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Vocationalisation of Secondary Education Revisited

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INTRODUCTION

The volume ‘Vocationalisation of Secondary Education Revisited’ (2005), edited by Jon Lauglo and Rupert Maclean, takes up again a debate that has ‘waxed and waned for nearly 40 years’ (Maclean & Wilson, p. xxii) among educators, academics, policy-makers and technical assistance agencies. This volume revisits the debate around the pros and cons of secondary school vocationalisation by wondering specifically whether vocationalisation of secondary schools may hold any promise for African nations. Specifically, the contributors to the volume ask and explore, through situated case studies, the relative success of implementing a vocationalised curriculum and the costs incurred when such subjects are taught. Two of the studies in the book (on Mozambique and on the United States of America) present new findings on labour-market impact. Otherwise, the contributions rely on previous literature to assess this important question.

Before turning to the research presented in ‘Vocationalisation of Secondary Education Revisited’, it is necessary first to define what the authors mean by vocationalisation. Lauglo explains that ‘the main goal of vocationalisation is improved vocational relevance of education’ (p. 4). In other words, vocationalisation may be an answer to the oft-cited concern that secondary education does not necessarily provide students with skills that they will use and find necessary in their future careers and occupations. Vocationalisation, however, is different than and must be distinguished from school-based vocational education (VET) and technical and vocational education and training (TVET), which both follow a timetable dominated by skills and theory training related specifically to preparation for the workplace. In contrast to this more intensive training, in vocationalised education students still spend the majority of their timetable on general education subjects and a minor portion (usually one-tenth to one-fifth) of their time on vocational courses. Under vocationalised curricula, general education is still the primary purpose of the school. The small dose of vocational education provided in a vocationalised curriculum could include practical and vocationalised courses (such as computer studies or agriculture), but could also include efforts to improve the relevance of general education courses by including skills and knowledge for the world of work, or the inclusion of career-based guidance activities and field trips (Lauglo, 2005).

Whether a small dose of vocationalisation within a curriculum has positive outcomes for students’ futures in the labour market has been debated—sometimes hotly—for decades, with the debate becoming all the more intense when its focus is turned towards developing countries. Why, then, do the authors of this volume consider it an appropriate and important moment to revisit this still largely unsettled debate? And why have they chosen to do so with specific reference to Africa? Impressive increases in primary school enrolments in many areas around the world, thanks to the momentum associated with the Education for All (EFA) initiative and the Millennium Development Goals (MDGs), have led to the necessity for improved secondary access. As secondary education becomes a greater policy imperative, attention is turning to questions concerning the accessibility, quality and relevance of secondary education. When questions of educational relevance are raised, demands for education to prepare learners for the world of work are quick to follow. However, behind these demands are more questions about whether vocationalised education offers positive labour-market outcomes for its graduates and whether it is a feasible policy option for resource-constrained education systems? These questions may be asked all the more loudly in Africa, where unemployment rates remain high and labour markets remain depressed even as secondary enrolment rates increase. There has been no definitive answer to the ‘to vocationalise secondary education, or not vocationalise’ (p. xxii) question. Research into the connections between vocationalisation and labour force and livelihood advantage is scant and inconclusive. Both point to the need to focus upon resolving this debate and to providing advice and answers to policy-makers seeking to expand and improve secondary education in Africa.

‘Vocationalisation of Secondary Education Revisited’ makes an important contribution to the debate by bringing together many experienced contributors whose expertise in vocational education has been developed through work and research around the world. The authors review and expand upon recent research findings, shed light on historical and policy precedents for success and failure of vocationalised initiatives, and illuminate their articles with lessons from around the world. Three detailed case studies of vocationalised secondary systems in Botswana, Ghana and Kenya highlight the resource, planning and practical constraints of vocationalisation in Africa, while research from Mozambique and the United States points to some success with more focused vocational education that falls somewhere between TVET and vocationalisation. In addition to offering sobering and valid cautions for policy-makers contemplating vocationalisation, the volume distils lessons learned and presents best-practices for vocationalisation—should it be attempted. ‘Vocationalisation of Secondary Education Revisited’ is an important contribution providing food for thought to a range of audiences.

This paper will summarize the eight chapters of the volume, which have been divided into three sections. The first, ‘Perspectives and Overviews’, presents works by Jon Lauglo, Rupert Maclean and David N. Wilson, who introduce the topic at hand, draw out lessons learned from the Asia-Pacific region, and contemplate the history, politics and outcomes of vocationalisation. The second section, ‘Country Case Studies’, presents research by Sheldon G. Weeks on Botswana, Albert K. Akyeampong on Ghana and Kilemi Mwiria on Kenya. In the third section, ‘Labour Market Impact’, Jørgen Billetoft & AUSTRAL Consultoria e Projectos and John H. Bishop & Ferran Mañe explore the outcomes of hybrid TVET/vocationalised training on the labour-market outcomes for graduates in Mozambique and the United States respectively. After summarising these sections and their respective chapters, this paper will conclude by listing the important questions that this volume crystallizes for policy-makers, researchers and donor agencies.

I: PERSPECTIVES AND OVERVIEWS

Vocational Secondary Education Revisited

Vocationalisation, begins Jon Lauglo, ‘is a policy preoccupation which refuses to go away’ and which has been ‘a recurring controversy in developing countries’ (2005, p. 3). There are a number of rationales for introducing vocationalisation into a national curriculum—including the personal development goal of educating ‘the whole person’, the socio-political goal of providing equality of opportunity and catering to a wide range of talents, and the economic goal of preparing students for the world of work with more economically relevant education. However, Lauglo argues that, in Africa, ‘the issue at the heart of policy debate on vocationalisation has undoubtedly been “economic relevance”.’ Although it had been previously encouraged by donors, the World Bank and others subsequently abandoned vocationalisation as a policy recommendation in the 1980s, when literature reviews and a small number of tracer studies found that there was limited external effectiveness for vocationalisation. The focus in the 1990s on the expansion of primary education distanced donors further from vocationalisation policies. Any governments who were interested in vocationalisation had to fund and organize it alone.

In addition to the high unit-cost expense of ‘facilities, equipment, materials, consumables, less optimal utilization of available teaching loads and smaller classes’ (p. 9), Lauglo lists a number of constraints affecting the implementation of vocationalisation in developing countries. These subjects have ‘complex tooling-up, staffing and servicing/logistic requirements’ (p. 8) and require clear and focused planning. They can contribute to ‘curriculum overcrowding, which leads to insufficient quality in learning outcomes’ (p. 9) and they sometimes ‘lack attractiveness for pupils, parents and teachers’ (ibid.). Curriculum design is often flawed, with too little or too much overlap, and vocationalised policies are often implemented unevenly, with widespread insufficiency of

teachers and resources (*ibid.*). Often, the pedagogy used in vocational courses ‘fails to develop problem-solving skills’ (p. 10), is too vague to clearly indicate what has been learned and may have questionable ‘usefulness for private life’ (*ibid.*). Additionally, vocationalisation may in fact reinforce social inequality if children of the poor tend to enter these streams while children of the elite monopolise academic ones. Gender stereotypes can also be strongly reflected in the vocational subjects that boys and girls end up learning.

Constraints on economic relevance—clearly of importance for African policy-makers—include weak links between vocational courses and access to jobs in depressed labour markets where entry into work is likely to depend upon connections and timing. The absence of links between vocationalised study and the labour market may be worsened by the school’s ‘lack of incentives and resources to develop labour-market links’ (p. 9) and by the fact that ‘vocational subjects will not receive enough time and attention to give credible entry-level skills’ or to ‘directly prepare for self-employment’ (*ibid.*).

Having explored the numerous constraints to successful vocationalisation with meaningful outcomes for students, Lauglo turns his attention to the outcomes of vocationalisation in terms of learning, labour-market payoff, entrepreneurship, self-employment and further training. He argues that there is very little research on the learning outcomes of vocationalisation, either in terms of appropriate ways to measure and quantify the skills and knowledge that students acquire or in terms of the attitudes and general work-place aptitudes that they develop. In terms of labour-market payoff, he concludes that ‘in general, whether a given type of skills training eases transition to work or is generally externally effective (boosting pay and productivity) will depend on market conditions and on the level of skill acquired’ (p. 33)—a conclusion that does not bode well for low dosage vocationalisation in Africa. Lauglo does find that vocationalisation may encourage readiness among students for entrepreneurship and work in the private sector, but that it does not generally suffice to prepare students for self-employment. Lauglo finds that, as a rule, vocationalised secondary education will rarely function as a stepping stone towards higher education studies in the same technical specialty (p. 41).

These findings lead Lauglo to build a case for caution around vocationalisation policies: ‘it is hard to see a strong case for putting vocational subjects high up on the priority list for the development of mainstream secondary schools in sub-Saharan Africa’ (p. 44). He calls for more research into ‘whether this type of education can help school-leavers find a livelihood; and does it make them more economically productive?’ (p. 42). He emphasizes that so far the knowledge base on these crucial questions is lamentably limited, though conclusions so far have been consistently pessimistic. Despite his warnings, Lauglo does provide some best-practice advice should vocationalisation be pursued, including systematic implementation, the promotion of practical problem-solving, emphasis on continuous assessment, avoiding a gender bias, understanding the cost implications, evaluation of learning outcomes and impact, development of a strategy for including ICT and attention to process skills (i.e. creativity, collaborative work).

Throughout the chapter Lauglo emphasizes that, while vocationalisation might be a good policy for well-resourced, well-functioning secondary school systems that enrol the great majority of youth, it may not be appropriate for African contexts where enrolment is low, educational quality is generally in great need of improvement, and financial and human resources for implementing such extensions of the secondary school curricula are very scarce.

Setting the Context: An Overview of Secondary Education Reform with Particular Reference to the Asia-Pacific Region

Rupert Maclean opens this chapter with a consideration of the importance of secondary education, arguing that reforming, strengthening and upgrading secondary education is ‘of increasing world-wide concern’ (p. 51). As EFA and MDG initiatives have increased primary enrolment rates in the

developing world, so too have participation rates increased at the secondary level. There is now growing pressure for secondary education to expand access and to improve its quality. Maclean argues that ‘in many countries, secondary education has become the weakest link in the education chain’ (p. 52), therefore the expansion and improvement of secondary education are becoming strong policy imperatives. As attention on secondary education increases, so too does the understanding that it is no longer appropriate to understand secondary education solely as the bridge between primary and tertiary studies, but rather that secondary education must also be seen as preparation for students who will enter the workforce directly. Indeed, secondary education may be crucial for providing skills, knowledge and attitudes to prepare ‘youth at the crossroads’, facing a ‘turbulent and rapidly changing world’ (p. 53).

Maclean observes that, despite all the recent attention to the need to prioritize secondary education, there is a ‘general paucity of good quality, comprehensive and relevant research data to provide concrete guidance on the best practices to adopt for secondary education reform’ (ibid.). Maclean therefore takes the opportunity to present a ‘comprehensive, comparative survey of secondary education’ conducted in the Asia-Pacific Region under the auspices of the Asian Development Bank and to outline some of the lessons this research may present for secondary education development and reform elsewhere.

The study, commissioned in 1994, offers an inter-country comparative review of secondary education over the period of 1960 to 1990 with detailed case studies of seven selected countries—Bangladesh, Indonesia, Pakistan, Philippines, the Republic of Korea, Sri Lanka and Thailand—and an overview analysis of ten more—Afghanistan, Bhutan, China, India, Lao PDR, Malaysia, Mongolia, Myanmar, Nepal and Papua New Guinea. Countries were classed into five categories, including: large population/low income/high potential countries; high technology exporting countries; middle-income industrializing countries; low income industrializing countries; and subsistence agricultural countries.

As might be expected, the study found great variation in terms of the structure of and participation in secondary education across the region, noting that high technology countries have relatively high gross enrolment rates (57–87%) and high retention rates (80%), while subsistence agriculture countries have low gross enrolment and retention rates (p. 60). Despite a growing commitment to secondary education across the region, financing directed towards secondary education is still relatively low as the region devotes a comparatively small amount (3.2%) of gross domestic product (GDP) to education, of which about one-third is allocated to secondary education (p. 6).

The study found that despite the three-fold increase in secondary enrolments between 1960 and 2000, there is still unequal access in the region affecting in particular girls, people with disabilities and members of societal and racial sub-groups. Findings on internal efficiency varied between countries and across variables. However, some impressive findings include the fact that in the majority of countries student/teacher ratios have fallen to below 20:1.

Importantly for the current volume, Maclean found that ‘there have been some impressive developments in technical and vocational education and training (TVET) in the region, but many of these developments have been uneven’ (p. 65). In the Asia-Pacific Region, TVET appears to be concentrated at the upper-secondary level, whereas the lower-secondary level tends to be simply vocationalised. Educators hope to develop strong labour-market partnerships, to improve teacher training for vocational education and to review the financing of vocational education—themes that all emerged in Lauglo’s review of vocationalisation discussed above.

Promise and Performance in Vocationalised Secondary Education: Has the Baby Been Thrown Out with the Bath Water?

David N. Wilson's chapter charts the course of the rise and fall of vocationalised education in developing countries and questions whether assessments of vocationalisation failed to take into account the history and constraints that shaped its implementation. He wonders whether a reconceptualised vocationalisation of secondary education may have better outcomes for African students and ought to be considered as a policy option, despite dismal prognoses to the contrary.

Wilson argues that 'more than any other factor' it is likely that perceptions of vocational education in the colonial era 'proved fatal to the vocationalisation of secondary education' (p. 73). Because European colonial powers introduced 'dual educational and training heritages' to their sub-Saharan African colonies—with the use of 'vocational courses as a "second-class" education for the children of the colonised' and 'an "academic" education for the children of the colonisers' (p. 73)—vocational education was perceived as negative and inferior to academic education. Thus, as Wilson explains, 'at the time of independence, black Africans rushed to throw off the "shackles" of vocational education' (p. 74) in favour of the academic education that they had previously been denied. Thus, the widespread expansion of education that followed independence movements did not favour vocational education.

However, as high levels of unemployment affected those leaving school with an academic education and as donors began to favour vocationalisation in the 1970s, several countries re-invested in vocationalised programmes. We have already seen, in Lauglo's contribution, how vocationalisation subsequently fell out of favour again among donors in the 1980s and 1990s. Wilson argues that donors may have been too quick to jump to conclusions about vocationalisation's failure in sub-Saharan Africa, arguing that their initial hopes were 'culpably optimistic' (p. 77) and therefore bound to lead to disappointment. Nevertheless, vocationalisation policies were dropped in favour of the strengthening of general education and the push for universal primary education.

Wilson argues that the imperatives of globalization and technological modernization offer strong policy imperatives of their own that require a reconceptualisation of vocationalisation. Indeed, he argues that it is no longer appropriate to consider general and vocational education as separate options, but rather that the two need to converge in order to offer the type of education that will build the 'core competencies' needed by the 'knowledge workers' or 'worker-citizens' of the globalized era (p. 84). In his own words, 'the twin impact of *globalization* and *technological modernization* necessitates the education and training of *knowledge workers*, who are able to use logical-abstract thinking to diagnose problems, research and apply knowledge, propose solutions, and design and implement those solutions, often as a team member' (p. 84).

In light of his reconceptualised vocationalised secondary education, Wilson seems to take a more positive attitude to the potential for vocationalised secondary education in Africa. However, he concedes that African countries face an 'uphill struggle' (p. 86) and that, while the reasons to 're-vocationalise' secondary education systems in developing countries 'remain viable and important', the 'resources available to implement such policies and plans are not likely to become available' (p. 86).

Wilson points out that, for researchers, policy-makers and donors to be able to assess the outcomes of vocationalised secondary education fairly, it must be recalled that 'sustainability is a continuous process' and that systems must be given a lengthy and resource stable period in which to grow before they can be deemed to be failures. He reminds readers that 'a high-technology infrastructure is a high-maintenance endeavour'. Wilson concludes by arguing that 'it is highly likely that thorough initial human resource studies, diligent attention to policy formulation and planning, adequate funding, effective implementation [...] and effective subject inspection make a difference between success and failure' (p. 87).

II: COUNTRY CASE STUDIES

Pre-vocational Secondary Education in Botswana

Botswana, explains Sheldon G. Weeks, due to its political stability and democratic rule since independence in 1966, 'has been an example of planned and sustained growth to the rest of Africa' (p. 93). Since diamonds were discovered in the country in the 1970s, growth has been steady and sustained and this has been reflected in governmental spending on education. Between 1966 and 2002, the population expanded 3.8 times, while secondary school enrolment increased 100 times (from 1,531 students in 1966 to 153,593 in 2002) (p. 95). Weeks explains that 'the tension involving the development of secondary schooling in Botswana has been between the pressures to achieve full vocationalisation versus opting for only providing some pre-vocational education through a limited number of practical subjects' (p. 106). The Botswana Government has opted for 'pre-vocational education' with guidelines that emphasise 'the vocational orientation of all subjects in the curriculum, increased access to practical subjects, foundation skills and guidance and counselling' (Ministry of Education (1999) as quoted in Weeks, 2005, p. 113).

Secondary education in Botswana consists of junior secondary (forms 1–3) and senior secondary (forms 4–5); both levels offer vocational courses as well as general ones. In junior secondary, practical courses offered include: business studies, home economics, design and technology, art and, in some schools, computer awareness. At senior secondary a greater number of courses are available, including: agriculture, design and technology, food and nutrition, fashion and fabrics, home management, art and design, computer studies, principles of accounting, and commerce and business studies. Subjects available vary from school to school and only five of the ten possible practical subjects are available at all senior secondary schools (these are agriculture, design and technology, commerce, food and nutrition, and art and design). Weeks noted a pattern that 'students who have taken a practical subject in junior school prefer not to continue it in senior school' (p. 97).

Students in Botswana's secondary schools are streamed depending on their preference and performance in junior secondary. These streams—pure science, double science and single science—include varying amounts of time allotted for practical subjects, with students in the pure science stream (the best performing students) having the least time available for vocational subjects.

In 1992 Mudariki and Weeks studied secondary schools in Botswana and found that the limited vocationalisation that had occurred thus far was 'far from ideal' (p. 107). Weeks argues that, since 1992, 'considerable progress has been made' (p. 108). However, the number of students able to study vocational subjects in school is still limited. Weeks found that, as in 1992, there persists a shortage of qualified teachers for vocational subjects and a dependence on expatriates to teach these subjects, though such dependence is not so great as it once was. The rebuilding of nearly all schools in Botswana ('an investment unparalleled in Africa' (p. 115)) and the 'prominent emphasis' of practical subjects 'in the architecture and layout of both junior and senior secondary schools' mean that facilities are quite good. Nevertheless, computer labs lack computers. However, the implementation of practical subjects led to a number of 'key problems' (p. 117) identified by staff (including: lack of equipment; inexperienced teachers; high turnover of teachers; no school-based in-service training for teachers; and a lack of understanding of the continuous assessment approach). These problems, it is argued, have led to high rates of failure among students in many practical subjects.

Weeks found that links between practical subjects and the world of work were weak and that schools had very limited contact with industry. Though tracer studies had been called upon to illuminate government policy, none have been made public thus far, making it difficult to assess labour-market outcomes of pre-vocational education in Botswana. Tertiary institutions—including technical colleges—in Botswana 'neglect student performance in practical subjects,' (p. 135), indicating that 'the development of practical subjects in secondary schools is perceived as being of low priority by others' (p. 135). Weeks argues that 'the major lesson to be learned from Botswana is

that where there are extensive resources to throw at a problem a great deal can be done; but, at the same time, more might have been done with less if the system were better organized' (p. 137). However, because Botswana appears to have 'achieved an appropriate structural and institutional environment to support pre-vocational education in secondary schools', Weeks concludes by offering a series of practical recommendations for schools and for the Ministry of Education to help ensure the 'transformation of the nation's education system' that 'should occur during the next six years' (p. 139). In this way, positive use can be made of its investment in pre-vocational secondary education.

Vocationalisation of Secondary Education in Ghana

Albert K. Akyeampong explains that, in 1987, as part of Ghana's Education Reform Programme (ERP) 'a comprehensive plan was initiated to make "vocational education" an integral part of the secondary education system' (p. 151). Ghana's approach, Akyeampong explains, is to 'have a core curriculum and diversified clusters of elective subjects that include vocational and technical subjects' (p. 150). According to this approach, students at the senior secondary level must take four core subjects and three or four electives, several of which are technical and vocational courses. Specific 'vocational' courses available in Ghanaian secondary schools include leatherwork, sculpture, graphic design, basketry, food and nutrition, and management in living; whereas 'technical' courses include technical drawing, applied electricity, auto mechanics, metalwork and woodwork. Agricultural and business education subjects are given neither the 'vocational' nor the 'technical' label (p. 151).

Akyeampong, in his case study of Ghanaian vocationalised secondary education, follows the policy development and rationale for including vocationalisation in the 1987 reforms—arguing that vocationalisation was seen as 'one of the key solutions to socio-economic decline' (p. 151) and as a policy in line with the government's understanding of 'itself as championing the cause of ordinary Ghanaians rather than a minority elite' (p. 151). He draws out the lessons learned (both positive and negative) from the policy's implementation. It is important to note that the World Bank and other international donors supported Ghana's 1987 ERP.

Akyeampong argues that issues of cost have been critical for vocationalisation in Ghana and he devotes considerable attention to exploring cost differences between vocational and general subjects. Akyeampong found that vocationalisation at the senior secondary school (SSS) level appeared to have a higher rate of return than at the junior secondary school (JSS) level, where it was found that JSS is inefficient in preparing graduates both for labour-market participation and for qualification to SSS (p. 153). Likewise, at the SSS level, the case study 'did not find empirical studies conducted in Ghana that support the economic benefit argument of vocationalisation of the secondary school curriculum' (p. 210).

The case study also found an interesting tension in the vocationalisation of secondary education in Ghana, namely that 'TVE subjects come under the strong influence of general education goals that might lead to a corruption of the goals of vocationalisation' (p. 211). Akyeampong found that teachers and schools continued to emphasize university preparation at the SSS level and university entrance requirements 'exert considerable pressure' (p. 211) on the selection of elective courses. This pressure means that 'some students are compelled to study subjects that are of little practical relevance to them, especially if they continue into further vocational education or training instead of going to university' (p. 153)—a situation quite at odds with the stated goals of vocationalisation. Akyeampong argues that the Ghanaian case study demonstrates how 'difficult it is to marry general and vocational education'. Limiting circumstances, such as the above-mentioned university entrance requirements and lack of teachers and equipment, mean that in Ghana 'diversification has really not given all students equal opportunity to study vocational and technical subjects according to their interest or talent' (p. 211).

It appears from Akyeampong's work that vocationalisation in Ghana has failed to meet most of its nine policy objectives related to career exposure, employment and economic development, access inequality and equity. Akyeampong argues that 'the policy of vocationalisation for the secondary school sector appears to have been too ambitious and implementation of the policy hastily carried out' (p. 152). The picture is not entirely grim, however, as Akyeampong did find that vocationalisation still enjoys a high degree of support—50% of students at the SSS level take TVET courses and all SSS teachers surveyed in the case study called for intensification of the vocationalisation policy at the secondary level (p. 213). The positive perception of the inclusion of TVET courses, Akyeampong argues, is probably due to the still prevalent assumption that vocationalisation is 'somehow good for national and economic development' (ibid.) despite the lack of research to support this assumption.

Akyeampong argues strongly that the case of Ghana shows that 'implementing a large-scale diversified curriculum in systems with severe resource constraints is not advisable' (ibid.). Instead, he argues for the development of separate, limited and well-resourced TVET schools at the SSS level and the provision of general education that emphasizes 'generic and problem-solving skills as the foundation for further training' at the JSS level.

Vocationalisation of Secondary Education: Kenya Case Study

In Kenya, Kilemi Mwiria explains, two government-appointed commissions in the mid-1970s and early 1980s recommended the vocationalisation of secondary education. Kenya's current system was institutionalized in 1986 along with the implementation of a new 8–4–4 national education system (p. 227). Under the new system, the general secondary curriculum (of four years) was expanded to include a number of practical subjects, including agriculture, business studies, computer studies, home science and industrial education. The policy rationale was that vocational courses could enhance the transition of secondary school graduates into the world of work and provide opportunities for further training at relevant post-secondary training institutions (p. 228).

Mwiria explains that the implementation of the new national education system in Kenya was 'a rushed political event' (p. 228). Contents of the new curriculum were hastily disseminated from a very high level and the transition—particularly towards the 'newly introduced practical and vocational subjects'—was carried out through a 'crash in-service training programme for teachers and a recruitment drive for additional teachers and school inspectors' (p. 228). A teacher shortage and adequate teacher training has remained a problem for all subjects since implementation in 1986. The government assisted with the new infrastructure (workshops, laboratories, books, etc.) in some parts of the country (the arid and semi-arid areas), but expected other regions to provide the infrastructure themselves through a cost-sharing policy that resulted in the majority of the expense of vocationalisation falling on parents.

The cost of teaching vocational subjects in Kenya, with the exception of business studies, has proved to be higher, on the average, than that of teaching all other subjects, including science. That this financing is shared by the government and parents (with the government paying teachers' salaries and parents paying for consumables) has also been highly problematic. Popular vocational subjects in Kenya—and those available at most secondary schools—include agriculture, commerce and to a lesser extent, home science (p. 230). These subjects are seen to be relevant and, interestingly, require minimal physical inputs. Despite this, Mwiria argues that generally 'the popularization of vocational courses has not materialized. In particular, the industrial courses have not been easy to introduce in most schools' (p. 230).

Mwiria found that the vocationalised subjects tended to be more popular with academically weak students (due to the perception that were easier), tended to cater to gender stereotypes and were more popular with students from economically disadvantaged backgrounds (as well-off parents had higher aspirations for their children). These findings question the socio-political

justifications for implementing vocationalised secondary education in Kenya. As in Botswana and Ghana, assessment of vocationalised learning was identified as a problem and the links between performance in these courses and entry into post-secondary education were under-developed. Mwiria argues that:

The biggest obstacle to the successful implementation of the new curriculum was its limited acceptance by most education stakeholders outside of government, not only because they were not consulted on its introduction but also because it turned out to be an expensive system to implement for parents already burdened with other educational responsibilities with the onset of cost-sharing (p. 233).

In addition, the design of the curriculum was ‘too ambitious’ and falsely assumed that ‘education was capable of resolving the youth unemployment problem without addressing the underlying causes of this problem’ (p. 232).

Heavy criticism of the vocationalised curriculum and the 8–4–4 system in general led, in 2003, to the removal of most vocational subjects from the curriculum (p. 302). This decision came largely as a relief to both parents and teachers. Mwiria does recommend, however, that cost-efficiency may be promoted by continuing to allow those schools that do have well-established facilities to become designated regional schools offering vocational training—an option similar to Akyeamong’s recommendation in Ghana. Mwiria argues also that, in removing most of the vocationalised aspects from Kenya’s curriculum, the Ministry of Education ought not to shy away from introducing ‘other types of functional survival skills in the form of short courses or one general-knowledge course’ (p. 303). The skills to which he refers—communication, simple analytical skills, home- and health-related knowledge, basic business and agricultural skills, knowledge of environmental awareness, civic education, democratic values and basic repair and maintenance (p. 303)—and the suggested methods for their acquisition, resonate with Wilson’s call for a reconceptualised vocationalised secondary education.

III: LABOUR MARKET IMPACT

Technical and Vocational Education and Training in Mozambique: Better than its Reputation

The chapter by Jorgen Billetoft and AUSTRAL Consultoria e Projectos presents the findings of a recent study on the cost effectiveness, internal efficiency and cost structure of technical and vocational education (TVE) in Mozambique. The study focused particularly on understanding the labour market outcomes of investment in TVE and found, contrary to many expectations, a high labour-market absorption of graduates (along with a large number of graduates continuing on to higher levels). Jorgen and Billetoft found that only a small percentage of the graduates that they traced were unemployed (p. 309).

They credited this distinct experience in Mozambique—‘positively different from that of most sub-Saharan countries’—firstly, to the recent growth of Mozambique’s economy (‘Mozambique today is the fastest growing economy in sub-Saharan Africa’ (p. 310)) and, secondly, to the narrowness of Mozambique’s educational pyramid which allows only a small percentage of students to enter secondary school.

Post-independence policy-makers in Mozambique committed themselves to a socialist planned economy and in the 1980s developed the current structure of TVE in anticipation of ‘fast and growing modernization of agriculture, industry and services’ (p. 310). As Billetoft and AUSTRAL explain, ‘the aim was to develop a cadre of youth who would have the skills needed for the transformation of the economy’ (ibid.). Contrary to many African countries, Mozambique has created separate TVE schools that run parallel to the purely academic secondary stream in a dual system. TVE in Mozambique comprises three levels—elementary, basic and intermediate—

enrolling Grade 5 completers, Grade 7 completers and Grade 10 completers respectively and all offer courses of between three and four years duration. Nevertheless, taken together, all of the TVE institutions run by the Ministry of Education only provide educational opportunities for 1% of Mozambique's youth aged between 15 and 20. Public general education is only available for another 5 or 6% of this age group, making for an extremely narrow educational pyramid, despite the limited involvement of other ministries and industry in TVE provision.

In the 1990s, Mozambique's TVE, like other TVE and vocationalised systems in sub-Saharan Africa, earned reports of 'low efficiency and effectiveness' (p. 313) and in 2001 the Ministry of Education embarked on a reform. As Billetoft and AUSTRAL explain: 'the main thrust of the strategy is improvement of the quality of technical education, adjustment of curricula to the realities of the economy, forging stronger links with the productive sectors, and introduction of more flexible courses based on a modularized concept' (p. 314). The study that Billetoft and AUSTRAL report was submitted to the Mozambique Government in May 2003, a short time after the implementation of the reforms.

Billetoft and AUSTRAL's study found that: roughly one-third of their sample of TVE school-leavers (174 students traced, 97 of whom are women) continued their studies; one-third found a full-time salaried job (permanent or temporary); and the final one-third either had some kind of part-time job, were self-employed or were unemployed (p. 317). Women reported higher unemployment than men; more commerce and industry students pursued further studies than did agricultural students; those who reported permanent employment were more concentrated in the Maputo region; and students showed 'an overwhelming lack of interest in self-employment' (p. 324). Despite the positive external efficiency findings, 'both employers and graduates suggest the content of courses needs to be updated to better reflect modern technology and modes of organization' (p. 324). It is important to note that many TVE students see it as 'a means to pursue further education at a higher level' and 'do not choose TVE because they are interested in a professional career as a skilled craftsmen or technician, but because access to TVE schools is easier than it is to general secondary education' (p. 327).

In contrast to the impressive external efficiency of Mozambique's TVE, Billetoft and AUSTRAL found that 'the internal efficiency of the technical and vocational education system is very modest' (p. 326). Pass rates are low. Furthermore, many students appear to enter TVE as a second choice while waiting to enter the general education system, with the result that they have low motivation. Large class-sizes and the 'limited pedagogical competence' of teachers contribute to problems of low internal efficiency. So too does the 'strong emphasis on general academic subjects' in the first years of TVE programmes, as students who are more interested in practical training tend to perform poorly in these classes. However, 'the fact that many employers find the competencies of the graduates acceptable' does bode well for the relevance of TVE, despite acknowledgements that this too could be improved.

Billetoft and AUSTRAL conclude that investment in TVE 'under the prevailing situation of fast economic growth' appears to have had favourable labour-market outcomes. However, they argue that the 'extremely low internal efficiency' revealed by the study indicates 'sub-optimal utilization of existing scarce resources' (p. 327). Addressing problems, such as weak management capacity, centralistic planning routines and the lack of equipment and materials, would allow more students to take advantage of TVE's positive labour market outcomes in Mozambique.

Economic Returns to Vocational Courses in U.S. High Schools

John H. Bishop and Ferran Mañé explore the 'massive enterprise' (p. 329) of high school career and technical education (CTE) in the United States in terms of its labour market returns. In the United States, they explain, nineteen out of twenty students attend a comprehensive high school and about 60% of public comprehensive schools 'offer specific labour-market preparation in at least one

programme area inside the school' (p. 329). Nearly every graduate takes at least one CTE course and 90.7% take at least one occupation-specific course, with many students taking more than one vocational course. The number of vocational credits taken by graduates in the United States has remained 'remarkably stable' since 1982 (at around 3.00).

Despite this apparent stability, 'the last two decades have been challenging for high school career and technical education' (p. 330). Since the early 1980s significantly greater numbers of graduates have been entering college directly, leading some to 'postpone occupation specific course taking until college' (p. 331). This, in addition to the 1982 *Nation at Risk* report that called for a 'new basics' curriculum to address 'the rising tide of educational mediocrity' challenged CTE in that 'career and technical education could no longer be an alternative to strong academic skills' (p. 331). Bishop and Mane see evidence of vocational training moving from the secondary school—or remaining concentrated in 'just a few low-cost programmes', such as computer-related courses that 'now account for fully one-third of all occupation vocational courses' into the post-secondary level. Regardless of this move, young people are 'clearly now receiving considerably more school-based occupation specific education' than they did decades ago. 'Exactly what one would expect', the authors argue, given a period of rapidly rising skill demands, such as the one that the United States has experienced. These shifts in CTE and the attitudes towards it, however, require a closer understanding of the returns to this type of education in high schools.

Bishop and Mane explored the high-school completion rates and labour-market payoffs associated with high-school-based CTE. They found evidence to agree with the assertion that 'a "one-size fits all" upper secondary education is bound to fail many students' (p. 336). They found that the inclusion of CTE options tends to increase upper-secondary enrolment—arguably offering options for students who may have dropped out of a fully academic curriculum—as well as completion rates, with a 'rather strong' relationship emerging between schools that offer CTE and rates of graduation (p. 338). In addition to this compelling evidence for CTE, Bishop and Mane found that 'a heavy emphasis on CTE in upper secondary education' did not reduce 'test scores at age 15' or 'college attendance rates for young adults in their twenties' (p. 349).

Additionally, from their longitudinal analysis of data on students at high school in the United States between 1988 and 1992, Bishop and Mane found that 'those who trained for specific occupations' in CTE courses at high school 'were more successful in the labour market' (p. 349). These students spent more time in employment—the same observation was true immediately after high school and eight years later—found better jobs and earned 'significantly more' than students who did not take advanced CTE courses (p. 349). 'Benefit/cost ratios and internal rates of return' for CTE in high school, argue Bishop and Mane from their findings, 'are remarkably high' (p. 350).

Bishop and Mane summarize the 'policy implications' of their findings in terms of favourable evidence for school-based vocational and occupational training. They argue that CTE options are incredibly important and bring enormous benefits for 'students who do not plan to enter college immediately after graduating from high school or are uncertain about what they will do' (p. 352). They do nothing to detract from the performance or opportunities—and in fact appear to improve opportunities—of students who do go directly to college. Schools, they argue, 'have natural advantages as competitors in the occupational training market' (ibid.) in that they offer flexibility and choice to students, have lower hourly training costs than industry, can certify skills learning and can access public subsidies. In the United States, where resources exist to fund stable and effective CTE, this seems to be a good policy option. Bishop and Mane conclude arguing that 'when schools become major training providers, barriers to entry into skilled occupations fall, the supply of skilled workers grows, the cost of employing people with the skill falls, and expanded use of technology is facilitated' (p. 353).

CONCLUSION

As can be seen from the chapter summaries presented above, the volume ‘Vocationalisation of Secondary Education Revisited’, edited by Jon Lauglo and Rupert Maclean as part of the Technical and Vocational Education and Training Series, makes an important contribution to the still vibrant debate about the vocationalisation of secondary education. In focusing this debate around possibilities and constraints for vocationalisation in Sub-Saharan Africa, the volume is able to explore key facets of the ‘to vocationalise secondary education or not to vocationalise’ (p. xxii) question, such as cost efficiency, labour-market outcomes, policy justification and feasibility in constrained circumstances. In drawing on case studies of vocationalisation in Africa and on lessons learned from more focused TVET-type programmes elsewhere, the volume presents compelling evidence and policy advice for policy-makers contemplating vocationalisation in sub-Saharan Africa. The key questions that the volume raises around vocationalisation of secondary education, particularly in Africa, are:

- Does limited curriculum time allotted to vocational and occupational subjects provide any advantage at all to youth who leave school looking for a livelihood? While further research is certainly needed into this pressing question, the findings presented in this volume would tend to point away from the benefits of limited vocationalisation and towards the benefits of more-focused, specialized and limited vocational tracks running in parallel to general secondary schools.
- Should vocationalisation be encouraged in contexts where labour markets are depressed and unemployment is high? Again, findings in this volume tend to show limited evidence of positive labour-market outcomes from low-intensity vocationalisation (10–20% of curriculum time). They may therefore point African policy-makers towards giving greater priority to improving general education quality over implementing vocationalisation—in a situation where resources are limited.
- Learning outcomes and labour-market payoff—must both exist for successful vocationalisation? This question brings policy-makers back to the justifications of vocationalisation and to larger issues of improving secondary educational quality—a growing policy imperative around the world. Based on research presented in this volume, policy-makers would be advised that, if vocationalisation is chosen, significant efforts should be made to ensure that it is of high quality and well resourced, which may in turn have positive results for both learning outcomes and labour-market payoff.
- Should vocational education be massified or should specialized vocational secondary schools offer intensive programming tailored to fewer, specialized students? While further research is required into this question, evidence from Mozambique and the United States in this volume points towards the benefits of specialized vocational secondary schools—especially in stable or growing economies—while research from the vocationalised secondary systems of Botswana, Ghana and Kenya indicates less success in terms of learning and labour-market outcomes.

In addition to offering tentative answers as useful stepping-stones for further research and contemplation, the volume points to additional questions for which further research is necessary:

- Does/can vocationalisation of secondary education improve quality? How does educational quality differ between a vocationalised and a dual-track system?
- Does vocationalisation lead to higher secondary enrolment and completion? Does a dual-track TVE system?
- Does increased time spent in vocational training lower academic achievement?
- Can the reproach that vocational education reflects and even entrenches gender biases be overcome?

- How can educational policy-making respond to the need for ‘knowledge workers’ (p. 84)? Does it make sense to think of education and training as distinct? How can a reconceptualized vocationalised secondary education be implemented in resource-constrained circumstances?
- Are the answers to these questions different in Africa than they may be elsewhere?

The questions raised in this volume, along with the new research findings it presents and the sound policy-making advice that it provides, make a welcome and necessary contribution to the robust vocationalisation debate. While this volume certainly does not settle the debate, it does provide several avenues forward for policy-makers and sets a clear research agenda by pointing to the need for further research into the themes raised in the questions above. As secondary education becomes an increasing priority on the international stage, as education systems continue to grapple with the challenges and opportunities of globalization and as African economies and education systems search for avenues forward, the question of ‘to vocationalise or not to vocationalise’ will remain a poignant one. This volume will certainly provide advice, perspective and useful evidence for policy-makers and donor agencies grappling with this question.

Note

1. This summary paper was prepared by Julia Paulson. E-mail: julia.paulson@education.oxford.ac.uk

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All the citations in this article are taken from the various chapters of: Lauglo, J.; Maclean, R., eds. 2005. *Vocationalisation of secondary education revisited*. Dordrecht, Netherlands: Springer. The chapters, in alphabetical order of authors’ names, are as follows:

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