate significant problems. The implementation of standardised tests to measure student learning achievements across Chile – such as the National Evaluation System (SIMCE) and the University Entry Selection Test (PSU) or international tests like the Programme for International Student Assessment of the OECD (PISA) and the Trends in International Mathematics and Science Study (TIMSS) – demonstrate that Chilean students' levels of learning are lower than those of students in developed countries. Despite efforts to improve this situation since the late 2000s, it remains unchanged. In 2009, the results of the SIMCE revealed that 37% of 4th grade students were not able to demonstrate the minimum learning requirements in the 3 sub-areas evaluated and that 62% of 8th grade students did not attain the minimum learning requirements expected in mathematics. Additionally, the results of the PSU in the admission process to Chilean universities in 2010 show that 32.5% of students attained scores below 450 points, which corresponds to the minimum level required to apply, and that only 17% obtained scores over 600 points, which corresponds to a satisfactory level.

Quality is also deficient in the case of teachers' knowledge. For example, in the results of the national test (INICIA) taken by primary and pre-school teaching graduates, the evaluation revealed that the average number of correct answers in mathematics was 33% from 2006 to 2009, and 42% in 2010 by primary teaching graduates. These figures illustrate the poor quality of teacher education.

Recent national and international studies consider that teacher preparation, as well as their performance in the classroom, are key to the results obtained by students. This has led to the implementation of policies by the Ministry of Education to improve “quality and equity in Chilean education”, in which the main strategies revolve around improving the teaching profession and initial teacher training.

During 1990s and 2000s in Chile, and in Latin America in general, education policies have been focused on improving universal access to education by increasing its coverage, without direct development in the quality of education. The successful increase in the coverage of higher education has meant that young people from lower socio-economic groups are admitted to higher education institutions (HEIs), which has led to the
enrolment of 55% of the population between the ages of 18 and 24 in the education system (OECD, 2013). At the same time, this means that some students have inadequate abilities and skills to face successfully the academic process, which leads to high dropout rates and an increase in the number of years required to complete higher education (Contreras and Elacqua, 2005). This is mainly due to insufficient knowledge and preparation for tertiary education, but is also because HEIs are not prepared to tackle the problem of teaching this new type of student.

The University of Bío-Bío (Universidad del Bío-Bío) decided to confront this situation through the project “Social integration and academic success of students: Improving abilities to promote greater integral development in their professional and civic conditions” (Integración Social y Éxito Académico de los estudiantes: Mejorando las competencias para un mayor desarrollo integral de sus condiciones profesionales y cívicas). The project proposed to address the knowledge and learning deficiencies of students entering university with a goal to improve completion rates and achieve subsequent employment.

This paper presents the contextual framework of the quality of education at the national and international levels, followed by an outline of the project developed by the University of Bío-Bío. It then discusses the results of the project through quantitative evidence of change in student achievements before presenting concluding remarks that reflect on the situational positions of youth and students in Chile, specifically those enrolled in higher education.

**Contextual context**

In response to changing social and economic demands, starting in the 1980s, almost all Latin American countries, including Chile, implemented policies to decentralise education and increase its coverage. By the late 1990s, the results of these policy changes led to scrutiny of the system. As Brunner (2003), explains, policies to improve efficiency and equity through increasing coverage were insufficient to address the factors underlying the social and economic changes or the altered conditions that took shape.

During the last decades, there have been major social changes, due to globalisation and the evolution of the economy towards a new society based on knowledge. Other social changes include increasing access to information and knowledge, and the need for new forms of government and citizen participation, as well as the consolidation of models of development based on competitiveness and/or quality and internal capabilities to promote sustainable development, all of which support demands for quality, efficiency and equity, and reveal the reasons behind the current debate regarding the education system (Brunner, 2003).

Increasing the coverage and improving access to education in Chile has resulted in giving the bottom two income quintiles of the population, that is,
the poorer sectors (Marcel and Tokman, 2005), access to the education system. In particular, the coverage of primary education (8 years) is practically 100%, that of secondary education (4 years) is 94% and the coverage of higher education is 50%. These figures are higher than those of neighbouring countries. Moreover, improving access to education should have an effect on the level of income per capita and on a higher level of development, among other variables (UNDP, 2010).

This, however, has not translated into a significant improvement in economic development and income distribution among citizens (Contreras et al., 2003), largely because it does not guarantee “quality” education for all children and young people. Increasing geographic coverage and enhanced access do not ensure the development of cognitive abilities. In other words, what students learn is as relevant as, or more relevant than, just “attending school” (Hanushek and Wößmann, 2007). The literature on this subject demonstrates that one year of schooling does not produce the same cognitive skills in all students (Murnane et al., 2000), and overlooking the differences in quality would significantly distort the analysis of the relationship between educational indicators and economic indicators.

According to the OECD (2012), quality education is one that “ensures all young people acquire the necessary knowledge, skills and attitudes to prepare them for adulthood”, and is also one that enables everyone to learn what they need to learn, at the right time in their lives and in their society, and to do so happily.

However, government efforts in initiatives promoting quality, equity and efficiency issues are both minimal and ineffective; hence, there has been zero or limited progress. Information is available regarding some of the obstacles faced by youth, especially those from low socio-economic households (e.g. low levels of learning in mathematics, science and language, low development of generic learning skills) to gain access to the knowledge and skills necessary for success in education, yet policies and programmes to address the obstacles are not forthcoming. In addition, the education system in Chile is challenged by a lack of management systems, weaknesses in reporting results and deficiencies in the teaching profession).

The evaluations performed in Chile regarding the quality of education show that achievement levels are below expectations (PISA, 2006-2009; TIMSS, 2007). They also show that there is a striking difference in the quality of learning according to students’ socio-economic backgrounds (Simce, PISA 2006).

Higher education in Chile shows slow development in equity. Although the increase in coverage seeks to widen opportunities and improve social mobility, one of the undesired consequences is the increase in the proportion of students who do not complete their courses, and an increase in the length of time to complete courses (González, 2005).
The overall dropout rate in the system is approximately 52%, with 56% of students at universities and 44% of students at technical training centres dropping out, respectively (Divesup, 2012). This situation occurs in both private and state-owned institutions. Meanwhile, 22% of students finish their courses in the given time and 23% with a one-year delay, which demonstrates problems in students’ progression through curricula (Divesup, 2012).

The impact of student dropouts and retention on the system and on institutions are relevant, but so are the deficiencies in the abilities of professionals upon graduation, in terms of knowledge, skills and attitudes. It is necessary to highlight that this applies, above all, to young people with low incomes, since the majority of these students are from the first and second quintiles, which in turn affects social mobility and national development.

The issue of student dropouts from the higher education system in Chile stems from differing individual and systemic situations (González, 2005; Centro Microdatos University of Chile, 2008; Canales and Ríos, 2007). It is caused by multiple factors, which may be present independently or interlinked. Among these are economic and/or family factors; social factors, which refer to students’ social, cultural and psychological conditions; academic factors that comprise knowledge, abilities and skills upon admission to the system, in subject material or specific knowledge in the field the student enters; and vocational and motivational factors. Dropping out of or leaving the university system occurs during the first three years.

Thus, the focus has shifted to policies and programmes to promote continuing with tertiary education and improving the dropout rates. Higher education institutions have focused on student retention as a development strategy, in order to obtain positive results in social and private investment in advanced human capital, in terms of the quality of the results and equity of educational opportunities, which in turn translate into retention, timely graduation and learning achievements (Donoso et al., 2010).

Situating the case study

The University of Bío-Bío is a state-owned HEI in Chile located in the Bío-Bío region, with campuses in the cities of Concepción and Chillán. It has just over 10 000 students participating in 31 undergraduate programmes. It is part of the Chilean Universities’ Vice-Chancellors’ Council alongside twenty-five other universities.

Since 2007, a new profile of students has enrolled in higher education; 80% of the students who entered the university have had scores of less than 600 points in the University Entry Selection Test. Since 2009, 67% of students have come from the first and second (that is, lower income) quintiles of the population. This has led to a higher student dropout rate, especially in first
three years. In addition, students graduated, on average, 2.3 years later than the norm. Nationwide, 64% of students are the first generation in their family to enter university.

Students from this new profile, 80% of whom come from the first, second and third quintiles of the population, demonstrate a lack of knowledge (both academic and cultural), skill deficiencies and attitudinal problems, which, when coupled with a lack of motivation, learning strategies and study habits, clearly present a strong portrait of inequality. In addition, 50% of the students come from state education institutions, only 38% have access to the Internet at home and 64% claim that they do not participate in any group or organisation. In this context, the university requires new facilities and better co-ordination and organisation to address the education needs of the diverse profile of the student body.

The University of Bío-Bío has confronted these issues through the project “Social integration and academic success of students at the University of Bío-Bío: Improving abilities to promote greater integral development in their professional and civic conditions”. The project started in December 2007 by signing a Performance Agreement with the Ministry of Education, with a total investment of USD 4.6 million funded by the World Bank, with contributions from its institutional counterpart of USD 2.4 million, and it ended in December 2010. The goals of the project are to improve the academic success of students by strengthening their integration through links with university life, and institutionalisation and certification of the skills and attitudes acquired in the training process within the framework of the institution’s educational model. The objectives are to overcome four structural weaknesses in the university, which are also priorities nationwide, since they seriously affect the entire education system: 1. reduce university dropouts or course failure among first- and third-year students; 2. reduce the effective length of courses; 3. improve levels and the quality of post-degree employment (measured by the degree of satisfaction of graduates and employers of the University of Bío-Bío graduates, and the level of graduates in management positions); and 4. improve the quality of undergraduate training at the University of Bío-Bío and thus, achieve external recognition, reaching outstanding levels of accreditation in its courses.

Methods and activities

Orientation and adapting to university life

The purpose is to help students orient and adapt to their new life as a tertiary student entering university, hence this programme begins during the first teaching cycle. It provides students with the conditions that facilitate the
transition from secondary education to university, including helping them to improve social skills with peers, teachers and course co-ordinators. It also includes training through making information and awareness of tasks at university accessible, such as the use of information systems, libraries, study rooms, student benefits and characteristics of courses.

Integral training

Integral training is used to develop generic abilities associated with individual student graduation profiles (i.e. within the framework of their skills and attitudes), in order to increase social and cultural capital. This entails the reorganisation of the programmes of integral training on offer, redesigning subjects and courses and adding extra programme activities. In addition, properly equipped areas for students’ cultural and artistic activities, sports and social activities were created.

Tutor programmes

Creating tutoring programmes whereby upper-level students (e.g. third-, fourth-year and graduate students) support and tutor first-year students’ study habits and learning strategies for the key mathematics and science subjects.

Levelling mathematics and science knowledge in first-year students

To improve the learning possibilities and performance of students, this activity is based on the concept of “progress maps” and is made up of progress in modules per subject, with periodical evaluation. It involves redesigning subjects into learning units, training teachers to work with active methodologies and strengthening students’ study strategies.

Teacher training

Strengthening teaching capabilities of academics is fundamental to the desired student outcomes. Through applying the institution’s “education model framework”, which is based around training by building skills and using learning results, faculty learn to be student-oriented. This is done through a number of teaching qualification programmes on offer, which provide support systems in subjects, innovation in classroom teaching and incorporating technology into the classroom.

Redesigning curricula

In this activity, the curriculum in programmes with a graduation profile is redesigned to enhance employment opportunities by catering to the needs of the work environment. The courses are focused on students’ skills and abilities to guide them toward career choices for which they are both trained and well-suited.
Main results

The project has been successful in achieving the desired outcomes after three years (December 2007-December 2010); as depicted in Tables 1-5. Although some of the progress is relatively minor, there was measurable improvement in all the stated project objectives, including:

1. A reduction of the dropout rate of first-year students from 17% in 2007 to 8.73% in 2010 (Table 1).
2. A reduction of the dropout rate of third-year students from an initial 40% to 30% in 2010 (dropping out of university in the third-year of study is usually due to academic problems that prevent continuation in certain courses, especially obtaining passing grades in mathematics and science subjects) (Table 2).
3. The reduction of the effective length of time taken to complete degree programmes The effective length of four-year programmes was reduced from 6.5 years to 5.1 years; 5-year programmes were reduced from 7.11 years to 5.6 years; and 6-year programmes were reduced from 8.5 years to 7.7 years (Table 3).
4. An improvement in employment levels, particularly in graduates’ levels of satisfaction and the increase in the number of graduates in management positions (Table 4).
5. Nationally accredited majors shows a significant increase, reaching 82% and exceeding the goal set (Table 5).

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<tr>
<th>Table 1. Dropout rate of first-year students (%) 2010</th>
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<td>Base line (2007)</td>
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<td>Goal</td>
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<td>Achievement</td>
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<th>Table 2. Dropout rate in third-year students (%) 2010</th>
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<th>Table 3. Total years to completion of 4, 5 and 6-year undergraduate programmes</th>
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<td>4-year Programme</td>
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<td>Base line (2007)</td>
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<td>Long-term goal</td>
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Conclusions

The project undertaken at the University of Bío-Bío to improve abilities to promote greater integral development of students to help them achieve their professional and civic ambitions, did more than achieve significant positive outcomes for the students at this particular HEI, it also verified a set of approaches and methods that could be adopted at other HEIs. This study shows that the project presents strategies that achieve significant results in reducing the number of dropouts from university, improving employment and gaining accreditation for quality study programmes.

In particular, according to the results of the study, it is possible to reduce dropout levels in first-year students by strengthening orientation and motivation upon entry into an HEI. However, this is insufficient and must be combined with advanced training for faculty to teach them how to teach students in academic, psychosocial and motivational fields, according to their individual needs and backgrounds. In other words, teaching methods and the course curricula must take into account weaknesses from previous schooling and life experiences.

HEIs often carry out their educational process assuming the students have previous abilities and knowledge, which are based on a profile to which many of the new generation of students enrolling under enhanced access and increasing geographical coverage of HEIs do not conform.

The factors that lead to failure among first-year university students confirm deficiencies in the previous stages of their school education, with an evident lack of knowledge in mathematics, language and science. This project highlights not only this reality, but also that methods such as tutoring, mentoring and adjusting courses to accommodate remedial learning, students previously weak in these areas can succeed.

Among the assumptions made regarding students’ abilities is the fact that they have developed learning skills, such as the use of various learning

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<th>Table 4. Employment satisfaction (%)</th>
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<td>UBB graduates</td>
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<td>Employers</td>
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<td>% graduates in management</td>
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<th>Table 5. UBB nationally accredited majors</th>
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strategies and techniques. It is also expected that within these abilities students have psychosocial attitudes such as self-sufficiency, self-criticism and ways to handle frustration, among others.

Thus, in order to improve the quality of education it is necessary to train teachers to work with the current profile of students and also for institutions to, for the time being, strengthen their systems and processes to manage the academic and emotional weaknesses extensively discussed in this paper.

Lastly, the results in the reduction of dropout rates and the length of time taken to complete courses/programmes, as well as the improvement in employment and the increase in the number of accredited courses, show evidence of the formation of synergies being created in the institution. These are greater than those anticipated, because they provide outstanding results, in which the initiatives and strategies carried out at the institution increase their impact. This suggests that HEIs considering similar approaches should not do so with only one or two programmes in place, but that they should adopt a holistic strategy, such as the one undertaken at the University of Bío-Bío, which encompasses all of the factors that lead to students’ success.

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Brazil has developed an encompassing system for quality assessment of higher education, the National System of Higher Education Evaluation (SINAES), which includes a test for assessing learning outcomes at the undergraduate level, the National Exam of Student Performance (ENADE). The present system has been running since 2004, and also serves as criteria for accreditation of programmes and institutions, and has been used to regulate the growing private (for-profit) sector of Brazilian HE. We will present an analysis of SINAES and the many challenges it faces to be recognised as a valid tool for quality assurance and regulation for the Brazilian HE system, using data developed within the system for the engineering and medicine programmes in Brazil. The learning outcomes test is similar to the one that the AHELO project has proposed, including both general education and subject area components, thus providing some preview of issues that may arise as that project moves forward.
Évaluation des résultats
de l’enseignement supérieur au Brésil

par
Renato H.L. Pedrosa, Eliana Amaral
et
Marcelo Knobel Université de Campinas, Brésil

**Introduction**

In the very broad context of the expansion of higher education (HE) systems across the globe, assessing quality – of national systems, individual institutions or undergraduate and graduate programmes – has become one of the major themes of debate in HE policy. As many national HE systems are undergoing an intensive cycle of expansion, which often involves non-traditional education providers that are not directly controlled by public agencies, such as private companies and for-profit organisations, many employing distance learning technology intensively, quality assessment has become increasingly important. The demands for accountability and transparency go beyond the traditional accreditation procedures that have been developed by government or independent agencies that typically involve a self-evaluation report by the institutions or programmes, plus an official site visit by a specialists committee. The new trend is to use student learning outcomes tests to assess higher education programmes and the providing institutions.

This aspect of quality assurance of HE has gathered increasing attention from both specialists and the public, including policy makers and other stakeholders. As an example, a recent study (Arum and Roksa, 2011) presenting a bleak view of the progress of United States (US) students’ proficiency, during their college years – in writing, critical thinking, argument construction and other skills – was widely debated by the media, policy makers and the general public. Its methodology included the use of information regarding students’ performance in a standardised test called the Collegiate Learning Assessment (CLA). The validity of CLA as an instrument for assessing learning outcomes has been widely debated (Klein et al., 2007; Banta, 2006 and 2007; Pike, 2006).

Calls for learning outcomes assessment have, in the past few years, become more frequent, from both public officials and media commentators (Brooks, 2012). Already in 2006, the US Commission on the Future of Higher Education report (also known as the Spellings Commission) called for the CLA to be used for assessing learning outcomes on a “value-added” basis (US Department of Education, 2006:24), and that the data should be used for accreditation purposes (US Department of Education, 2006:25) as well as be made public.
In 2009, the European Union (EU) commissioned the OECD’s higher education division (Institutional Management in Higher Education, IMHE) to develop the Assessment of Higher Education Learning Outcomes (AHELO) project (AHELO, 2011, Coates and Richardson, 2011). The project completed a pilot phase in late 2012 and the reports are now available online. The learning outcomes assessment vehicle includes both general education and subject area components.

Even before these initiatives, some countries were already experimenting with systems to assess HE learning outcomes (Nusche, 2008). Brazil was perhaps the first one to develop a comprehensive HE evaluation system, including a learning outcomes assessment component, for both public and private institutions, the National System of Higher Education Evaluation (SINAES). It includes, as one of its main components, a test to assess learning outcomes (mandatory for students), the National Exam of Student Performance (ENADE), with a format that is much in the spirit of what the AHELO project has proposed. The purpose of this article is to present an overview of the Brazilian system, to discuss issues of validity for the proposed uses of results and others related to the very large and diverse system that it is supposed to be evaluating. It also discusses students’ involvement, how they perceive the system and their attitude towards participation.

How SINAES and ENADE work to generate assessment information

Federal law established SINAES and its test component, ENADE, in 2004, under the auspices of the Ministry of Education. Approval of legislation followed heated political and academic debate over a previous system that also had a test component (Verhine et al., 2006). The legislation also established the National Higher Education Evaluation Committee (CONAES), composed of ministry personnel and representatives of various HE organisations, including federal, state (provincial) and private institutions to oversee all SINAES/ENADE activities, and all decisions regarding changes to the system. The National Institute for Educational and Pedagogical Research (INEP) is the Ministry’s organ responsible for developing and applying ENADE.

Although the focus of this article is on the learning outcomes assessment component (ENADE) of SINAES, we will first provide a brief outline of the general evaluation system, to place ENADE in the appropriate context. A more detailed description of the entire system may be found in Verhine et al. 2006 or in the INEP report on the system (INEP, 2009).

From its inception, SINAES has been based on three main components: institutional, programme and undergraduate student proficiency evaluation. The National Student Performance Exam (ENADE), taken by both first-year and last
ASSESSING HIGHER EDUCATION LEARNING OUTCOMES IN BRAZIL

year students, assesses student proficiency on topics determined by the National Curricular Directives for undergraduate programmes. Institutional and programme evaluation are based on data collected by the Ministry of Education and on self-evaluations conducted by the institutions. Graduate programmes are evaluated by the Ministry of Education’s Graduate Education Department (CAPES), a system that has a long (and successful) history in Brazilian HE, dating back from the mid-1970s (Balbachevsky, 2004; Balbachevsky and Schwartzman, 2010).

The results from ENADE are derived from several input variables, including the scores of graduating classes, a value-added component that makes use of first-year students’ results, plus information about infrastructure (facilities, library, etc.), faculty and programme syllabus. These are collected from the institutional database, and then combined into a final score, the Programme Preliminary Score (CPC) for each undergraduate programme. The input variables are weighted as follows: 40% from the ENADE score for graduating students, 30% for the value-added index and 30% from programme and institutional data. The CPC is scored on a scale from one to five, where five is the top score.

Combining CPC (undergraduate) and CAPES (graduate) scores for programmes at a given institution, the General Programs Index (IGC) for that university or college is computed, also on a scale from one to five. Finally, the institution produces a self-evaluation report, which, combined with the IGC, results in the Institution Score (CI), involving various aspects of HE activity, which are defined by CONAES and established in the legislation.

A few more details about ENADE: it uses a mandatory census design, meaning that all students in their last year of studies of each programme under evaluation are required to take the exam (up to the 2010 edition, all first-year students also had to take the exam). This characteristic of the system has many consequences in terms of overall confidence in the results of the assessment system, including the issue of student engagement.

A second aspect is that all scores are based on a “norm-referenced” model, meaning that the scores are relative and depend on the data from all institutions/programmes, and are not based on an expected level of performance. Thus, it would not be clear if a score of four or five for the graduating class on ENADE would mean that they had actually achieved some expected proficiency level. Similarly, preliminary programme scores (CPC) also come from a relative analysis and do not actually represent the level of excellence of a programme, per se. An alternative would consist of a “criterion-referenced” approach, which would require a proficiency scale and interpretation to be provided, and what constitutes adequate performance. However, it is important to observe that it is not clear if such a proficiency scale and an adequate
criterion could be established for higher education programmes (Verhine et al., 2006). Most existing learning outcomes assessment systems in HE use a norm-referenced model (Nusche, 2008).

Due to the sheer size of the populations involved and the enormous variety of programmes assessed, the whole system operates on a three-year rotating cycle: all programmes are grouped into three broad areas, each group of programmes assessed every three years. A full assessment cycle is completed every three years, when all programmes at every institution have gone through the whole assessment system. This raises some questions regarding the validity of results for some programmes, since the number of students in a graduating class may be quite small, meaning that it may take a long time, possibly two or three cycles, before anything statistically meaningful can be said about such a programme in terms of learning outcomes.

**ENADE in more detail**

The 2010 edition of ENADE is used as the main reference for describing how the exam is developed; which is sufficient, since the general structure of the exam is consistent across areas and subjects and along the period the system has been in place.

ENADE has two parts: general education and subject area components. The general education part of the exam consists of 10 items, 8 multiple-choice questions (MC) and 2 open-ended items (short essays). The subject area component consists of 27 MC and 3 open-ended items. The weighting in the final score is 25% for the general education and 75% for the subject area components. Students are given four hours to complete the test.

The general education part is common to all programmes participating in a given year and its content is unrelated to a student’s programme of study. In 2010, for example, the health sciences and agricultural sciences programmes were evaluated. In 2011, all engineering, basic sciences and teacher training programmes were evaluated. However, unlike the CLA, which is designed to assess “basic writing and critical thinking skills”, the general assessment component of ENADE assesses “general education content”; in other words, the exam content is related to cultural and social aspects of contemporary society. This approach presents problems for interpretation of results, as it assumes a relationship between the aspects being assessed and college and university education in Brazil. Furthermore, as Brazilian regulations do not require HE programmes to include “general education” content, the variation of students’ knowledge, not necessarily related to HE, skews the scores. It seems that the proponents of the exam expect that a “good” college or university would provide this type of education to the students. Alternatively,
it may indicate the direction in which the Ministry of Education would like higher education in Brazil to evolve.

Arguably, such a general content test will have results highly correlated to the pre-college education of students. A cursory analysis of result tables from ENADE shows that scores of first-year medical students (a highly selective programme) are higher than those of first-year nursing school students (a less selective programme). Thus, it is likely that a more careful analysis might reveal that the results of the general content test are strongly correlated to the socioeconomic background or quality of education of students before entering HE.

The subject area part of ENADE is closer to that of the AHELO. It includes assessment of basic areas in an undergraduate programme, gradually moving from basic topics to more specialised ones, according to what are commonly considered the relevant issues in undergraduate education for the specific field. The 27 MC items in the test involve questions and problems on diverse aspects of the programme’s contents. The same may be said of the three written essay items, which typically require more work from the students in order to reach an adequate answer. From a qualitative point of view, this part of the exam may be considered adequate, even though there have been no validity studies to test that assumption.

The uses of SINAES/ENADE: Accountability, transparency and political support

The Ministry of Education (ME) uses the various scores and reports produced during a three-year SINAES cycle for accreditation purposes for both the programme and institution levels. The original SINAES proposal (INEP, 2009) put more emphasis on institutional/process evaluation than on ENADE or final scores. However, media exposure of scores and of accreditation results has shifted focus gradually towards those aspects, especially as various print media produced rankings based on the results.

Every year there are institutions placed on probation when programmes have performed poorly in the last two cycles. The Ministry then imposes cuts in admission enrolment vacancies as a consequence of probation. For example, between 2007 and 2011, the ministry cut 1,114 vacancies in medical school programmes, 514 in 2011 alone; after the 2010 round of SINAES. In law programmes, no less than 34 thousand vacancies have been closed since 2007. Many programmes have lost accreditation, and in another situation an entire institution was shut down and its students transferred to neighbouring colleges.

These actions have helped the whole system and ENADE, in particular, to gain public and political support. Typically, the institutions that have had
vacancies cut, or programmes shut down, are for-profit private colleges and universities. Part of the rationale put forward by those that support the system is linked to the perceived need of regulation of the fast-growing private sector. That sector has quadrupled in size since 1994, as can be seen from Figure 1. Enrolment in the private sector increased four-fold, growing from a little under 1 million to almost 4 million students, which corresponds to 73% of the total of 5.4 million student enrolment of 2010 (up from a 58% share in 1994).

Figure 1. Undergraduate enrolment, on-site regular programmes, Brazil, 1994-2010

The profile of the private sector has also changed drastically: in 2010, two-thirds of the students were enrolled in for-profit institutions, while in 1994 the relation was reversed as more than two-thirds of students were enrolled in not-for-profit, private HEIs.6

All data produced by the ME using ENADE are made public. Although this is in line with transparency goals, it also makes it easy for the media to develop “league tables” and rankings of institutions/programmes, with all the
problems involved in manipulating or eliding information for specific purposes or due to lack of understanding. For example, usually only one of the ENADE scores is used to develop rankings, depending on the purposes of the ranking developer. Some institutions have also used their performance for advertisement purposes. Some of those occurrences have involved clear distortions of the publicised data, to the point that the ME had to intervene and ask institutions to remove their advertisements.

Nevertheless, issues that are more serious surfaced in the past few years that raise concerns about the credibility of the system. The ministry’s assessment department found that a large private university was using loopholes in the system to doctor results: they were able to select the group of final-year students to take the ENADE, by holding back regular coursework grade results for part of the class until the end of the semester when ENADE occurred. The ME has since changed the rules, in order to prevent such actions, but it is not clear that there are not other breaches in the system. There were reports that the ME has asked for information from another 30 institutions suspected of using the same scheme to improve their programmes’ performance. All this was widely publicised by the national media, since the first institution involved is one of the largest in the country. The cases are under investigation; however, as of early 2013 the ME has not taken actions in regards to the institutions involved.

**Criticism of the system and student participation**

Ever since the beginnings of the federal HE assessment system, in 1996, when the ME started the National Exam of Programs (known as “Provão” in Brazil), the precursor of ENADE, student participation has been an issue. Early on, the National Student Union (UNE) was very vocal against any type of assessment that involved student testing. There were various arguments put forward to support that position, some of them also used by faculty organisations and specialists in education, namely that:

- tests could not measure college education in a proper way;
- students were being punished, by having to participate;
- assessments were related to the growing privatisation of the Brazilian HE and that the federal government was preparing to privatise the whole system;
- the system violated academic freedom of universities, by imposing curriculum content via the exam’s choice of topics; and
- institutions that were not very selective, even if they were doing a good job in terms of overall undergraduate education, could be penalised by the poor performance of students with deficient educational background.
These arguments and others certainly will be familiar to those involved with the present international debate on learning outcomes assessment.

When the system was reformed in 2004, many former critics of Provão hailed the ME’s initiative, since SINAES evaluated institutional, process-oriented aspects, and the methodology included a “value-added” component, using ENADE results, that tried to assess if the programme was successful in raising students’ knowledge in the areas for which ENADE was concerned. The UNE changed their position officially, but many local and national student organisations still called for boycotting the system. From a practical point-of-view, there have been clear cases of student boycott, but there is also the issue of how much students are engaged in taking part in ENADE. It must be noted that students’ individual scores are not reported nor made part of their academic records. One obvious example of a large group of students in nursing programmes boycotting ENADE happened recently (2010) when most of the graduating class, in at least four large public universities, returned blank answer sheets. That not only distorts the overall scoring (since it uses normalisation procedures), but the programmes at those institutions were scored very low, even though they are seen as among the best in the country among academics and the public. As further evidence of student boycotting, the most selective university in terms of entrance exam scores in the 2011 ENADE (Unicamp), with the top average admission score in 14 of the 30 programme areas covered by that year’s ENADE, did not have a single programme scoring among the top 20 programmes (in the respective area) in the ENADE score for the graduating students.

A further point regarding student participation is that many institutions, and most frequently the private ones, have tried to stimulate student participation by giving prizes to the top performers (students have access to their own scores). Some institutions also train students for the test, using previous versions and similarly elaborated items. Both instances of institutional intervention raise issues regarding the objectives of SINAES, in general terms, and how the system is influencing HE in Brazil.

Validity of SINAES/ENADE

The Ministry of Education has issued a few technical reports explaining the methodology employed by SINAES and how ENADE scores are used, but, so far, no comprehensive validity analysis of the uses of the system’s results has been developed. Moreover, some points have been raised indicating that the system may require some modifications before it may be considered valid for its intended application of evaluating programmes and institutions for the purpose of accreditation and regulation, at least at the undergraduate level.
A first point is that the scoring methodology is uniformly applied to all areas and types of programmes, and to all types of institutions. Besides treating very different programmes like teacher training and engineering in the same way, the same principles are also used to assess all institutions, disregarding specific mission-related academic characteristics, like an emphasis on research or on teaching. Similarly, technological colleges (that offer 3-year vocational programmes), another expanding sub-system, are treated similarly to universities in the system, with the obvious prevalence of university-type quality criteria (e.g. number of faculty with doctorate degrees and research indicators) as benchmarks for the rest of the system. This may cause the budding technological college system to follow the classical academic drift pattern, diverting their efforts towards becoming “university-like” institutions, which would affect efforts in training a skilled workforce at a level that many see as of strategic relevance at the current stage of Brazilian economic development. This may apply to various other areas in higher education professional programmes.

Secondly, it has been argued that 30 test items are not enough to cover adequately the relevant knowledge developed in a degree programme, since the small number of items would force the test organisers to restrict the breadth and depth of topics covered. It is an issue related to content validity and may be disputed regarding the use of the exam, in the present format, to assess proficiency in any full undergraduate programme. For example, in economics, there is debate among specialists of how much of the exam should be dedicated to quantitative (econometric) methods, to micro and macroeconomics, to development economics and so on.

Thus, similar to the lack of connection between the general education component of ENADE and programme curricula in Brazil discussed earlier, the issue of lack of clear content in the exams seems to be an impediment to properly assess progress of students beyond their specific domain of studies. The “value-added” score that is developed using scores from both first and last year students also deserves some comments. This was one of the strongest points advanced by the proponents of the new system in 2004, in clear contrast to the previously existing system (Provão), in favour of SINAES. However, the way the score is computed is quite complicated and it is certainly not clear what the score actually means. It is based on a basic regression model that uses the scores of first-year students, some other characteristics (like proportion of parents with HE degrees), to compute what should be the scores of the graduating class. That prediction is then compared to the actual performance of the graduating class, generating the “value-added” score. Even though the rationale for such a method may be found (Verhine et al., 2006), there are many critics of the system (Schwartzman, 2008;
Araujo, 2008), and there is no evidence that it is actually measuring what it proposes to assess.

Another problem with SINAES as a whole, especially for its use for accreditation purposes, is that the system has no criterion of reference for any of the scores and indices computed. Therefore, it may well be that even those programmes or institutions with higher scores are not actually performing to standards or above standards, since the whole system is based on statistical norms. Alternatively, programmes or institutions are performing to expectations, but the distribution requires that some be classified at lower levels. Despite the difficulties of establishing criterion-referenced cut points or bands, SINAES must use other available methodologies that provide a more accurate representation of performance.

The complete scoring system of the SINAES is quite complicated and justifiably questionable at various points (e.g. why is weighting used for the various scores and why is regression analysis used in the way it is?). There is very little evidence for the choices made that has been documented and presented to the general audience of the system (e.g. students, universities, politicians, etc.). The validity of any educational evaluation or assessment system depends heavily on having convincing arguments that the decisions made to garner the results are well justified and documented; something specialists have asked for since the inception of SINAES (Schwartzman, 2008; 2012).

One more topic should be mentioned in this brief discussion of validity of learning outcomes systems, which is linked to the CLA: the role played by student-based surveys. One such survey, that is starting to be used by institutions in different countries, is the Student Experience in the Research University (SERU), initially developed at the University of California at Berkeley, by researchers at the Center of Studies in Higher Education. In a recent report (Douglass et al., 2012), SERU data was used to develop an assessment of academic progress during college years. The authors present evidence that such a survey may actually be very useful for that purpose, especially because it is based on a census design, which makes it useful even down to specific programmes inside each institution. The authors also compare SERU’s approach to CLA’s, providing arguments in favour of the former as a viable and interesting alternative to the standardised test approach used in CLA.

**Does SINAES/ENADE provide useful information, after all?**

The discussion so far suggests that SINAES/ENADE is not an appropriate system for assessing higher education outcomes or overall quality. However, the main issues raised are mostly related to the use of the system for assessing quality of a single programme or institution via a single final score,
or the lack of a reference criterion for accreditation. Albeit SINAES/ENADE
does have several limitations and issues of validity (or lack of evidence in that
direction), for aggregates of institutions, grouped according various criteria,
the system provides very useful information. For example, using the data for
all the engineering programmes, for which results are available up to 2008, it
is possible to develop a detailed map of where the system is going, which
areas have quality issues, which group of institutions are doing well and, if the
system is expanding via better qualified programmes or not.

As a simple example, taken from a study developed at Unicamp for the
Brazilian Oil Company (Petrobrás) on programmes related to the oil and gas
industry, it may be seen that most of the better qualified programmes, in
terms of last-year students’ performance, are found in the public sector.
Table 1 presents the number of final-year students in engineering
programmes, according to their distribution in ENADE’s 1-5 scale (5 is highest
level of performance), for public and private institutions.

Table 1. Number of final-year students enrolled in engineering programmes,
by ENADE’s specific area test score, 2008

<table>
<thead>
<tr>
<th>ENADE test score</th>
<th>Public</th>
<th>Private</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>2 217</td>
<td>132</td>
<td>2 349</td>
<td>9.2</td>
</tr>
<tr>
<td>4</td>
<td>3 430</td>
<td>1 422</td>
<td>4 852</td>
<td>18.9</td>
</tr>
<tr>
<td>3</td>
<td>3 525</td>
<td>4 073</td>
<td>7 598</td>
<td>29.6</td>
</tr>
<tr>
<td>2</td>
<td>2 244</td>
<td>6 565</td>
<td>8 809</td>
<td>34.3</td>
</tr>
<tr>
<td>1</td>
<td>479</td>
<td>1 564</td>
<td>2 043</td>
<td>8.0</td>
</tr>
<tr>
<td>Total</td>
<td>11 895</td>
<td>13 756</td>
<td>25 651</td>
<td></td>
</tr>
</tbody>
</table>

Source: Compiled using ENADE 2008 data: INEP (2008), “Resultados do ENADE”, Ministério da Educação,

The table shows that more than 90% of students in programmes that scored
5 were enrolled in public institutions, and that the large majority of those enrolled
in programmes that scored 1-2 (considered “poor” by Ministry’s standards) were
graduating from private institutions. Looking at this result in tandem with the
statistic that in the last 10 years, most of the growth in enrolment in engineering
programmes has occurred in private institutions, there is cause for concern by
authorities, employers and the students themselves.

The future of SINAES and of other learning outcomes assessment
systems

The evidence provided thus far suggests that using SINAES/ENADE as a
regulatory/accreditation instrument, given the various issues regarding the
validity of results in that context, is problematic. It is still too early for a full
and final verdict, however. It may be argued that it is at least a valid
instrument to indicate which areas and sectors need more government control/regulation and which need support and more detailed evaluation. There is need for change: the scoring system should use a “criterion-referenced” methodology; otherwise, the accreditation procedure makes no sense. In addition, the various indicators should not be used to compute a “final” score. A more complex multidimensional scoring system would not only be more valid, but also more useful.

At the VI Meeting of the Brazilian Association of Educational Assessment, in 2011, Schwartzman presented a paper with the title “Beyond SINAES” (Schwartzman, 2011). After presenting a very good analysis of the system, it concludes with several recommendations, a few which are presented here:

- keep the different indicators separate, to avoid integrating them in a totally obscure final score that has very little practical use beyond ranking programmes and institutions;
- include indicators that relate the programmes to the labour markets;
- develop indicators that respect the diversity of institutions and programmes;
- prepare reports that use the information in a way that the general public would be able to understand the main issues under evaluation and what the indicators actually mean; and
- remove the whole system from the Ministry of Education and create an independent agency to deal with evaluation and accreditation processes (avoiding a conflict-of-interest situation, since the whole federal system of HEIs are run by the Ministry itself).

The future of an international learning outcomes system certainly hinges on the AHELO feasibility study’s findings. It may well be that the whole idea will be abandoned, but this is doubtful. Most likely, a variety of systems will continue to coexist, including the student-survey approach, as exemplified by SERU, mentioned in the validity section, that has a growing participating international community of institutions. These two basic methodologies, learning outcomes assessment based on tests and student-based surveys, are actually complementary to each other. Ideally, a programme, institution or system would greatly benefit from having data from both systems available, in order to look for directions and approaches to improve quality of service. National HEI quality assessment systems, such as the SINAES, should closely follow all the results from the AHELO pilots and use these to adjust their own systems to alleviate or ameliorate weaknesses and gaps.
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Notes


2. Starting with the 2011 edition of ENADE, only final-year students took part in the exam.

3. When the system was initially adopted, a sample of students of each programme participated in ENADE. Starting in 2010, it adopted the census design.

4. Souza (2006) presents evidence in that direction, even for the specific area part of the test, for the accounting programs.
5. Law is an undergraduate program in the Brazilian system, one of the largest, with almost 700 thousand students enrolled in 2010, corresponding to almost 13% of all undergraduate enrolment in Brazil that year.

6. These numbers refer to students enrolled in on-site regular undergraduate programmes; distance-learning programmes are also experiencing a fast growth period, and there are already almost 1 million students enrolled in such programmes, most of them offered by for-profit institutions. SINAES has developed an evaluation system for those programmes as well.

7. This was the situation at Unicamp and the Federal Universities of Brasília, São Paulo and Bahia.

References


Quality assurance in higher education in 20 MENA economies

by

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The last decades have witnessed an increased concern in higher education over accountability, quality and productivity, and a struggle to meet increasingly complex challenges. This is more so in Middle East and North African (MENA) economies that witnessed a large expansion as a result of a high social demand and massification policies adopted by governments in public institutions. These policies also allowed the private sector to expand to meet the increasing demand. As a consequence, higher education institutions were faced with serious challenges related to quality because the quantitative expansions took place at the expense of quality (UNESCO, 2010). Although 14 out of 20 MENA economies established national bodies for quality assurance and accreditation, quality issues are still challenging higher education institutions in the region. The author presents the achievements, challenges and issues in quality in higher education in the region. She also briefly presents several international organisations’ initiatives and perspectives on quality in higher education in the region, and attempts to propose a set of suggestions and recommendations to move the systems to higher standards that are compatible with international ones.

This paper covers the following 20 economies in the MENA region: Algeria, Bahrain, Djibouti, Egypt, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, the Palestinian Authority, Qatar, Saudi Arabia, Somalia, Sudan*, Syria, Tunisia, United Arab Emirates, Yemen. Please note that wherever the term “the region” is used in the article, it refers to these economies.

* This paper was written before the independence of South Sudan.
Les dernières décennies ont été marquées par une préoccupation accrue dans l’enseignement supérieur portant sur la responsabilité, la qualité et la productivité et une lutte pour relever des défis de plus en plus complexes. Ceci est d’autant plus vrai dans les économies du Moyen-Orient et de l’Afrique du Nord (MENA) qui ont connu une expansion massive à la suite d’une forte demande sociale et de politiques de massification adoptées par les gouvernements dans les institutions publiques. Ces politiques ont aussi permis au secteur privé de se développer pour répondre à la demande croissante. En conséquence, les établissements d’enseignement supérieur ont été confrontés à de graves défis liés à la qualité car les expansions quantitatives ont été privilégiées au détriment de la qualité (UNESCO, 2010). Bien que 14 des 20 économies dans les régions de la MENA aient mis en place des organismes nationaux d’assurance qualité et d’accréditation, les enjeux liés à la qualité constituent toujours un défi pour les établissements d’enseignement supérieur de cette zone. L’auteur présente les réalisations, les défis et les enjeux de la qualité dans l’enseignement supérieur de la région et expose brièvement les initiatives et les perspectives de plusieurs organisations internationales quant à la qualité de l’enseignement supérieur dans la zone et tente de proposer un ensemble de suggestions et de recommandations pour faire évoluer les systèmes vers des normes plus élevées et compatibles avec les standards internationaux.

Cette article couvre les 20 économies suivantes de la MENA : Algérie, Royaume de Bahreïn, Djibouti, Égypte, Jordanie, Koweït, Liban, Libye, Mauritanie, Maroc, Oman, Autorité palestinienne, Qatar, Arabie saoudite, Somalie, Soudan*, Syrie, Tunisie, Émirats arabes unis, Yémen. Lorsque le terme « the region » est utilisé dans l’article, il se réfère à ces économies.

* Cet article a été écrit avant l’indépendance du Sud Soudan.
Introduction

Quality assurance refers to review procedures undertaken by higher education institutions that are designed to safeguard academic standards and promote learning opportunities of acceptable quality for students. This paper presents an overview of the state of affairs of quality assurance (QA) mechanisms in higher education institutions (HEIs). It will outline the major developments and the stakeholders involved in the various QA mechanisms and then summarise the achievements accomplished. It concludes by identifying the challenges and the opportunities for advancement with special emphasis on matters related to the quality of higher education.

Higher education in Middle Eastern and North African (MENA) economies

Higher education in the region witnessed great expansion in the last decade in both the number of institutions and enrolment rates. This expansion is partly due to the demographic reality of a larger youth population, often referred to as the “youth bulge”, but also to the rise in social demand for higher education and the reform initiatives and explicit policy changes undertaken by governments. Nearly all economies in this region underwent reform of their higher education systems in the name of global economic competitiveness, yet they pursued distinct models of reforms with different implications for the role of the government in structuring youth opportunities (Buckner, 2011).

Most of the economies in the region focussed on improving access and quality to HEIs and on emphasising the importance of establishing a knowledge economy to increase global competitiveness. Public education is the most common model of higher education systems, with the exception of Lebanon and the Palestinian Authority. In addition, there has been a trend for an increase in the number of privately based systems. Thus, the types of higher education have become more diverse with non-government funded HEIs growing substantially, along with foreign universities or partnership programmes with foreign universities.

Buckner (2011) identified three reform strategies in the region: neoliberal, quality assurance and imported internationalisation, based on the extent to which economies in the region are privatising the provision of higher education at different levels and the types of private institutions being
established. Sub-groups of these economies pursued different reforms, some focusing on increasing access, while others on enhancing quality or on creating elite international institutions.

**Neoliberal model**

Neoliberal reforms aim to expand access to higher education while offsetting costs to consumers and the private sector. This includes the establishment of private universities and programmes, such as “open learning” and “parallel learning”, whereby students pay small fees to study programmes for which academic standing alone was insufficient qualification (i.e. qualifications are relaxed to allow entry). Jordan, Syria, Egypt and Tunisia have applied this model with varying degrees of success leading to the question of why such reforms take hold in some economies, but not others.

**Quality assurance**

The Maghreb economies of Tunisia, Algeria and Morocco emphasised the importance of the government in providing higher education while pursuing strategies to strengthen the internal and external efficiency of tertiary education. In addition, the ministries of higher education in these economies have recently pursued large-scale quality assurance programmes, inspired by the Bologna process, by restructuring degree requirements to accord to a Bachelor – Masters – PhD system. This approach attempts to align the higher education curricula with European models to permit the mobility of qualifications and labour cross-nationally.

**Imported internationalisation**

To bring prestige and international acclaim, the Gulf States have adopted an “Americanisation” model, whereby modernising higher education systems has taken the form of extensively privatising the provision of higher education and also establishing extensive international partnerships with American and British universities (Mazawi, 2005).

**Achievements of a decade of higher education**

Due to huge efforts exerted by economies in the region, many achievements were realised in the 2000s, which have changed the features of higher education in the region. These achievements are mostly in the domains of educational opportunities and the quality of education. However, they differ from one economy to another according to prevailing socio-economic and political conditions (El Amin, 2009).
Educational opportunities

An increase in educational opportunities, diversification of HEIs and an increase in their number and geographical spread has significantly changed enrolment figures. Enrolment in higher education showed an increase of 117% (after controlling for population increase), and the gross enrolment ratio (GER) increased from 18% to 22% on average for the region over the five-year span from 2007-12. Some economies have a GER exceeding 40% while in others, it is less than 20%, revealing great disparities (El Amin, 2009). Female enrolment has also increased with a gender parity index (GPI) equalling one, on average, with several economies exceeding parity. There was also a considerable expansion in the number of higher education institutions, as the number of universities has more than doubled in the 2000s, with considerable diversity in the features of these institutions.

Quality of education

Fourteen economies have established national commissions or committees for accreditation and quality assurance and others are underway in their efforts to establish such structures. Furthermore, some universities have started a self-assessment process, while others have sought accreditation by international accreditation agencies (Arafeh, 2009). Faculty qualifications have witnessed an improvement with 60% of professors holding PhD degrees, although the majority focus on science and technology disciplines (Mohammad Bin Rashid Al Maktoum Foundation, 2011).

Other achievements

Relative to the amount of gross national product spent on education, the economies in the region compare very well with international standards and there is a continued trend toward increased higher education budgets. Substantial new education projects by both the public and private sectors have been launched and the trend is for more four-year universities, technical institutes and fewer university colleges (Mohammad Bin Rashid Al Maktoum Foundation, 2011).

Attempts at quality assurance in the region

There are several initiatives towards the formulation of national and inter-Arab QA systems. These efforts were motivated by the desire to strengthen collaboration and co-operation in quality assurance among the economies in the region. At the United Nations Education Science and Cultural Organization (UNESCO) Arab Regional Conference on Higher Education, Beirut 1998, the Arab ministers agreed on a “resolution calling for the establishment of a regional mechanism for quality assurance and
accreditation under the auspices of the Association of Arab Universities...” (UNESCO, 2003). Similar efforts were made at other Arab Summits, with a feasibility study on the forms of co-operation for QA in higher education in the economies in the region, published in 2008, recommending the creation of an Arab Establishment for Programme QA (AEPQA). The proposed AEPQA was to have a supervisory and funding board of trustees, a managerial executive office and facilitating commissions, including a capacity building commission. It was to start with education, business administration, agriculture and architecture programmes. The Arab League Educational, Cultural and Scientific Organization (ALECSO) published its plan for developing education in the region in 2008 in which it called for setting standards for quality and academic excellence (Arafeh, 2009).

There were several similar and overlapping initiatives at the regional level. The Association of Arab Universities (AArU) had produced institutional framework guidelines for self and external assessment, measurements and general conditions for assessment and accreditation and established the Arab Council for QA. The Arab Network for Quality Assurance in Higher Education (ANQAHE) was launched in 2007 as an independent, non-profit, non-governmental organisation established in association with the International Network for Quality Assurance Agencies in Higher Education (INQAAHE). The ANQAHE works in connection with the Association of Arab Universities and serves as a platform to exchange information, disseminate knowledge and improve professional expertise of the national quality assurance agencies, to enhance the collaboration between similar quality assurance organisations in the region, as well as to develop co-operation with other regional and international quality assurance networks (www.anqahe.org). In addition, a network called the Arab Quality Assurance and Accreditation Network “ARQAANE” was established in Belgium in July 2007, as an independent, non-profit organisation aimed at raising the quality of higher education in the region and co-operation between the Arab Quality Assurance and Accreditation Networks. These networks are intended to complement the national quality assurance frameworks for the recognition of qualifications (both domestic and international), institutions, courses and programmes and also to assist the creation of a national register for institutions, programmes and courses (Zand and Karrar, 2009).

International donors have also contributed to promoting higher education QA. These include the World Bank funded higher education projects in Egypt, Tunisia, Palestine and Morocco. In partnership with UNESCO, the World Bank has launched a Global Initiative on Quality Assurance Capacity (GIQAC) to support higher education in developing economies. The GIQAC project supported policy dialogues between all QA regional initiatives and a scoping study to define the needs of the national QA
organisations. The UNDP higher education (subject assessment) project, using the British Quality Assurance Agency’s guidelines for the enhancement of QA and institutional planning, targeted universities in 14 economies in the region; 73 programmes were reviewed in computer science (15 universities), business administration (16 universities), education (23 universities) and engineering (19 universities). Furthermore, the project has generated regional agendas for academic reform, and has built QA regional capacities of experienced peer reviewers. The British Council funded a regional QA activity in the Near East and North Africa (NENA) aimed at producing common guidelines to facilitate developing regional standards and subject benchmarks to redesign the curriculum, develop approaches to learning/teaching and assess student performance against desired learning outcomes. The German Academic Exchange Service (DAAD) has also been active in the region with activities that focus on international dialogues via conferences, visits and professional training in self and external evaluation and capacity building.

Higher education challenges in the region

A review of literature on higher education in the region reveals that these economies have scored achievements, launched many initiatives, authored policies and legislation, carried out projects and planned for new projects. However, “taking stock” highlights that higher education continues to face many challenges, which are disparate in terms of their importance and depth and, thus, require huge efforts if they are to be overcome successfully (El Amin, 2009). The following sections outline these challenges with a special focus on the ones related to quality.

Educational opportunity challenges

Despite increased enrolment (up 24% in 2011), which is higher than developing economies yet lower than developed economies, economies in the region ranked sixth out of all world regions. Although there has been an increase in female enrolment, this has been accompanied by a drop-off in male enrolment. Economies in the region graduate a disproportionately higher number of students in the arts (46%). Moreover, 92% of graduates hold bachelor’s degrees while only 8% hold Master’s or PhD degrees (UNESCO, 2010). Average spending per student is around USD 2 500 while the average is around USD 14 000 in OECD member countries.

Quality of education challenges

Perhaps the most difficult challenges are those pertaining to the quality of education; which is a multidimensional concept that includes several components, as defined at the World Conference of Higher Education
Quality of education includes teaching, programmes (curricula), research, staffing, students, infrastructure (buildings, facilities and equipment), services to the community and the academic environment. It can also include QA mechanisms such as internal self-evaluation and external reviews of both governmental and private higher education institutions, as well as the establishment of independent national bodies.

Curricula

With respect to curriculum quality, there is a consensus that it is weak due to factors such as out-dated content, which among other things, lacks relevance to development needs and those of the labour market (El Amin, 2009; Arafeh, 2009). In fact, there is a mismatch between market needs and higher education foci with 46% of graduates in arts, only 18% in business and 37% in science and technology, although the latter two are in great demand. Moreover, graduates’ academic standards in terms of language, mathematics and critical thinking are weak. There is a lack a culture of lifelong learning with a low rate of students beyond the age of 29 in higher education. In contrast to international best practices where education is integrated with social development to increase community engagement, efforts in the region have centred on raising public awareness of these issues rather than implementing key changes in the curriculum or community (Mohammad Bin Rashid Foundation, 2011). In addition, HEIs are not providing sufficient levels of leadership development opportunities through extra curricula activities and curricula enrichment.

Student assessment

Student assessment practices are weak because of emphases on memory recall of knowledge rather than practices that assess higher-level cognitive skills; which reflects a teaching culture that is inadequate to prepare students for the critical thinking skills necessary to compete at the same level as graduates from higher quality HEI systems. Internal or external mechanisms for ensuring transparency and fairness of assessment practices are also absent. Student support systems are not strong and targeted support for various special needs students is sparse and unreliable. Quality assurance and enhancement systems at the institutional level are still in the minority and a culture of quality assessment in which annual feedback, evaluation and monitored actions plans are the norm has not yet evolved.

Faculty

The faculty of HEIs are characterised by many shortcomings. The need for professional development and skills-based training, especially in technology and participative-teaching techniques, is widespread throughout the region.
Largely, teaching is didactic with no emphasis on students becoming independent learners and critical thinkers. The lack of a tenure system does not reward faculty performance and full-time engagement in academia; in turn, this affects the development of a research culture and knowledge production. This is aggravated by the reality that many universities do not have sufficient institutional resources for teaching and research. A problem of particular concern for universities teaching in Arabic is the limited choice they have in terms of available textbooks, journals and the shortage of teaching materials.

**Governmental roles**

Governments have a vital role in some of the educational progresses made in the last decade, but they have not embraced issues of quality. The centralised education systems are organised to facilitate quantitative expansion rather than performance-oriented systems with emphasis on quality and continuous improvement. Moreover, the governments lack experience in policy and strategy development as well as in planning and management of higher education systems (Mohammad Bin Rashid Foundation, 2011). Ministries imposed unnecessary rigid controls and their higher education policies do not promote integrated, decentralised decision-making, and greater efficiency (UNDP, 2006).

Despite the establishment of national quality assurance associations in most of the region, there is no regional higher education authority to ensure standards. Additionally, there are major flaws in the establishment of these bodies. Primarily, the overwhelming majority of them remain oriented toward the “accreditation” of private universities, which is classified as quality control more than quality assurance. Second, they all remain in a transitory phase and have yet to arrive at an independent, integrated structure or one that enjoys authority or moral value in the entire sector, compared to their advanced counterparts in the world. None of them has become an independent institution with moral authority and a significant impact on governmental education institutions, and their criteria do not become an intrinsic part of HEI policy or management of higher education. In many cases, they have become part of the bureaucratic system, in terms of work mechanisms; and, at times, they have become bureaucratic arms for monitoring quality at private sector institutions and punishing institutions that are violating the regulations in force (El Amin, 2009).

**Conclusions**

A 2008 World Bank report on the region noted that “While the countries here invest a higher proportion of their gross domestic product on education
than other regions in the world, the region continues to face challenges in developing a high-quality education system at all levels and promoting life-long learning and training that responds to the needs of the labour market.” (World Bank, 2008)

This paper has charted some of the major efforts to address these challenges, but six years after the report, it is clear that despite efforts, tangible achievements are few, especially in the area of improving the quality of education. Moreover, although there have been several national and regional initiatives to instil QA policies and mechanisms, they have not been implemented (i.e. exist in documentation but not practice) or are either partially implemented or fledgling at best. Generally, the efforts exerted by economies in the region in this domain are insufficient in today’s world of knowledge, competitiveness, rapid transformation and the increased demand for tertiary education to meet the needs of a global knowledge society.

**Recommendations and future directions**

The tertiary education system in the region is under great pressure as it faces several threats, especially: a) the young demographics of the Arab population, with 56% in the 20-29 age bracket, as compared to 25% in OECD economies; b) dwindling resources and, consequently, less spending on higher education, and c) a brain drain with an estimated 85% of PhD holders not returning to the region.

Accordingly, the region should work on launching interventions that would yield quick results through high-impact initiatives in the following domains:

a) enhancing human capital and skills of faculty and staff in higher education;
b) investing infrastructure and resources;
c) strengthening collaboration and connectivity; and
d) improving the quality of courses, assessment methods, programmes offered and the curricula.

More specifically, strategies that can be adopted include:
a) Offsetting financial needs of the education system through cost recovery, outsourcing to the private sector and other best practices.
b) Increasing international universities with branches in the region and establishing new private universities that endorse students’ development of 21st century skills.
c) Revisiting academic programmes and curricula – this is necessary so that intended learning outcomes reflect international requirements with greater emphasis on higher cognitive skills such as evaluation, critical analysis and synthesis.
d) Adopting a pro-active approach to staff training and development for teaching, learning and assessment.

e) Virtual networking and collaborations among institutions and academics, including linkages to Arab academics abroad. This will help in establishing needed external benchmarks against which to judge institutional performance.

f) Formalising and institutionalising quality assurance and enhancement systems.

g) Adopting the use of modern technology to upgrade skills and capabilities.

h) Increasing chances for student participation and leadership development (in addition to developing their evaluation and critical analysis skills). Instructional methods that engage students in classroom experience should be leveraged and curricula enrichment and extra-curricular activities should be initiated.

i) Improving student support systems.

j) Improving teaching and learning resources in Arabic and supporting the enhancement of language skills.

k) Establishing and supporting scholarly societies to enhance research structures.

l) Enhancing governments’ capabilities in strategic planning and management of higher education.

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Reconciling organisational culture and external quality assurance in higher education

by

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Organisational culture and external quality assurance have both been presented as significant drivers of effectiveness, efficiency and excellence in higher education institutions. However, these assumptions have not been critically examined given the philosophical, conceptual and methodological contestations surrounding both constructs. A meta-theoretical analysis of organisational culture and external quality assurance was conducted followed by an empirical study into their interrelationship. The study found that organisational culture was ephemeral, multidimensional and characterised simultaneously by conflict, consensus and indifference and was in a constant state of flux. In addition, external quality assurance appears to have purposes that go beyond its stated morally just and public good motives. The research revealed that organisational culture demonstrated managerial, collegial, transformative and political characteristics, which closely resonated with the role of external quality assurance as an agent of control, empowerment, transformation and of the state, respectively. The study concluded that authentic and enduring academic quality would most likely result within the university when the empowerment and transformation roles strengthen the collegial and transformative cultures.
Réconcilier culture organisationnelle et assurance qualité externe dans l’enseignement supérieur

par

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La culture organisationnelle et l’assurance qualité externe ont toutes deux été présentées comme moteurs importants de l’efficacité et de l’excellence des établissements d’enseignement supérieur. Cependant, ces hypothèses n’ont pas été examinées de façon critique au vu des contestations philosophiques, conceptuelles et méthodologiques soulevées par ces deux concepts. Une analyse métathéorique de la culture organisationnelle et de l’assurance qualité externe a été réalisée, suivie d’une étude empirique sur leur corrélation. Cette analyse a révélé que la culture organisationnelle est éphémère, multidimensionnelle et caractérisée simultanément par les conflits, le consensus et l’indifférence de même qu’elle se trouve en mutation constante. En outre, l’assurance qualité externe semble avoir des objectifs qui dépassent ses motifs déclarés justes moralement de recherche du bien public. La recherche a révélé que la culture organisationnelle possède des caractéristiques managériales, collégiales, transformatrices et politiques, étroitement liées au rôle de l’assurance qualité externe en tant qu’agent de contrôle, de responsabilisation, de transformation et partie prenante de l’État, respectivement. L’étude conclut que la qualité académique authentique et durable se produirait plutôt au sein de l’université lorsque les rôles de responsabilisation et de transformation renforceront les cultures collégiales et transformatrices.
Introduction

Organisational culture and external quality assurance in higher education have both drawn significant attention to their promise of greater organisational effectiveness and efficiency resulting in improved quality in higher education. In recent years, they have been linked by an assumption that an organisational culture that is amenable to change would be more receptive to the introduction of formal internal and external quality-assurance structures, systems and instruments, as these are aimed at effective and efficient higher education practices, processes and outcomes (Sahney et al., 2004).

It has been posited that culture is a critical component in understanding the process of implementing planned change in universities and colleges (Keup et al., 2001). However, it has also been observed that although organisational research has focussed on the impact of organisational culture on many aspects of organisational life, little empirical research has been conducted on how organisational culture affects change processes and strategies (Kezar and Eckel, 2002).

With regard to external quality assurance (QA), the national agencies have been at pains to point out that they have no desire to create a culture of compliance within higher education institutions (HEIs) with their external quality regimes. Rather, they are motivated by a public-good rationale to improve the quality of those institutions and indicate that there are multiple beneficiaries in a peer-driven, objective assessment of the institutions' quality arrangements for its core functions. It is therefore, their desire to encourage the development of a culture within universities that is characterised by the will to take quality matters seriously (Barnett, 2003).

However, the commonly held assumptions mentioned above have not been sufficiently tested given the philosophical, conceptual and methodological controversies and contestations surrounding organisational culture or external QA mechanisms (Parker, 2000, Morley, 2003). While organisational culture has been subject to some degree of meta-theoretical scrutiny (Martin, 2003), external quality assurance in higher education has not enjoyed the same level of analysis.

This paper reports on an investigation into two taken-for-granted assumptions: first, that organisational cultures are homogenous, unitary and
centred around shared values and could therefore easily be manipulated (usually from the top by management); and second, that the introduction of external quality assurance is an unproblematic technology that will be accepted without question by HEIs as it was premised upon the laudable aim of improving the quality of those institutions.

Research methodology

A theoretical framework based on Burrell and Morgan’s (1979) typology of sociological paradigms was developed in order to advance the understanding and knowledge base of organisational culture and external quality assurance in higher education by bringing both constructs onto the same analytical plane. The meta-theoretical assumptions consequently underpinned the frame of reference, mode of theorising and corresponding research methodology (Parker, 2000).

Since the aim of the research was to examine how organisational members in an HEI sought to assign meaning to externally driven quality assurance, the philosophical assumptions underpinning the research design resonated with that of interpretive research and the advocacy and activism elements of critical theory, rather than with post-positivism.

A qualitative approach was considered prudent for this study, as it was situated in a specific context of a real world, organisational setting, namely a newly merged HEI. As there has been very little research examining the relationship between organisational culture and external quality assurance in HEIs and because of the absence of recognised theory to provide variables to be tested quantitatively, this study was exploratory and its findings were more relevant for its context and for theory building.

As the research focussed on a merged, large (in excess of 30 000 students), public higher education institution with a predominant under-graduate programme offering and selected post-graduate masters and doctoral programmes, located in an inland province of South Africa, the case study was considered the most appropriate approach in order to uncover and gain access to information and insights previously hidden and consequently posit theoretical propositions about the up-to-now under-theorised and un-problematised relationship between organisational culture and external quality assurance in HEIs.

Purposeful stratified sampling was used to ensure that the voices from all the academic occupational categories were heard. Informants were limited to the academic occupational categories, as the external quality audit focussed mainly on the institution’s core functions of teaching and learning, research and community engagement. Purposeful random sampling was then used to identify informants from within the categories mentioned above. The primary data-collection method used in the study was the semi-structured interview.
A three-dimensional model was used comprising the Tierney (1988) cultural framework, and the modified cultures of the academy of Bergquist and Pawlak (2007) and the adapted four sociological perspectives of Burrell and Morgan (1979) were developed to enable data analysis.

The Nvivo 8 software was used to manage, code, search, analyse and present the data collected from the interviews. Tree nodes using Tierney's (1988) model, namely environment, vision and mission, socialisation, information, strategy and leadership were created to attach relevant data chunks. A coding query using the occupational category cases as the rows and the Tierney (1988) categories as the columns of the matrix was run to look for patterns in the data.

A model was created for each of the cultural framework's categories and themes within categories were identified to enable a comparative study across the occupational categories to identify commonly recurring themes and thereby posit propositions about the nature of the relationship between organisational culture and external quality assurance.

Findings

The four perspective elements of the data analysis model provided the analytical framework to examine and subsequently synthesise the literature on both constructs. Similarly, the amended four cultures of the academy, namely the i) transformational, ii) collegial, iii) political and iv) managerial cultures, which were embedded in their respective theoretical homes within the data-analysis model, were used to synthesise the research findings. In line with the pragmatic and pluralist, rather than the mutually exclusive use of perspectives, the amended cultures of the academy were similarly used in a suggestive manner to present a synthesis of the findings given the complexity of the organisational world as well as the premise that such cultures are constantly in a state of flux and renegotiation.

The managerial culture

The managerial culture, embedded in the functionalist perspective, found expression in the desire by management for the institution to give a good account of itself. In addition, it was claimed that as the institution had nothing to hide, the external quality-assurance audit would and should be welcomed. The external quality-assurance audit would also provide the impetus for the management to “shake things up”, serve as a wake-up call for so-called lazy academics and be used as an opportunity to get rid of those staff that were perceived as not adding value to the institution.

The last assertion was a particularly insightful indicator of the managerial culture, as it suggested that there was only space for those members...
who subscribed to this culture, and whose behaviours fell in line with management-defined values. A further link to the managerial culture lay in the belief that external quality assurance and accountability were inextricably linked and that the institution was obligated to demonstrate that it spent taxpayers’ money prudently by, among other things, instilling a more committed work ethos among the staff.

While there appeared to be consensus regarding being held accountable for one’s actions, the question of accountable to whom and/or to what emerged quite strongly. The external quality-assurance exercise appeared to tacitly privilege accountability towards central management and the national policy agenda rather than towards the academy, which should have been the case in any endeavour that purports to improve quality in higher education.

The most compelling indicator of the managerial culture was the belief that a key outcome of external quality assurance would be the introduction of a new bureaucracy and increased centralised managerial controls. In pointing to the efficiency and value-for-money dimensions of quality, it was suggested that the primary beneficiary of external quality assurance would be management, as the academics would have to do more with less.

Furthermore, it was argued that external quality assurance alluded more to a quality “management system” rather than one that aimed at improving teaching and learning. The managerial effective and efficiency dimensions were not rejected in their entirety; it was rather argued that this should be declared upfront as the primary rationale of external quality assurance instead of camouflaging it within the improving the quality of teaching and learning discourse. Despite perceived threats to academic freedom and potential loss of institutional autonomy, the question as to why management would embrace the external quality-assurance audit, almost without question, arose. The reasons probably lay in the belief that the external quality-assurance exercise strengthened the hand of management to centralise control over the institution by moving the locus of influence and control over academic matters from the academics to management.

The external quality-assurance audit therefore appeared to support the centralisation of managerial control and by implication tacitly strengthened the managerial culture within the institution. The findings point to an interesting dynamic on how this manifested within the institution. First, the management of the newly created institution sought the validation of the external quality assurance of their academic offerings to uphold their standing within the higher education community and in the public eye.

Second, external quality assurance could also compensate for a lack of credibility capital in the current leadership by generating findings that appeared to vindicate and validate the managerial strategy and choices. While
a poor audit report was also possible and had the potential to damage the existing management, it was found that a carefully stage-managed self-assessment and subsequent theatrical performance during the audit visit would ensure that only relatively minor shortcomings would surface while the more fundamental weaknesses would be kept from the review panel. This would ensure that a very critical report would be highly unlikely.

The weakness of the current external quality-assurance methodology, whereby a panel conducts a visit over a week merely to validate claims made in the self-evaluation report, was advanced as a reason for ensuring that the true state of affairs would in all probability be rarely uncovered. In addition, the lack of formal sanctions following negative external quality-assurance outcomes indicates there would be little motivation to bring about fundamental change. It would therefore seem that external quality assurance, despite its supposedly noble intentions, strengthens the hand of central management by demanding accountability to the institution and ensuring alignment and loyalty to the management-determined vision, mission and goals. Moreover, it provides management with a tool to ensure compliance with an unitary set of values and beliefs; in other words, the fostering of a functionalist managerial culture.

The political culture

The political culture, taking its cue from developments in the wider socio-economic context, highlighted an acute awareness of the need to transform existing relations and arrangements. External quality assurance, especially in societies in transition, is often justified as an instrument to steer higher education towards fulfilling the state’s social and political agenda. The political culture, located in the radical functionalist perspective, suggests that society is characterised by fundamental conflict and that radical change often follows political and economic crises, such as the one experienced in South Africa after 1994.

The inference here is that the culture of the organisation would reflect the class (and other) struggles that occur within the larger socio-economic context of that organisation. Within the organisation, the political culture recognised the need for change on a similar magnitude, and it was argued that the organisation had not sufficiently “transformed”, which was taken to mean that it had not adequately operationalised the national employment equity and affirmative action legislation policies.

The political culture pointed to the inevitability of the organisation’s alignment with the predetermined national policies, even if those policies may or may not be congruous with advancing the quality of their core business. Despite acknowledging that not all role players would buy into the
singularity of the national policy agenda, the institution would nevertheless have to align its strategy to that agenda, since external quality assurance, together with state control over funding and the institution’s programme and qualification mix, would ensure institutional compliance. It was found that external quality assurance was interpreted as an instrument to force the higher education sector into a predetermined fit and that its legislated status as well as its seemingly moral authority would silence criticism, let alone any form of formal dissent. The assertion was that the unequal power relation that existed between the state, the external quality agency and the institution left little room for the institution to manoeuvre.

The findings underscore the observation that while the political and the radical structuralist perspectives appear to be motivated by a “progressive” agenda to transform entrenched structural inequalities, the potential for replacing one form of domination with another still remains. Whereas previous oppressive systems, such as apartheid in South Africa and totalitarian regimes in Eastern Europe, were overtly suppressive, the newer forms of domination assume more sophisticated forms, by using euphemistic terms such as “steering” and “light touch” to disguise instruments of state control.

Despite these perceptions, there did not appear to be a sense of disempowerment within this particular institution. Indeed, the understandings of the various groupings of external quality assurance made them cognisant of the potential impact on their work and consequently raised their awareness to manage the intrusion of the external quality-assurance exercise accordingly. They internalised that open dissent and opposition to the external quality-assurance audit would be futile given its policy status and moral authority. Therefore, in protecting their traditional spheres of influence and to bring about change, they would resort to more subtle means, such as “surface engagement”, by creating the illusion of participation and acceptance, knowing full well that the complexity of the organisation would render attempts at centralised control somewhat futile and that they would therefore retain some measure of meaningful control over their activities.

The collegial culture

In contrast to the view of the organisation as an agent of an externally defined change, the collegial culture focuses on the organisational member and how that member understands the organisation. The difference between the collegial culture and the transformative culture is that in the former, the need for consensus, cohesion and solidarity at the level of the local actors would be elevated above that of the organisation.

Although there was a tacit acknowledgement that HEIs should in fact reflect the democratic mores of the post-1994 South African society, it was
questioned whether external quality assurance was the appropriate means to that end. The collegial culture argues that the improvement of the academic enterprise should be the core focus of quality initiatives in higher education. It should, however, be noted that, while the collegial culture aims for consensus and solidarity, the findings at this particular institution did point to “fractured” relationships among colleagues, as multiple agendas rendered so-called collegial relationships nearly impossible. A possible reason advanced for the lack of collegiality was the failure to manage the merger of the institution with sufficient care and sensitivity.

The findings indicated that there was a disconnection between the improvement of the quality of teaching and learning and the external quality assurance definitions of quality. In addition, the notion of “audit” was considered problematic because the focus was not on improving quality, but rather on complying with predetermined standards, which, given the complexity of the disciplines within the academy, may render the outcomes of the external quality-assurance exercise, as currently conceptualised, somewhat unconvincing and hollow.

Furthermore, reservations with the prevailing view that benefits from the external quality-assurance audit would automatically and by default accrue to the academy were also expressed, as there was little empirical evidence that supported the rationale and methodology of current external quality-assurance practices. It was noted that the methodology of external quality assurance was resource-intensive, especially with regard to the time and intellectual energy that had to be dedicated to the internal quality-assurance processes.

The inference here is that external quality assurance appears to have a large opportunity cost to organisational members, as they would have to redirect their attention and intellectual resources from their disciplines and core functions to another set of activities, which they had neither initiated nor in which they necessarily believed. While the efficiency aspects of external quality assurance were somewhat maligned, the “return on investment” and “cost-benefit” arguments were advanced to question whether external quality assurance would meaningfully improve the quality of interactions in the classroom.

Consequently, it was claimed that an illusion of participation would be created without any deep engagement and that, once the audit event had passed, attention would simply be focussed on the core business and life would go on as normal. Furthermore, the collegial culture interpreted accountability primarily in terms of their academic discipline or core function, rather than to the institution and/or any other external stakeholders.
The transformative culture

The transformative culture resonated to some degree with Harvey and Green’s (1993) notion of quality as transformation. In this definition, higher education develops students to be “adaptive, adaptable and transformative” (Warn and Tranter, 2001:191). The argument of the transformative culture is that for traditional modes of domination to be broken, higher education should develop students’ higher-order knowledge, skills and abilities to foster critical thinking and action. Tam (2001) extends this argument by calling for a fundamental change in form, cognitive transcendence and transformed self-image. In order to bring about such change in students, external quality assurance should be seen as empowering the academy rather than strengthening centralised control and perpetuating modes of managerial domination.

Given these noble and honourable goals with regard to the transformative culture, the findings were somewhat surprising. First, the findings indicated that conditions within the institution were not conducive to a transformative culture at the time the study was undertaken. It would appear that the internal organisational context prioritised and privileged the other cultures over the transformative culture. Second, external quality assurance, despite its democratising rhetoric and transformative discourse, seemed to favour and strengthen managerial and political cultures. The findings appear to support the assertion that the highest-order purpose of higher education, namely the transformation of student experience, was undermined by managerial and political imperatives.

Conclusion

The first and most obvious conclusion of the study is that the view of organisational culture as monolithic, homogeneous and unitary is a somewhat impoverished one, as the synthesis of the literature as well as the findings revealed. Rather, it should be considered as being more fluid than solid, multidimensional than singular, characterised simultaneously by conflict, consensus and indifference and in a constant state of flux. The point is that an organisation, especially one that has undergone fundamental change, cannot be said to have a so-called organisational culture that is easily amenable to manipulation, as several cultures may be said to be in existence at any given time.

Furthermore, attempting to use demographic tags, such as race, gender, social class or occupational category, to categorise membership of such cultures, is somewhat limited, as members coalesce around common issues or concerns and consequently cannot be categorised into fixed, immutable classificatory schemas. The implication is that organisational culture may not,
contrary to the popularly held view, be easily manipulated by managers in order to entrench or even direct actions and values towards a predetermined end. Therefore, the assertion that the creation of the right organisational culture by management is, often glibly, advanced as a precondition to advancing the organisation is somewhat spurious, as various groupings either endorse, reject or remain indifferent, depending on whether such efforts advance their cause or interests or not.

The second major conclusion is that external quality assurance is not necessarily a value-free and neutral exercise aimed at improving the quality of teaching and learning, as promised in its early conceptualisation and implementation phases. Even when its political agenda is explicitly articulated, especially in societies in transition, where the stated goal is linked to democratisation and advancement of communities neglected by previous regimes, the implementation and outcomes (intended and unintended) may not necessarily result in those seemingly noble and morally justifiable intents. The rationalised and championed position that external quality assurance is a mechanism to support the public good by ensuring that higher education fulfils its social and economic obligations in a manner that is effective and efficient appears to have universal resonance. The caveat, however, is that the transformation of student experiences appears to be relegated to a secondary goal to allow external quality assurance to facilitate the political goals of national states. The use of a sophisticated and seemingly morally justifiable and democratising discourse disguises the more insidious intents of external quality assurance.

The third major conclusion relates to the complex relationship between organisational culture and external quality assurance. A model, as shown in Figure 1, is perhaps the simplest method to deepen the understanding of this relationship. While organisational culture is not necessarily unitary, it does demonstrate characteristics that may be defined as managerial, political, collegial and transformative.

These are neither ideal-type cultures nor do they necessarily depict incommensurable polarities or fixed and immutable membership. They are to be used in a suggestive manner to indicate that these cultures may exist simultaneously, interact and influence each other constantly, and of course, determine interactions within the organisation and the nature of engagement with externally originated initiatives. The second feature depicted by Figure 1 explicates the different purposes of external quality assurance. This study has demonstrated that external quality assurance has purposes that go beyond its often morally just and public-good motives, as external quality assurance acts as an agent of control, empowerment, transformation and of the state.
As with the organisational cultures, external quality assurance plays these different roles simultaneously, though not necessarily to the same extent, tacitly and overtly. Finally, Figure 1 demonstrates that there is a connection between the different roles played by the different organisational cultures and external quality assurance. The figure does not indicate a correlational relationship; rather the qualitative findings demonstrate that the different purposes of external quality assurance resonates with each of the organisational cultures and strengthens the one to which it is most closely connected. The figure depicts that external quality assurance’s control agenda strengthens the managerial culture, the transformative agenda strengthens the transformative culture, the empowerment agenda strengthens the collegial culture and the state agenda strengthens the political culture.

The research findings from the case study demonstrated that the popularly held notion of organisational culture as homogenous, unitary and amenable to manipulation from above in the creation of a set of shared values is somewhat spurious. The findings indicate that multiple cultures coexist simultaneously and share a relationship that at times is consensual, conflicted or indifferent. While there are cultures that enjoy dominance, the others are not entirely disempowered, as they have the potential to exercise their resistance in subtle and covert ways.

The key point here is that organisational culture is not a fixed and immutable phenomenon, as it is constantly in a state of flux as the organisational members engage with internally and externally derived quality initiatives in ways that either confirm their dominant position or resist it in ways that minimise the impact of those initiatives on their preferred way of doing things. The second construct of the study, namely external quality assurance, was also found to be multidimensional with several layers of stated and unstated intents despite being championed by a democratising and public-good rhetoric. The findings indicate that the primary beneficiaries are the state and university management, as external quality assurance appears to drive an accountability agenda to national policy and central management.

This research attempted to address the gap in current thinking on the relationship between organisational culture and external quality assurance by demonstrating that neither, alone nor jointly, may achieve their lofty promise as potential panaceas to address specific challenges in higher education. Their limitations were found to reside in impoverished theorising and the lack of systematic research prior to making glib pronouncements of their potential benefits. The research has shown that fundamental and enduring change in higher education is largely contingent on the elevation of a transformative organisational culture and the transformation agenda of external quality assurance.
Figure 1. The relationship between organisational culture and external quality assurance

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Talent development as a university mission: The Quadruple Helix

by
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In this paper, the authors discuss the rationale behind making talent development at the PhD, post-doctoral and early career levels an equal fourth pillar of the university’s mission, alongside the more traditional pillars of the triple helix. Using Denmark and Aarhus University as a case study, the paper describes how increased institutional autonomy, and the critical mass that resulted from mergers, permitted organisational restructuring that supports the development of this talent strategy and its implementation.

The “quadruple helix” model at Aarhus University is intended to support strategies that involve multiple disciplines and cut across the four key missions of the university: research, education, knowledge exchange and talent development. Most importantly, the organisational model increases the university’s ability to address the challenges and opportunities of the global knowledge society while maintaining quality and expanding supply.
Le développement des talents comme mission de l’université : l’hélice quadruple

par
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Les auteurs de cet article débattent de la logique à l’œuvre derrière le développement des talents au niveau doctorat, postdoctorat et en début de carrière en tant que quatrième pilier de la mission de l’université, semblable aux piliers traditionnels de la triple hélice. En se servant du Danemark et de l’Université d’Aarhus comme étude de cas, l’article décrit comment l’accroissement de l’autonomie institutionnelle et la masse critique ayant résulté de fusions, a permis une restructuration organisationnelle soutenant le développement de cette stratégie de talents et sa mise en œuvre.

Introduction: Mission creep or grand vision?

In a reflection of the reality that universities are positioned at the nexus of knowledge creation, innovation, economic growth and education, in 2008 the Organisation for Economic Co-operation and Development (OECD) called for member countries to establish a grand vision for tertiary education (OECD, 2008). Significant reforms, such as the Bologna processes, to some degree respond to this call, but it is fair to say that the tertiary education sector is still in the midst of a sea change – the contours of which are still emerging. Establishing a “grand vision” in this context often means integrating a diversity of political, economic and social demands in the most practical way possible.

Aarhus University, like many others, finds itself needing to respond to multiple stakeholders, and to national, as well as European grand visions for tertiary education, including a vision of Europe as a magnet for research talent from around the world. The challenge has been to find a model for the university that would enable it to exploit the potential of mergers and new governance structures while meeting both internal and external challenges. Indeed, “Since universities’ internal governance arrangements are closely linked to their core activities and their value-base... it is unsurprising that this challenging external environment should lead to questions about internal change” (Brennan et al., 1999, paraphrased in Middlehurst, 2004).

Although the idea that Danish universities are more autonomous since the reforms is controversial (Christensen, 2010), statutory reforms over the past decade have resulted in increased flexibility and latitude for many universities, as organisations. For this reason, organisational case studies can be helpful to policy makers and higher education leaders interested to know how other universities have responded, as organisations, to the shifting landscape.

What principles have guided individual universities as they make optimal use of new governance and management structures? What actions have been taken in practice? Laying aside the birds-eye view of university reforms and labels such as “New Public Management”, the objective here is to offer a conceptual framework and an empirical example that will illuminate some “practical realities facing those that are to design and implement new governance structures” (Larsen et al., 2009:55), and the “hybrids and locally
influenced trajectories” of interest to higher education policy makers and managers (Paradeise et al., 2009: 242).

Over the 2000s, there has been an ongoing discussion of whether reforms of tertiary education would result in “mission creep”, indicating that universities would spend less effort on their traditional missions of education and research. This need not be the case. Focussing on a particular case will show how external demands for knowledge and skills can be transformed into institutional priorities that hold the potential of safeguarding and developing rather than undermining the academic core.

Background: The Danish university reform

Any analysis of university reforms and adaptation must necessarily take into account the specificities within each national context (see, e.g. Baker and Lenhardt, 2008 for a discussion of German higher education, Capano, 2008 on Italian reforms, Meister-Scheytt and Scheytt, 2005 for examples from Austria, or Eiseimon and Holm-Nielsen, 1995 for examples from developing and transitioning countries). In Denmark, a grand vision emerged over the 2000s that responds to Danish circumstances. Each reform is on par with changes in other higher education systems, but what is perhaps distinctive is the combination of several reforms and their internal consistency.

The first reform, a new University Act, was introduced in 2003. It focused on establishing university autonomy while at the same time ensuring accountability. The universities were converted to independent institutions governed by university boards composed mainly of external stakeholders. The board appoints the rector who is responsible for the day-to-day management and leadership of the university as well as the appointment of leadership at other levels. In short, the reform resulted in additional degrees of freedom and the adoption of a professional leadership model intended to enhance the capacity for decision-making and the development of distinct institutional profiles.

In 2006, the government adopted a national globalisation strategy based on an extensive analysis of Denmark’s strengths and weaknesses in the global economy. The subsequent reforms restructured funding for universities and increased public investments in research to 1% of GDP. An increasing proportion of public research funding has since been provided as competitive grants, and core funding is now based on output indicators, related educational activity and the quality and quantity of research.

The third major reform was a merger of universities and government research institutions launched by the government as a voluntary process in 2006/2007. Institutions were encouraged, but not required, to merge in order to increase international visibility, concentrate elite research and unleash the education potential of government research institutes. The university mergers
consisted of integration of government research institutions into the university sector and mergers between existing universities. In this process, Denmark went from 12 to 8 universities, while 9 government research institutions were integrated.

Aarhus University underwent significant changes during this time of mergers. In 2007, the university integrated two hitherto independent universities (Aarhus School of Business and Danish School of Education) as well as the two national government research institutions, one for environment and the other for agriculture. Recently, the process culminated with the merger into the University of Aarhus Engineering College. With these mergers, Aarhus University doubled its enrolment to more than 43 000 students over just a few years and was transformed from a one-campus institution to a university with multiple locations nationwide and a wider range of research and degree programmes. The annual budget more than doubled, from EUR 350 million to EUR 833 million in 2012.

The 2011 autonomy scorecard of the European University Association

The European University Association (EUA) gave Denmark high scores on organisational and staffing autonomy, and medium scores on financial and academic autonomy (Estermann et al., 2011). Hence, it appears that university reforms in Denmark in the period from 2003-08 created significant degrees of freedom. As will be argued below, such autonomy improves the conditions for universities to organise themselves in a way that allows them to respond to increased expectations from diverse stakeholders.

From Humboldt to the quadruple helix

Aarhus University is a case study in reorganisation that has taken advantage of the autonomy provided by national reforms to construct an integrated and competitive “quadruple helix” university. The quadruple helix is a four-part model that more fully develops and integrates talent development and enables the institution to broaden access while ensuring excellence – essentially combining mass with elite higher education.

From the beginning of the early 20th century until the post-WWII decades, Humboldtian ideas calling for strong ties between education and research resonated well with the arguments about the contract between science and society. Nevertheless, in the 1980s and 1990s, increased international economic competition called this taken-for-granted “ivory tower” role of the university into question. In the midst of these ideas, a university-industry-government relationship was sketched out. It was labelled the “triple helix” (Leydesdorff and Etzkowitz, 1996).
The ideas behind the triple helix affected universities considerably, and the triple helix model is still very prominent in universities around the globe. Yet a modern university is expected not only to deliver research results to industries and to society, but also a cadre of researchers. National innovation systems are strengthened by access to knowledge and talent internationally, and countries around the world are engaged in a competition for the best "brains". This is as much about adding to the talent base as it is about brain drain. In Sub-Saharan Africa and parts of Latin America, for example, evidence shows that the permanent migration of skilled labour erodes the human capital base and drains scarce resources (Holm-Nielsen, 2005; Thorn and Holm-Nielsen, 2008). In Denmark, the situation is not so acute, as young Danish researchers engage more in what has been described as brain circulation. Nonetheless, for a relatively small country, competitiveness in a knowledge-intensive and innovation-oriented global economy will require the recruitment of even more talent, both domestically and internationally.

Today the modern university finds itself in a key role in terms of training research personnel for employment in industry and academia, in addition to nurturing entrepreneurs for an innovation-driven economy and developing a skilled workforce for the knowledge economy more generally. The quadruple helix was devised as a response to this considerable challenge. In the model, talent development is recognised as a fruitful area for focused attention and resource investment, not only to maintain the relevance of higher education institutions, but also for the benefit of society.

The quadruple helix at Aarhus University: An overview

The reorganisation at Aarhus University in 2011 was both an academic and an administrative one, and grew out of the need to integrate a number of disparate institutions that had been merged into the university. It also grew out of the ambition to integrate talent development more strategically and proactively into the university's activities, and to create the conditions for an increase in interdisciplinary research and teaching, both in order to stay competitive for grant funding and to explore novel solutions to "grand challenges". The objectives of the organisational changes were i) to remove organisational barriers to change and innovation; ii) to merge research and teaching cultures that work with related issues; and iii) to improve conditions for research that cuts across disciplines and research areas. Furthermore, it was the university's ambition to develop a strategic organisational model that explicitly combines features from the European mass university model with features from elite universities and advanced research institutions.

As a result, the university reorganised itself into a “quadruple helix”, a term that both describes a new academic structure and indicates a shift in the
mission of Aarhus University. The mission shift honours and incorporates the university’s academic traditions, founded in the Humboldtian tradition and expanded by the concept of the triple helix, while creating the conditions necessary for the university, as an organisation, to align with broader national, European and global trends and multiple stakeholders. Aarhus University’s new strategy consists of four equally important missions, or pillars, on which the organisation is built: i) education; ii) research; iii) talent development; and iv) knowledge exchange.

The classical Humboldtian interaction between education and research is here combined with the contemporary emphasis on knowledge exchange and a consistent focus on talent development as a new and fourth dimension, as illustrated in Figure 1.

At Aarhus University, talent development is understood as the effort to build and support research talent from early recruitment to elite PhD programmes to employment of post-doctoral candidates in their first academic position. While obvious bridges exist, the nurturing of talent at the undergraduate level (e.g. in regard to entrepreneurship and internationalisation), is handled as part of the university’s educational mission.

Figure 1. The quadruple helix – The four missions of Aarhus University

Aarhus University has included these four core activities in its strategy since 2008, but with the recently completed reorganisation, the university is
now fully implementing a management model that places as much focus on these four core activities as on its four main academic areas (faculties).

The model fits well with the university’s comprehensive nature and the critical mass of researchers and funding that exist within each of the core missions. Hence, the quadruple helix in its full application may resonate well with other multidisciplinary universities of a certain size. Nonetheless, the distinct focus and analytical frames provided by the model might also be of value to other types of institutions.

The new pillar: Talent development

Integrating these activities and keeping a focus on crosscutting aspects of the university’s mission leads to a number of benefits. The central argument for adding talent development to the university’s central mission is threefold. First, talent development is about securing the future development of an academic discipline. PhD students are not merely helpful researchers in existing research groups; the talents of today are the great inventors of tomorrow’s technologies. Second, advanced societies demand research skills for the development of industrial technologies, basically to ensure growth and prosperity for these societies. If Europe is to remain at the height of technological development as it has for centuries, research competences are needed in larger numbers. In other words, talent development must have a broad focus on the wider labour market, and an element of this is responding to labour-market demand for advanced skills. This is best achieved by developing valid indicators to monitor outcomes such as doctoral employment rates and return on investment for PhDs. Third, developing a specific emphasis on a selected group of the very best postgraduate students enables the university to balance between mass and elite programmes.

In addition, adding a fourth pillar to the university’s mission was a critical piece of its globalisation strategy more broadly. Not only do talented young researchers bring new ideas and innovation to the university, influence education, and achieve research results; when they leave Aarhus University, these young researchers contribute to the development of an important international network both inside and outside academia (Holm-Nielsen, 2011).

The broader challenges identified by transnational policy organisations are addressed by the quadruple-helix model. Indeed, in response to the economic crisis precipitated by the financial sector meltdown, an eight-point summary of strategies and policies to promote talent development was made in 2011 by the EUA in its “Aarhus Declaration.” The declaration links talent development policies to strategies for combating the economic crisis, but also strategies to combat the brain drain of European talent to other parts of the world (EUA, 2011).
Integrating the talent mission

Responsibility for the preparation of researchers and the academic workforce has always been the purview of academic communities (Eisemon and Holm-Nielsen, 1995). At Aarhus University, talent development strategies thus reside squarely within the academic community. At each of the university’s four main academic areas, health, science and technology, arts, and business and social science, the graduate school has been established to provide the framework around doctoral education.

Each doctoral school makes sure that there is a strong scientific environment around the PhD candidate, including high quality supervision and involvement in genuine, cutting-edge research. Moreover, the doctoral schools provide structured pedagogical programmes, and each PhD student is obligated to deliver a certain amount of teaching, as well as to engage in international mobility during their studies (e.g. present papers at conferences, attend seminars, offer guest lectures outside of Denmark).

What is the result of this dedicated effort? Following the merger process Aarhus University has almost doubled the number of doctoral students from 1 194 students in 2007 to 2 045 students in 2012. All of the university’s academic areas have experienced growth, but particular emphasis has been put on responding to labour-market demand for doctoral competencies in the fields of health and natural sciences. Significant effort has gone into maintaining high quality standards in the face of expansion (e.g. by requiring each student to develop a plan for their studies, which is supervised via progress reports twice a year, as well as subjecting the final dissertation to international review).

The university’s strong emphasis on talent development is not an example of mission creep; instead, talent development has shown itself to be complementary to the three traditional missions of universities. The development of research talent is closely integrated with existing research portfolios; graduate students are recruited directly into elite PhD programmes, and doctoral students often take part in knowledge exchange activities at Aarhus University.

How is the outcome on talent development monitored? Apart from the structured monitoring and supervision of the research educational programme, Aarhus University conducts a yearly employment survey of its doctoral students. The survey has two aims: first, to measure the extent to which doctoral students find relevant employment, and second, to find out if doctoral students find employment that they consider relevant to their doctoral studies.

While there is currently international debate over the market demand for doctoral candidates, the latest employment survey shows that 98% of doctoral
graduates are employed 5 years after completing their studies. More importantly, 96% of PhDs gauge their current job to be either within their field of research or requiring competencies at the doctoral level. While this is encouraging, the university is challenged by the need to ensure a higher uptake in industry, particularly in small- and medium-size enterprises. More than half of the university’s doctoral graduates currently find employment in universities and public research institutions.

**International recruitment: A key part of the talent strategy**

The growth in doctoral students at Aarhus University has been matched by a significant increase in the number of PhD students from Europe and abroad. Today, one in four PhD students is of non-Danish origin and in some disciplines more than 50% of the doctoral students are recruited internationally. Furthermore, the number of internationally recruited post-doctoral candidates has also grown significantly.

Thus, international recruitment is a key part of the talent development pillar at Aarhus University (Holm-Nielsen, 2008; Holm Nielsen and Warming, 2009). Structural changes in the university’s PhD and post-doctoral programmes are being tested to see if they improve the ability to recruit internationally. In the traditional Bologna model, the PhD student is admitted to three years of PhD studies after completing a Master’s degree. To ensure flexibility in the recruitment of talent and to support young, ambitious potential researchers, Aarhus University allows for admission to its PhD programmes at three different stages. Unique in Denmark, Aarhus University has introduced the possibility of enrolling PhD students immediately after the completion of their Bachelor’s degree. This is sometimes referred to as the “Bologna Danese”, as it is essentially a three + five model, where students are offered a five-year PhD period. The model is expected to increase international recruitment to Aarhus PhD programmes, as the structure is comparable to that found in other key markets for higher education. It is also a way to create new pathways for national talent identified in undergraduate education and hence, in part, a strategy to uphold both the mass and elite university traditions.

**Structuring governance to capture synergies**

Reorganising Aarhus University has permitted talent development to receive more focused attention than it has in the past. This positions the university well in the competition to recruit international talent and thus strengthens the networks and research strength of its faculties. New internal governance structures to support the integration of talent development,
research, education and knowledge exchange have been established through a matrix structure, as illustrated in Figure 2.

Figure 2. Organogram of Aarhus University

During the academic reorganisation process, Aarhus University went from 9 to 4 large main academic areas and from 55 to 26 departments. The new structure presented significant potential, but also a range of possible challenges. The four main academic areas risked developing into four autonomous “universities within the university”. As an illustration, the Faculty of Science and Technology alone has a larger budget than the third largest university in Denmark.

In order to ensure the university's cohesion and to facilitate collaboration across the main academic areas (faculties), each of the four deans also has university-wide responsibility for one of the four core activities, in close collaboration with the vice-deans of all four main academic areas and associated academic fora.

These cross-cutting academic committees have responsibility for each of the four, key university missions. The committee on talent development is charged with developing the best possible conditions for PhD students and post-doctoral researchers. The ambition is to support a new generation of researchers born into an interdisciplinary philosophy and unique research environments in which students have the freedom to pursue the unexpected.

The new structure aims to ensure that the activities of the four main academic areas are co-ordinated more effectively and that co-operation across main academic areas increases. Examples include the launch in 2011 and 2012 of five new interdisciplinary research centres combining knowledge from
several faculties in order to address societal challenges. The senior management team includes the four deans in order to develop the main academic areas in accordance with the university’s strategic decisions. To ensure checks and balances and the provision of the best possible advisory support to the senior management team, academic councils have also been established, whose members are elected among the university's researchers and students.

Have all these changes resulted in a stronger university? In numeric terms, the university has never had more staff, students, research projects and funding. However, big is not necessary better unless additional resources are put to use around a common vision, such as the quadruple helix.

Anecdotal evidence that Aarhus University has been able to use outside pressures and internal reforms to its benefit is evident as the university has moved up in rankings since 2007. For example, the “Times Higher Education World University Rankings” ranked it as 116 in the world in 2012/13 moving up from a position of 167 in 2010/11, while in several other ranking guides, it is now consistently ranked above the top 100 threshold. Moreover, it is among the Nordic universities with the highest overall citation impact factor, and it has been highly, and increasingly, successful in winning competitive grants from the European Research Council. In a 2011 survey of the Aarhus University study environment, 85% of students were either highly satisfied or satisfied with their studies, an increase of 2 percentage points from an identical survey conducted in 2007.

Such indicators are only rough proxies of progress and the university continues to develop its battery of indicators (e.g. in its performance contract with the Danish Ministry of Science, Technology and Higher Education). Hence, it is too early to evaluate the full impact and potential of the reforms. However, the evidence so far is encouraging.

**Conclusion: Addressing contemporary problems**

Change is never easy, but often necessary. Organisational change, such as that undertaken at Aarhus University, can create conflict, therefore, attention must be paid to managing the process in a way that acknowledges not just existing practices and paradoxes (Meister-Scheytt and Scheytt, 2005), but also tradition.

Universities are places where ideas and values are deeply integrated with structures, functions, roles and cultures. Change processes must, therefore, address the socio-emotional and symbolic aspects of institutional life, as well as the instrumental aspects of the business. This represents an important agenda for those who have the task of leading change in universities (Middlehurst, 2004: 277).
Moreover, in the face of considerable torque on the institution from the great variety of stakeholders in the knowledge society, one of the challenges to be aware of is that of “mission drift”. As Arbo and Benneworth point out,

Universities have had some successes in organising effective cross-sectoral projects, but this is quite different to suggesting that the new model for university organization is that universities become system integrators with the capacity to deliver large public interest projects integrating teaching, research and a wide range of socially useful activities. More thought and reflection is needed on how to retain a tight institutional focus on core missions, whilst, nevertheless, harnessing HEIs’ undoubted capacities to deliver social value and play a transformatory role within society (Arbo and Benneworth, 2007: 59).

While Danish university policy has long emphasised the need for links with other sectors, the new trends have nonetheless required substantial reorganisation of Danish universities, in particular with regard to global competition. As stakeholders have increased, expectations have grown. In addition to fulfilling their traditional mandates of educating citizens for a productive work life, Danish universities find themselves on the national stage as economic strategies put a spotlight on innovation for job creation and global competition.

The quadruple helix is a model that addresses these demands on modern knowledge institutions of higher education. It holds the potential to mitigate the risk of mission creep by transforming mounting pressures into manageable institutional priorities that strengthen, rather than undermine, the academic enterprise. However, a suitable structural response cannot be found for all time. What is possible and more relevant is to create a modern university that is flexible enough to manoeuvre in a world of change; in other words, one that is dynamic and responsive to change. Thus, the reform process was an attempt to design an organisation and new management structures that will allow Aarhus University to remain in the elite of research universities in the years to come, and to differentiate itself by building a strong capacity in talent development in particular, and thus combine the mass and elite university traditions.

It is obvious that specific challenges and framework conditions differ around the world. Yet it is clear that higher education institutions will be at the forefront of developing knowledge societies alongside industry and governments. The quadruple helix model permits a new focus on, and integration of, four key missions of the tertiary education sector. By highlighting talent development as a strategic priority, it responds to a number of challenges posed by national and international trends. Through its quadruple helix, Aarhus University has implemented new structures that are expected to help the university and society to meet the challenges of the future.
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References


The challenges of developing research resources for leading Vietnamese universities

by

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This paper examines the challenges of developing research resources for leading Vietnamese universities. The first part of the paper presents the background to the study, including literature review on the challenges to research resources development, and describes the research questions and research methods. The next part provides empirical findings on types of research resources, availability of resources, and challenges for resources development at leading Vietnamese universities. In the final part, the paper discusses the major findings and provides suggestions for further analysis on Vietnam’s university research sector.
Les défis du développement des ressources de recherche dans les grandes universités vietnamiennes

par
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Cet article examine les défis soulevés par le développement des ressources liées à la recherche dans les universités vietnamiennes d’élite. La première partie de l’article expose le contexte de l’étude, y compris l’examen de la littérature sur les défis liés au développement des ressources pour la recherche, et décrit les questions et les méthodes de la recherche. La partie suivante présente les résultats empiriques sur les types de ressources dédiées à la recherche, leur disponibilité et les défis liés à leur développement dans les meilleures universités vietnamiennes. La dernière partie examine les principaux résultats et fournit des suggestions pour une analyse plus approfondie du secteur de la recherche universitaire au Viêtnam.
Introduction

Resources to accomplish a task or achieve a goal are essential for any endeavour, including undertaking research: adequate research resources lay the foundation for research development. Such resources however can be scarce and thus it has always been a difficult task to attract sufficient resources for universities in many developing countries to fund research adequately.

While there have been many personal stories about scarce resources and their effects on research programmes (Nchinda, 2002; Sawyerr, 2004; Weiler et al., 2008), there has been almost no systematic empirical research undertaken to explore researchers’ perceptions of the availability of resources or the challenges facing them in trying to get sufficient resources for research. Further, there is some evidence hinting that perceptions of the adequacy of resources are more predictive of productivity than the actual availability of resources (Pelz and Andrews, 1966). This study aims to provide empirical data on the difficulties of developing research resources at four leading Vietnamese universities. Based on an inherited Soviet model, it should be noted that mono-discipline is a typical feature of Vietnamese universities. Vietnam channels most of its research funding to the non-university research institutes (two national research institutes, the Vietnam Academy of Science and Technology and the Vietnam Academy of Social Sciences, and other line ministries’ research institutes). However, the intention, as expressed in various policy documents, is to make universities more comprehensive and strengthen their research capacity. While attempts to reallocate research capacity from the research institutes to the universities has so far not been very successful, a key challenge facing the nation’s higher education system is to develop an effective relationship between universities and research institutes.

Background

Research resources are an important component in research capacity development (Pratt and Margaritis 1999; University of the Free State, 2003; Sawyerr, 2004; Lues and Lategan, 2006; Salazar-Clemeña and Almonte-Acosta, 2007; Li et al., 2008). For example, in an extensive review of research on research productivity from the mid-1960s through 1990, Bland and Ruffin (1992) found that accessible resources, particularly human, are one of the
twelve characteristics of a research-conducive environment. These accessible resources include human resources, time, funding, research facilities and libraries (see also Weiler et al., 2008).

The human resources relate to academic staff, graduate students, technical consultants and support staff. The staff should possess variable levels of research acumen; for example, in leading research, in design and methodology, in mentoring and growing younger academics, in writing reports and resolving human interpersonal issues. Research leaders can be considered as research champions who head a recognised research group or teams within units of university-based research. The research champion is the key player in the research group, around whom the other members of the group are organised and on whom the performance of the team as a whole most depends. The research champion provides the overall research vision, identifies the techniques, methodologies and facilities necessary for the research projects. These champions have a proven record of accomplishment for research in the requisite discipline, possess an acknowledged external reputation and often are familiar with commerce, industry and other professionals in the relevant market sectors, or with policy makers in government. Recognising the pivotal role of the research champion, and therefore the importance of the research group, is essential in developing and growing research because the way of organising a research group is very different from that of a teaching unit.

Colleagues serve not only as a source of knowledge, skill, expertise and emotional support, but they also nurture the individual’s “spark or commitment to research, thereby building a culture in which the individual can survive and prosper” (Bland and Ruffin, 1992). It has long been recognised that support staff, such as technicians, are often an important part of a research group, especially in engineering, medical and science research areas. In Pineau and Levy-Leboyer’s (1983) study of 155 biomedical teams, the most productive teams had 10 or more full-time technicians. The presence of graduate students is also important to research productivity and creativity. Numerous studies have shown that institutions that provide doctoral training consistently have a higher level of research output than other types of institutions (Blackburn et al., 1978; Long and McGinnis, 1981; Creswell, 1985; Blau, 1973 cited in Bland and Ruffin, 1992). Of course, the strong research institutions generally attract the best doctoral students.

In selecting, retaining and developing researchers, universities often have to deal with such problems as a shortage of capable researchers, researchers’ low remuneration and a heavy teaching load, as well as the migration of talent (Vose and Cervellini, 1983; Sawyerr, 2004; Weiler et al., 2008). A lack of capable researchers, particularly in teaching-intensive institutions, is common. However, even when carefully trained and selected researchers are available,
they may not have sufficient time for research as they are used for other roles (such as heads of departments, committee members and other university leadership roles). In other words, researchers may be unable to utilise fully their research capacity due to the burden of heavy teaching loads, community services and sometimes, extra-university responsibilities. Therefore, enabling researchers to realise their research potential by ensuring they have sufficient time to engage in research is an important task in building capacity for university research (Weiler et al., 2008).

The brain drain is another challenge. Vose and Cervellini (1983) point out that while a number of governments are willing to send their nationals overseas for training, they often fail to provide these people with adequately paid employment or facilities when they return home. Therefore, the problem of overseas graduate students’ non-return to their home country can seriously diminish the research resources of a country. Taking a more modern viewpoint, Saxenian (2005) argued that the situation of “brain drain” has been transformed to “brain circulation” in some countries, for example, India and China. Brain circulation refers to the processes in which scientists and engineers from developing countries settling in developed countries are now contributing to their home economies by establishing business relationships or starting new companies in their home countries while maintaining their social and professional ties to developed countries. However, this trend does not apply to all developing countries due to historical, social, cultural and political circumstances (Jacob and Meek, 2013).

A critical resource dimension is infrastructure. Research capability depends upon an adequate infrastructure, such as laboratories, libraries and access to digital and computational resources. The dilemma, however, is that universities are often unable to provide researchers with all infrastructure needed, particularly in developing countries (Vose and Cervellini, 1983; Zakri, 2008). For example, due to the high costs of journal subscriptions and inadequate and expensive distribution mechanisms, researchers in less developed countries often have very limited access to essential global research publications (Arunachalam, 2000).

For years it has been recognised that “maintenance is a real problem, and often one finds laboratories in developing countries with much unserviceable equipment because there is no one available to carry out even minor repairs” (Vose and Cervellini, 1983). The absence or inadequacy of available infrastructure may also cause frustration and disappointment for capable researchers. Thus, poor universities and countries have to deal with attrition of researchers as a consequence of limited research facilities (Weiler et al., 2008).

Research endeavours often require large amounts of money. Therefore, universities must secure adequate funds for undertaking research and the
resources to support it; research may entail extra costs such as those for infrastructure, overheads, salaries, students or assistants, specialised materials, etc. Not only does funding need to be available it also needs to be sustainable, because most research is medium or long term in nature. Indirect funding for research infrastructure (e.g. for libraries, buildings, administration) is as important as the direct funding of project costs (Weiler et al., 2008). An extra cost in many developing countries is additional funding to upskill the researchers and those involved in research. In a study about the effects of funding for research and research training in the Philippines, Calma (2010) found that funding is needed for developing staff expertise to undertake research and to train students in research.

In summary, while the literature notes the types of resources needed to do research and the challenges in developing adequate research resources for researchers, the drawback of this body of literature is that it has led to very little empirical research. Most of the studies are based on personal stories about scarce resources. A deeper understanding of the challenges facing universities in building research resources in developing countries may help government and university leaders develop better plans for building these resources. This paper asks three specific questions:

1. What resources do Vietnamese university managers and researchers perceive as needed for a university to do research?
2. How available are these resources at Vietnamese universities?
3. What problems do these universities face in securing sufficient resources for research?

Vietnam provides an interesting case of a latecomer’s development of a university research culture. Vietnamese universities do not have a strong tradition in undertaking research. Following the Soviet model, in Vietnam, research has historically been undertaken through centrally funded and controlled research institutes outside universities. The focus of universities was, until recently, almost entirely on teaching and learning. Since the 1990s, universities have been encouraged by the government to develop their research capacity.

It is reasonable to have national policies that proclaim that Vietnamese universities should enhance their research capacity, but how this is to be achieved is quite another matter. The policies themselves are largely silent with respect to the specific strategies and mechanisms universities need to employ in order to enhance research capacity. Therefore, there is a strong need to assess the processes and strategies used by Vietnamese universities to grow research, and thereby develop strategies for enhancing their research capacity. An investigation into research resources management challenges may set the scene for such analysis.
This paper presents a sub-part of findings from a study on the strategies and processes employed by four leading Vietnamese universities to build and enhance research capacity. The overall study examines five aspects of research capacity building: research resources, research structural organisation, research-related human resources, research management plans and research culture. This particular paper investigates three issues related to university research resources development: types of resources, availability of resources and challenges for developing resources.

Methods

The primary source of evidence consisted of semi-structured interviews with 55 participants. The purpose of the interview was to gain respondents’ perceptions on the availability, appropriateness and effectiveness of current resourcing. The participants consisted of individuals directly involved in research and managing research at the case-study universities, including 6 senior university leaders; 9 administrative managers; 18 deans/deputy deans; 6 directors of research institutes; and 16 lecturers. Each interview lasted from 45 to 60 minutes. The interviews were conducted in Vietnamese and transcribed into Vietnamese before analysis; then supporting quotes were translated to English. The computer-assisted qualitative data analysis software NVIVO 9 was used to analyse the data.

Participants were recruited from four leading mono-discipline Vietnamese universities. Each of these universities specialises in a collection of related disciplines, namely engineering, natural sciences, health care and economics. Of the four selected universities, one is a university member of one of the two Vietnamese national universities that report to the prime minister; two universities are managed by the Ministry of Education and Training and one is administrated by a line ministry. They are all identified as key universities, which are expected to become leading universities in Vietnam, especially in research. Although it has not been articulated in policy documents, these four universities are expected to serve as models for other institutions charged with developing a broad array of higher education teaching and research functions; they are not intended to be models for centres of research excellence.

Results

Most participants identified three groups of research resources as needed to undertake research: capable researchers, infrastructure and funding, and policies and mechanisms for doing research.
People – the most important factor in doing research

Most of the participants stressed the importance of human resources in research. However, only three groups of people were commonly mentioned, they are researchers, research colleagues and students. The role of research support staff and lead researchers were not as strongly emphasised as in the literature. This may indicate that the Vietnamese universities in this study might not have fully developed research teams, of which members are at different levels of expertise. Research was possibly undertaken by individual researchers and/or doctoral students at most.

Some participants stressed that researchers should be totally dedicated to research and have a great passion for doing research.

A majority of the respondents said that their universities are very strong in both quantity and quality of researchers compared with other Vietnamese universities. This is because their universities have the highest number of PhD holders, associate professors and professors; especially compared with other Vietnamese universities. Among the oldest universities in Vietnam with a long history and traditions, these universities train most of the lecturers for themselves and for other newer universities in their related disciplines. Institutional pride was evident among the interview participants.

However, for a small group of participants who are more “internationally oriented” and more critical in their assessment, the current numbers and quantity of researchers are insufficient. The reasons given include a heavy teaching load, academics’ low level of research capacity compared with international colleagues and the low quality of PhD students. For example, for the economic university, a heavy teaching load has largely reduced lecturers’ time for research. More critically, a director of a research institute in applied sciences used international publications as a criterion in evaluating the current level of researchers’ availability and quality and noted that while human resources were sufficient, the researchers were published in too few international publications. A Dean of an engineering faculty noted that the quality of PhD work in Vietnam might be much lower than that in some other advanced countries because the majority of PhD students in Vietnam did their doctoral education part-time, meaning that a very limited time was committed to doing research.

In short, from an internal perspective, the four universities are well endowed with human research talent, but from an external perspective (compared to universities in other countries), this is not the case. Given the participants’ different perceptions of human resources availability, the question of whether international or national standards are used in assessing resources availability should be taken into consideration.
In an effort to build a highly capable group of researchers, university leaders and managers are faced with a number of difficulties, such as low salary for researchers, barriers in building research teams and brain drain. Firstly, the basic salary for lecturers is very low, compared to those in non-educational sectors. In order to pay staff, universities have to rely on the common minimum wage regulated by the government. The common minimum wage applies to civil servants, public employees, armed forces personnel and employees of different organisations including universities. Apart from this minimum wage, institutions can pay their employees more if they can afford to do so, but according to Decree 10/2002/ND-CP, the extra pay must not be more than 2.5 times of the common minimum wage. However, not many universities can reach this maximum level. Therefore, university academic staff members often have to moonlight to supplement their low salaries.

Several participants stated that the low salary is a serious problem for attracting highly qualified researchers. This is because in recruiting researchers, the university/department can only guarantee the common minimum wage salary, but not the supplemented salary from university income. Researchers can earn more income if they can get research grants, but no one is sure of such success. Therefore, the salary package rarely looks attractive to researchers.

One participant made an interesting claim that financial sources for salary are sufficient but they are just “inadequately allocated”. This inadequate allocation may refer to the fact that a lecturer's real income is normally higher than the salary officially paid by the university. In order to get the basic salary, a lecturer is required to work a minimum of 1 760 hours related to teaching, research, administration and professional development tasks (Bộ giáo dục và đào tạo, 2008). They can earn extra if their total work hours exceed this number. With regards to research work, if lecturers participate in a research project, they are normally paid for their participation. Although an active and capable researcher can have extra income from such work, this can never be a guarantee. Therefore, this method of allocating salaries makes it difficult for universities to attract talented researchers, because they cannot officially state the exact amount of incomes to potential academics.

Another difficulty in building a capable group of researchers is to create a strong research team in which the researchers work well together. A few participants suggested that the difficulties in creating a team or group mentality were related to two reasons: a culture of individualism or poor internal policies. Both however, suggest that team or group collaboration is not a norm.
Brain drain is seen to be a major factor in developing and advancing the research agenda. Several participants remarked on the low quality of PhD students stating, “Most of the best Vietnamese PhD students are now going overseas to do their PhD. Those who stay are lecturers from other Vietnamese universities” or “second best”.

**Infrastructure and research funding: Essential but insufficient research resources**

Infrastructure and funding were seen as two essential resources for research. Infrastructure includes such things as buildings, facilities, information technology, reliable internet access and specialised equipment.

As “key” universities, there has been an increase in government investment into the four universities’ research infrastructure, mostly through international project funds from overseas development assistance agencies or international government organisations, such as the World Bank. Therefore, most of the participants recognised this positive change in research infrastructure with the provision of state-of-the-art laboratories and other research-related infrastructure. However, the consensus view was that there is a serious lack of funding for research infrastructure, such as insufficient investment on facilities for research, a lack of working space for researchers and inadequate research databases.

Although each university may have some large, modern labs, they are not sufficient. Only some departments have such labs; moreover, it was noted that lack of funding meant that various engineering, science and health care departments do not have adequate equipment to carry out serious research. Similarly, participants suggested that research grant funding would need to be for much higher amounts to equip research facilities appropriately.

Inadequate working spaces were cited as hindrances to the practice of research. Since most academic staff, including professors, do not have office space or the dedicated use of computers, they are frustrated by their inability to engage in research effectively or produce the outputs necessary for quality research.

Other participants added to this dilemma, noting that their universities have researchers who can do good research; however, they lack research inputs such as on-line databases, newly published (i.e. not outdated) books and journal articles. In other words, they lack some of most important inputs to do research.

Almost all participants complained about the lack of funding for research, especially those from the economics university, who noted that the main source of funding for research is from the government; however, the percentage of government research funding allocated for universities is
minimal relative to needs. According to the manager of the research office, the university was allocated less than USD 500 per year per academic staff member; clearly an amount that is not conducive to conducting any type of research.

The problems also arise from how and on what basis funding is allocated. A few participants commented that the allocation methods were neither performance based nor needs based. For example, allocated funds went to what were considered extraneous to valid research activities or were divided equally regardless of differing needs for different programmes. Thus, a lack of systemic co-ordination played another role in hindering research growth.

Nevertheless, some respondents mentioned funding for research has become much more available since the late 2000s as long as researchers are active, either from NAFOSTED (a national research fund operating since 2008) or from international sources. In particular, several bi-lateral national donor agencies were noted as actively supporting “good” research proposals or for developing “in-house” research projects for which a qualified researcher could secure support by proving their ability to succeed (i.e. deliver). While these attitudes are strongly held, it is important to note that these research funds can be extremely competitive, and the rate of winning these research grants may be very low.

In this context of scarce research resources, universities have tried to attract funding from private (non-governmental) sources. However, while some big companies have turned to universities for research needs, the demand is very low. In fact, a lack of demand for university research from business largely prevents universities from capitalising on non-government research funding. The respondents in the study all noted that attracting research funding from private sources was not a viable alternative in Vietnam.

**Policies and mechanisms for doing research: Essential but inadequate research resources**

The third group of research resources is policies and mechanisms for promoting research. This category was mentioned by about one third of the participants. As one participant aptly stated “Research resources include not only funding and researchers but also a whole system of research support, especially a ‘behind the science’ support system for getting real social needs for research”. A support system is important for researchers. The participants enlightened this further by defining a well-functioning system and what this should include, which depends on several variables, such as the type or direction of the research, time needed to carry it out, extra time or aid in meeting the demands of the research and other positions held or duties and relationships both internal and external to the research.
Different participants referenced different aspects of the unavailability of policies and mechanisms for promoting research in the whole research process, ranging from attracting research inputs to utilising research outcomes. Some felt that their institutions should create policies for attracting research funding from non-government sources, while others thought that the university, not just the researcher, should be active in sourcing and attracting research funding from national, international and non-governmental sources.

Investment in research infrastructure is critical, but making full use of all the machines and equipment provided is even more significant. However, there appears to be a lack of overall policies for fully utilising the given research facilities and equipment in all of the four universities. In one of the universities, very expensive equipment (over USD 1 million) was purchased but only used by a handful of researchers. In another, research databases were purchased, but they were used for only one project. One of the respondents called this a “common disease” at their institution. Other participants mentioned the lack of funding maintained to service lab equipment, rendering the lab inoperable.

A lack of relevant policies for research quality standards was also a focus of several participants. The issue of how to judge research output suggests that the institutions have not developed effective benchmarks to promote research excellence. A pertinent example of this came from a director of a research institute in economics, who noted that while publishing in a non-peer-reviewed domestic journal took minimal time from submission to publication, publishing in peer-reviewed international journals was much more difficult and could take up to two years. However, existent policies and practices judged the two types of publications more or less equal. This practice obviously does not encourage the researchers to publish in peer-reviewed international journals. Consequently, research performance in Vietnam may not be internationally recognised, and this situation may make it very hard for Vietnam to be internationally competitive.

Coupled with the need for appropriate research standard policies, there is a lack of relevant policies for exploiting research results. The respondents who spoke about this suggested that the government and/or the institutions need policies that encourage basic and applied researchers (especially applied) to not just produce research but carry it further into the application phase or secondary (follow-up) phase. When research is conducted, it generally stops when the project is complete, which lowers commitment levels. Be it a science advance or social science advance, the first research findings are rarely sufficient as motivators or for acclaim (as discussed, the lack of acclaim measures and commensurate remuneration for success are factors that the four universities have in common).
While most of the participants criticised the lack of relevant policies and mechanisms for doing research, some university rectors explained why it was difficult for them to implement research policies at their universities. As top leaders, they see that their university is not yet at an appropriate stage of development to allow for the implementation of strong policies for promoting research. They noted that their foci were on teaching and producing graduate students, because their mission is to train more professionals in a nation that is short of skilled professionals. Moreover, as state funding is weighted towards teaching, they believe that creating a strong research focus is not warranted, and until such time as funding and state policies change direction, there is no need to implement appropriate, supportive policies to encourage research endeavours.

A lack of leadership commitment to research development is obviously very disappointing for the many capable faculty members that want opportunities to research. However, these leaders’ arguments are sound and reasonable under the circumstances. They cannot do otherwise in the face of a lack of funding. This presents a dilemma that is unlikely to be resolved in the short term. Perhaps, it is best put as a “catch-22” as the state is encouraging the adoption of a research agenda for these four universities, using them as models for other institutions, but expecting them to do so without the needed resources.

**Discussions and conclusions**

In sum, the three major groups of resources needed to promote research as perceived by the participants are capable researchers, infrastructure and funding, and policies and mechanisms for doing research. This finding indicates one notable difference between the participants’ perceptions of types of research resources and what is commonly depicted in the literature. While the literature hardly mentions policies as a type of resource, policies and mechanisms for research development were identified as a critical type of resource in this study. This may result from the historical basis of the research system in Vietnam where research was undertaken exclusively in separate national research institutes outside universities. Yet, in order for universities to carry out research, research-supporting policies are considered very important. Because of the homogeneous feature of higher education institutions in Vietnam, these findings are probably true of other Vietnamese universities as well; however, much more research would be necessary to support such a claim.

With respect to research resources availability, the universities under investigation are well endowed with talented researchers compared to other Vietnamese universities. However, this is not the case when comparing them
to universities from other countries. The primary challenges in developing the human research talent include low salaries, brain drain factors and barriers to research team building. Additionally, the participants also perceived a serious lack of infrastructure and funding for promoting research as important. Although one factor leading to low levels of investment in university research endeavours stems from the lower middle-level development of Vietnam, the development of strong physical research infrastructure has been retarded by a lack of investment from businesses in university research and inadequate national research funding and allocation priorities that are insufficient to meet the demand. Finally, adequate policies to promote university research, both at the state and institutional levels, are lacking and those that do exist are fragmented. Universities have not yet committed themselves to building suitable policies for developing a research agenda. In almost all research processes, from actively attracting research funding from various sources to fully utilising existing research infrastructure, and from developing and applying research performance indicators to utilising research results, there are few appropriate university policies in place.

In the context of little empirical data on university research resources management available, this paper helps to broaden understanding of the challenges that four leading Vietnamese universities have faced in developing research resources. The empirical findings suggest that the challenges for developing research resources at Vietnamese universities are multiple and complicated. Given the limited scope of empirical data presented in this paper and the complexity of the challenges, it seems unrealistic to provide a definitive conclusion on how these problems should be solved. Nonetheless, it appears that the key solution for building research resources in order to enhance university research in Vietnam is likely to be an overall integrated policy approach at both the national and institutional levels; and these should be supported by professional research management. In moving towards solutions, a number of additional questions remain to be answered, such as:

- What are the most appropriate funding models to support the development of research capacity across the higher education sector as a whole?
- What role could competitive research funds play in more effectively allocating research funding and promoting excellent research?
- What indicators of research quality could be developed to provide evidence on the appropriate allocation of funding?
- What mechanisms or policies will aid in fostering more effective collaboration among the national research sector (i.e. universities and research centres) and promoting international collaboration?
- What can institutions do to form research groups and promote collaborative research projects within their faculties?
The knowledge generated from this study is intended to advance the conditions necessary to enhance Vietnamese university research capacity. This needs to be more than a government-stated priority, though, the government must take the lead by providing the resources and policies to encourage and aid universities to become more than the educators, they have traditionally been in Vietnam, and become leading institutions for the advancement of research and development knowledge.

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