

Alison Taylor

and

Wolfgang Lehmann

University of Alberta

“Reinventing” Vocational Education Policy: Pitfalls and Possibilities

This article traces vocational education policy in the province of Alberta from the 1960s federal Technical and Vocational Training Assistance Act to the provincial endorsement of new curriculum and transition initiatives in the 1990s. The purpose is to understand the implications of shifts in policy over time. Our examination suggests that although the current provincial approach is strengthened by the commitment of local educators and employers, it is hampered by the lack of institutional support including resources and research into outcomes, as well as coherence and clarity about educational policy objectives. The resilience of existing structures, attitudes, and practices also poses challenges to the implementation of policy.

Cet article reprend l'évolution de la politique sur la formation professionnelle en Alberta, depuis la loi fédérale (Technical and Vocational Training Assistance Act) des années 1960 jusqu'aux années 1990 caractérisées par l'appui provincial aux nouveaux programmes d'études et projets de transition. Le but de l'étude est de comprendre les conséquences des changements de politique au fil du temps. La recherche des auteurs laisse croire que même si la position albertaine actuelle est renforcée par l'engagement des enseignants et des employeurs provinciaux, elle est gênée par un manque de soutien institutionnel (impliquant les ressources et la recherche sur les résultats) et un besoin de cohérence et clarté dans les objectifs d'une politique éducative. La résilience des structures, des attitudes et des pratiques existantes viennent également contrarier la mise en oeuvre de politiques.

Introduction

In Canada, as in other industrialized countries, policy makers have been paying more attention to students' transitions from school to work in recent years. They are concerned that old vocational education programs do not prepare students adequately for the “knowledge economy” and that their country's ability to compete and maintain a high average standard of living is tied to education. Although the need for countries like Canada to create their own supply of professional, managerial, and technical workers has been expressed in the past (Lazerson & Dunn, 1977; Taylor, 1997), a shift in thinking about “vocational” education is evident.

For example, trends in Canada as well as in other industrialized countries include: increasing the number of non-university tertiary programs, tightening links between vocational and tertiary education, blurring divisions between general and vocational education, decreasing while broadening entry points to

Alison Taylor is an assistant professor in the Department of Educational Policy Studies. Wolfgang Lehmann is a doctoral candidate in the Sociology Department.

vocational educational pathways, and introducing more modular curriculum structures (Organisation for Economic Cooperation and Development [OECD], 2000). Another trend includes increased interest on the part of governments in partnering with business and communities to develop educational policy and to deliver programs. As the OECD acknowledges, new approaches to student transitions have addressed certain problems associated with the old "vocational" education programs while creating other issues.

The purpose of this article is to trace policy regarding vocational education in the province of Alberta from the 1960s until the present in order to understand the shift in policy direction, persisting tensions in new vocational education, and the strengths and weaknesses of current policy. One of our key arguments in this article is that the Alberta government has not provided the necessary institutional supports for effective transition systems. In the first few sections of the article, we examine federal and provincial policies from the 1960s to the present with a focus on the continuities and discontinuities. In our discussion section we then address key questions regarding policy goals and outcomes.

Our main data sources include policy documents and transcripts from six interviews that were conducted between January and September 2001. The purpose of the interviews was to enhance our understanding of the development and implementation of current school-to-work initiatives. Interviews lasting one to two hours were conducted with two former bureaucrats from the department of education and with four participants representing groups involved in three provincial initiatives (Tech Prep, Careers: the Next Generation, and Registered Apprenticeship).

The Expansion of Technical and Vocational Education, 1960-1982

As noted, recent educational reforms have been motivated partly by attempts to resolve past problems. For example, a division between general academic and vocational programs has persisted historically. High schools segregated students into different tracks, with academic programs preparing students for university study whereas vocational programs prepared them for the world of work. However, critics suggest that vocational programs became a "dumping ground" for already marginalized students who gained little benefit from the programs (Kincheloe, 1999; Lazerson & Dunn, 1977). Vocational education came to be seen as an alternative for students with less academic aptitude for learning and behavioral problems (Gradwell, 1999; Ritter, 1978). The "new vocationalism" discourse of the 1990s is presented as a more progressive approach that eschews program divisions and encourages all partners to work together to prepare young people for their futures. But despite these differences, there are also parallels between discourses surrounding vocational and technical education and training in the late 1950s and 1990s that become evident when we look at some of the factors leading to the Technical and Vocational Training Assistance Act (TVTA Act).

The Federal TVTA Act

The Royal Commission on Canada's Economic Prospects (Department of Labour, 1957) noted that the country was not expanding its skilled work force to meet the need for higher-level skills in an increasingly technological and

professional society (Bryce, 1970). As with current claims about Canada's need to increase its skilled work force, apprenticeship training and programs in technical and vocational schools were regarded as ways of meeting labor market demand. The Commission predicted that requirements for a skilled work force were likely to outrun supply, that immigration could no longer be relied on as the major source of skilled workers, and that the most severe shortages would involve "professional workers." It was believed that the "baby boomers" would be a good source of skilled and professional workers if adequate training facilities could be made available (Bryce, 1970).

Three main reasons for the introduction of the TVTA Act in 1960 were, therefore, not unlike rationales for recent reforms: education was seen as an investment in the general economy (human capital theory); Keynesian approaches were seen as insufficient to deal with unemployment and the mismatch between labor supply and demand; and the school system was seen as failing to provide young people with the skills necessary to find employment in a technologically advanced society (Bryce, 1970).

The main groups served by the TVTA Act were non-college-bound youth in schools and individuals who required training for trade or technical occupations (Young, 1992). The Act was organized into programs ranging from high school vocational education to vocational teacher training to apprenticeship training. The federal government agreed to share the costs of high school programs with the provinces and to reimburse them for part of their expenditures for construction, purchase or alteration of facilities, salaries for instructors, and equipment (Young, 1992).

The TVTA Act was largely responsible for the expansion of technical and vocational education across the country. Alberta had worked toward the establishment of composite schools since the 1930s, but the injection of federal funds prompted a rapid expansion. School boards were encouraged to offer vocational education programs in high schools. Overwhelmingly, the province decided to adopt the composite high school concept in response to the TVTA Act rather than build separate vocational schools (Young, 1992).

The Act ended in March 1970, partly because of federal-provincial differences regarding where money should be spent. Alberta, for example, spent most of the federal support it received on building new and expanding existing composite high schools, whereas the federal government seemed more interested in targeting specific vocational and technical education programs outside of the school system (Bryce, 1970). But the TVTA Act left its mark. As OECD writers (2000) suggest, recent attempts to make vocational content "more generic to a number of related occupations or industries can be difficult to implement if teachers have only specialised expertise, and if schools' physical facilities have not been constructed to meet the needs of more broadly defined pathways" (p. 16). These features are also part of the legacy of the TVTA Act.

In recent years the federal government has changed its approach. It launched and expanded several large youth internship programs that provide wage subsidies to employers who create work experiences for out-of-school, unemployed, or underemployed youth. Most programs are organized under the Youth Employment Strategy (YES) introduced in 1997.¹ The federal government also supports research into school-work transitions through Human

Resources Development Canada. A key change since the 1960s, therefore, involves the shift from being an active participant in the development and implementation of high school vocational education programs to gathering information and brokering partnerships with provinces, employers, and the education system with respect to school-work transitions (Marquardt, 1998).

Alberta Education Reports in the 1970s

This discussion highlights two influential education reports that present somewhat different visions for education. The first is the Worth report (Commission on Educational Planning, 1972), commissioned by the Social Credit government and released by the newly elected Conservative government; and the second is the Harder report (Curriculum Policies Board, 1977), which is said to reveal more clearly the new government's direction. Mazurek (1999) argues that the Worth report reflected the 1960s shift toward student-centered inquiry learning, curricular options, and open classrooms, whereas the Harder report was consistent with a back-to-basics approach. The Worth report assumed that the learners should be the "prime architect" of their programs and that they should be allowed to learn by experience "whether by manipulating materials in early education, work-study programs in basic education, apprenticeship activities in higher education or do-it-yourself projects in further education" (pp. 155-156). The Harder approach, on the other hand, was partly driven by the view that the quality of education had declined and that solutions lay in the direction of

An emphasis upon knowledge and skills relevant for employment; more instruction time in the core curriculum; a curriculum highly specified in content and skills levels by grade; a reduction of electives; criterion-referenced standardized tests; accountability through monitoring; [and] citizenship training. (pp. 14-15)

In the Harder report (Curriculum Policies Board, 1977), students have a less active role in determining the content and delivery of programs. Yet although the philosophies guiding these reports differ, both acknowledge the importance of vocational education. The Worth report (Commission on Educational Planning, 1972) spoke generally about the need for more effective planning of schooling to meet occupational needs, and the need to integrate occupational placement with secondary schools (Ritter, 1978). The Harder report was more prescriptive, listing the need to develop the knowledge, skills, attitudes, and habits required of the world of work as one of six objectives of education. It recommended that students be required to take a minimum number of credits in the practical arts (i.e., industrial education, home economics, business education, or work experience) in junior and senior high schools. This would require an expansion of the facilities built mostly in the 1960s. The report suggested that educators consult with the community to determine the skills and knowledge required by graduating students. It recommended awarding credits on the basis of demonstrated competences as well as attendance, developing more courses locally, and paying more attention to industry requirements in certain occupational areas. In fact an appendix to the report listed current and projected industry requirements as well as high school offerings and enrollments in 1975-1976.

Quarter (1978) suggests that the report's recommendations reflect the tension between the push for continued expansion of education resulting from high youth unemployment and the push for retrenchment resulting from recession and decreased productivity in this period. We agree with Mazurek (1999) that the Harder report foreshadows more recent educational reforms that stress system efficiency and accountability, outcomes-based education, and local labor market needs. However, the Worth report is useful to revisit because it reminds us of the choices involved in trying to address competing goals of education in a changing society.

The New Vocationalism in the United States

It is difficult to talk about educational policies in Canada without reference to those in the United States and other countries because of the extent of policy borrowing that has occurred. Tales about the need for reform (Chubb & Moe, 1990), the "neglected majority" (Gray, 1996; Parnell, 1985), and the new vocationalism (Grubb, 1996) travel, although they may be translated in different ways in different sites (Dehli, 1996). For example, documents used by policymakers in the process of developing a framework for enhancing business involvement in education (Alberta Education, 1996a) included a review of school-to-work transition policies in other countries (Nichols Education Consulting Group, 1996).

In the US, concerns about a decline in global competitiveness, more complicated school-to-work transitions, and the perceived mismatch between graduates' skills and labor market needs led to a series of reports in the 1980s and 1990s advocating the need for change (Ryan & Imel, 1996). These included *A Nation at Risk* (National Commission on Excellence in Education, 1983), *The Forgotten Half* (W.T. Grant Foundation Commission on Work, 1988), and a report by the National Assessment of Vocational Education (1994, July). According to Orr (1998), such reports prompted a

rethinking of the goals and mission of public education, the centrality of post-secondary education for workforce development, and the delivery of secondary and post-secondary education to improve standards, instruction and effective transition to further education and career-oriented employment. (p. 93)

The federal government responded with policies: the amended Carl Perkins Vocational and Applied Technology Education Act (1990), the School-to-Work Opportunities Act (1994), and Goals 2000: Education America Act (1994). The Perkins Act attempted to "move vocational education away from job-specific training toward a broader education that focuses on the integration of a variety of learning experiences" (Kincheloe, 1999, p. 150). Amendments to the Perkins act in 1990 financially supported Tech Prep programs that combine high school and college education (Grubb, 1996). By law, Tech Prep programs were to lead to a degree or two-year college certificate, provide technical preparation in named occupational fields, build student competence through an applied and sequential course of study, and lead to employment. Programs were expected to encourage students who might not otherwise go to college to continue their education by fostering "a K-14 continuum of education and training between secondary and post-secondary institutions" (Orr, 1998, p. 98) through the articulation of high school and college courses. They were, therefore, aimed at

what Grubb (1999) calls the “subbaccalaureate labor market” (p. 171), that is, students who were likely to complete high school but not a four-year university degree. Tech Prep programs typically include “applied academics” courses, which emphasize contextual learning in math, science, and communications areas. One of the most popular commercial vendors of applied academic materials in the US is the Center for Occupational Research and Development (CORD).

The School to Work Opportunities Act (STWOA, 1994) provided “states and local communities with seed money to build school-to-work systems that prepare young people for high-skill, high-wage jobs or further education” (Ryan & Imel, 1996). Common components of such systems include Tech Prep, youth apprenticeship, cooperative education, and career academies. Career academies operate as schools-within-schools that focus on a particular cluster of occupations and involve teachers working together to integrate occupational applications into academic courses (Grubb, 1996). The companion legislation to the STWOA is Goals 2000, which called on states to integrate school-to-work programs with other school reform efforts and authorized the creation of a National Skill Standards Board to identify broad occupational clusters and create a system of standards, assessment, and certification for related occupational skills.

Groups in Alberta have been particularly receptive to US models. For example, in the mid-1990s Alberta became the first province to introduce charter schools. US models have also been the source of inspiration for policies related to school-business partnerships (Taylor, 2001) and Tech Prep programs. However, two points should be kept in mind when we compare what is going on in Alberta with policies in the US. First, the federal government in the US actively developed policies intended to coordinate school-to-work initiatives at the state level, and second, it committed funds to the implementation of policy. One of our key arguments in this article is that the Alberta government has not provided the necessary institutional supports for effective transition systems.

Visioning School-to-Work in the 1980s and 1990s

In the 1980s and 1990s the department of education in Alberta initiated several policy processes aimed at making educational programs more relevant to changing political, social, and economic realities. The *Review of Secondary Programs* (Alberta Education, 1984) was commissioned by Education Minister Dave King, followed by a practical arts review undertaken in 1988 by the Curriculum Development Branch (1989). In the early 1990s the province also introduced a Registered Apprenticeship Program (RAP), aimed at encouraging high school students to consider careers in the trades. The goal of developing a more outcomes-based, accountable system was expressed in Education Minister Jim Dinning’s *Vision for the Nineties* (Alberta Education, 1991) and operationalized in Minister Halvar Jonson’s *Three-Year Business Plan for Education* (Alberta Education, 1994s). The *Framework for Enhancing Business Involvement in Education* (Alberta Education, 1996a) was part of the process of implementing key components in this three-year plan.

During the 1990s the models provided by external groups were also influential. For example, as a result of its partnership with the Alberta Chamber of Resources in a pilot project called Careers, the Next Generation (CNG), Alberta

Education supported the establishment of the CNG Foundation. This foundation was mandated to mobilize educators and employers in communities across the province to support transition initiatives by providing partnerships, work experience, and apprenticeship opportunities. The department also began to support the expansion of Tech Prep Consortia across the province based on a model from Red Deer. The combination of locally developed models and provincial directives reflects the current situation in Alberta. The following sections examine these models and directives.

Provincial Reviews, Frameworks, and Business Plans

Review of Secondary Programs

The *Review of Secondary Programs* (Alberta Education, 1984) stated that secondary education should "provide the initial stages of career preparation by developing basic work skills, with an emphasis on fostering appropriate attitudes and awareness of the world of work" (vol. 1, p. 5) in addition to other goals. The emphasis on career preparation was reflected in recommendations that schools, business or industry, and labor work in partnership to design quality work experience programs and communicate expectations of graduates in terms of knowledge, skills, and abilities. It was further recommended that practical arts and business education be a core component of the junior high program and that courses be developed on a modular basis with flexible staffing and programming alternatives for fine arts, practical arts, business education, and health education. There should be diploma requirements and recognition for specialized programs in these areas as well as for academic, special education, and occupational programs. Overall, Alberta Education should work to improve the articulation of the secondary education program with elementary and postsecondary programs and the business community.

The review carried forward a number of issues and recommendations made in the Harder Report (Curriculum Policies Board, 1977), for example, the emphasis on the role of schools in preparing students for work and mandating courses in practical arts and business. It also laid the groundwork for the practical arts review that began four years later. However, the differentiation of diplomas exacerbated the decline already taking place in practical arts or business course enrollments because of the higher status of the academic track. Thus the single diploma was reintroduced in 1994.

The secondary program review also led to the introduction of Integrated Occupational Programs (IOP) around 1986-1987. According to the *Information Manual for Administrators, Counselors, and Teachers* (Alberta Education, 1994b), this program was designed for students in grades 8 through 12 who were experiencing difficulties with higher-level elementary and secondary programs. The target population was students who had demonstrated levels of achievement below those of their age peers and who appeared to benefit from concrete learning experiences. It was not to include students with special needs, students whose behavior was disruptive, or students whose needs could be better met through remedial classes. Although schools were required to provide special education programs, they could choose whether to offer the IOP.

Reflecting on the development and implementation of IOPs in school districts over time, a former bureaucrat from Alberta Education makes the following comments:

The government [initially] believed in it. The government supported it. The government saw that it got into place and they provided facilities and grants to keep it operating. Now the government does not support it and therefore it is shriveling on the vine. They basically only support the three R's. We had smaller classes in the academic areas and it was always tying the academic material to the practical, back and forth ... [But] what has happened now is that they've cut off the money. Unfortunately, money is what dictates philosophy ... You won't find very much IOP taught right now because [school boards] don't get extra money to handle the lower numbers of kids in the classes. (Interview, January 8, 2001, pp. 10-11)²

The perceived lack of commitment to IOP can be juxtaposed with the finding that effective transition systems (such as those in Nordic countries) tend to provide "safety nets" for at-risk students by providing individualized programs that aim to reintegrate students into general programs (OECD, 2000, p. 108).

A provincial committee began to review IOP programs in the late 1990s. In consultations, one of the issues that arose was whether IOP programs were really serving the population for which they were intended. As the funding formula changed, it seems that school districts were setting their own criteria for IOPs, which often included students with special needs (J. Skyte, personal communication, February 16, 2001). A second issue, therefore, concerns the adequacy of resources for such programs. A third issue concerns the work for which these students are prepared. Finally, the potential mobility between IOP and other transition programs is cause for concern. For example, a representative from a Tech Prep consortium in Alberta commented, "I don't see us moving the [Tech Prep] credential to a point where we're going to fit in IOP kids" (Interview, January 22, 2001, p. 16). How to provide inclusive transition systems is, therefore, a key question that has not been satisfactorily addressed.

Practical Arts Review

In 1988 Alberta Education decided that the practical arts curriculum must be updated to "help students prepare to enter the workforce ... with the skills, knowledge and attitudes needed to help to ensure Alberta a competitive place within the global trading community" (Curriculum Development Branch, 1989, p. 4). The practical arts review focused on 250 course codes in junior and senior high school home economics, business education, industrial education, personal development, and work experience education.

The assumption was that the old practical arts curriculum did not adequately prepare students for knowledge economy work. In addition to economic changes, other reasons for the review involved concerns about declining enrollments in practical arts subjects, aging of equipment, and underuse of facilities. The decline in practical arts was a national trend according to a 1987 study by the Canadian Teachers' Federation (cited in Buck, 2000) and an international trend according to data provided by Smaller (in press). Studies by Alberta Education and by the Calgary and Edmonton public school boards all indicated reduced student enrollment in most practical arts courses since the mid-

1980s (Curriculum Development Branch, 1989). Two contributing factors were the increased number of students choosing other options such as second-language or computer courses and an increase in the number of core courses required to graduate.

The review (Curriculum Development Branch, 1989) aimed to revitalize curriculum and promote equity of access by updating old courses and developing new courses to reflect changes in society and in the world of work. Technology was also to be integrated into all practical arts courses as reflected by the new name: Career and Technology Studies (CTS). Gradwell (1999) suggests that increasing the emphasis on technology skills is a strategy adopted by provinces across Canada to increase the status of practical arts courses. He cautions, however, that high technology jobs account for a small percentage of the labor force.

Reports from the practical arts review point to differences related to the content, pedagogical assumptions, and mode of delivery of CTS. As the *Review of Secondary Programs* (Alberta Education, 1984) recommended, CTS adopts a modular approach by dividing the 22 strands into over 650 one-credit courses. The teacher preparation program at the University of Alberta divides strands into four areas: business and technology, technology education, human ecology, and resources (Buck, 2000). The modular approach is designed to provide greater flexibility for students and local jurisdictions and reflects an international trend (OECD, 2000). New courses in tourism, design and innovation, media technologies, and energy and management were developed. Another difference from old practical arts courses is the emphasis on integrating CTS strands internally and with other curricula (Buck, 2000). The modular nature of CTS, therefore, makes it possible to add a CTS credit to another course. CTS also takes a competence-based approach, meaning that courses may be accessed by students in different grades and that prior learning and experience can be taken into account in assessment so that the time required to complete courses may be reduced.

This recalls the recommendation from the Harder report (Curriculum Policies Board, 1977) that credits should be awarded on the basis of competence as well as time spent. Changing ideas about delivery of programs is also evident in the comment that "partnerships with community agencies, business and industry offer ample opportunities for students to access modern and changing technology, expertise, role models, mentors, specialized libraries, hands-on activities, meaningful decision-making situations, and continuity of experience and commitment" (Curriculum Development Branch, 1989, p. 33). An important goal was enhanced rigor and credibility for vocational programs. One way to achieve this was to involve private partners in the development and delivery of programs—a notable shift from government approaches in the 1960s.

Buck (2000) argues that CTS involves "an extensive array of changes that have altered the basic philosophy of the curriculum as well as content and methods of delivery" (p. 1). It aims to increase student interest in work education by increasing standards, inviting student exploration and responsiveness to labor market demand through a flexible modular approach, encouraging integration of practical arts and academic courses, and encouraging more off-campus delivery. An unspoken assumption seemed to be that attracting

more “academic” students into these courses would also raise their status. CTS corresponds to Grubb’s (1996) description of new vocationalism in the US as broader and better connected to academic content in high school, the workplace, and postsecondary offerings.

CTS was phased in between 1992 and 1996, but as with IOP programs there are questions about resources. A former Alberta Education bureaucrat voiced concerns as follows:

[The government provides] so many dollars per CEU [credit enrolment unit] extra for the courses that they teach in CTS.... Well, of course, the politicians will tell you that it’s supposed to help with lower class sizes. It’s supposed to accommodate lower class size, keeping equipment up to date. But that’s not so. I mean, there’s not enough money there to do that. (Interview, January 8, 2001, p. 14)

In addition to concerns about whether existing school facilities and timetabling practices support new modular programs, there is also a risk that young people will leave high school with only partial skills and qualifications (OECD, 2000). This finding suggests the need for governments and school boards to address barriers to implementation and to monitor outcomes.

From Reviews to Plans in the 1990s

The *Vision for the 1990s* (Alberta Education, 1991), *Three-Year Business Plan for Education* (Alberta Education, 1994a), and the *Framework for Enhancing Business Involvement in Education* (Alberta Education, 1996a) continued to emphasize the importance of work education to economic prosperity in Alberta. The vision report stated that the new CTS curriculum would provide students with “a combination of academic and practical skills as preparation for future study and careers in highly skilled and technical fields” (p. 10). The objective of working in partnership with other groups to enhance work education recurs throughout the report.

The *Three-Year Business Plan* released in 1994 (Alberta Education) was part of a broader restructuring of public sector departments that aimed to create a smaller and more efficient government (Bruce, Kneebone, & Mackenzie, 1997; Taylor, 2001). Reforms to education included mandating school councils, introducing charter schools, encouraging school-based management, and centralizing school funding. The plan specifically mentioned that business would be “a key player in defining the specific learning requirements of industry” (Alberta Education, 1994a, p. 6). Schools would be accountable for students’ achievement of provincial learning standards “including employability skills consistent with workplace requirements” (p. 5). Accountability measures were to include satisfaction surveys of employers, postsecondary instructors, parents, and students. Alberta Education was to facilitate partnerships between education, business, and the community and to monitor results. In sum, developments in Alberta were consistent with the analysis of British Columbia reforms by Gaskell and Rubenson (2000), who comment that “flexibility and relevance are becoming the guiding principles for educational policy, and partnership the strategy to achieve these goals” (p. 4).

The restructuring was accompanied by cuts to education funding. Between 1993 and 1997, per-student spending decreased by 14.6%, and since then per-student spending in constant dollars has increased little (Neu, 1999). In this

climate of fiscal restraint, schools have more difficulty justifying programs that require low enrollments and have high equipment and material costs, such as IOP and certain strands of CTS (e.g., fabrication, building construction). There are, therefore, pressures on schools to operate programs on a cost-recovery basis or not at all (J. Skyte, personal communication, February 16, 2001).

One of five implementation teams set up to carry out the three-year plan was the "I-team" on business involvement and technology integration. This team split into two groups and produced two reports: the *Framework for Technology Integration* (Alberta Education, 1996b) and the *Framework for Enhancing Business Involvement in Education (FEBI)* (Alberta Education, 1996a). The FEBI focused primarily on transitions for non-college-bound youth and recommended projects to enhance business involvement that included: creating a Career Education Foundation to promote business-education partnerships; promoting workplace learning and apprenticeships; enhancing the image of trade, service, and technical careers; reviewing school programs and standards to ensure greater attention to employability and entrepreneurship; reviewing diploma requirements to decide whether a certain number of CTS credits should be required; and involving business or employers more in policy-making at all levels.

A year later the Careers, The Next Generation (CNG) Foundation was established. It is "led by the private sector to support the preparation of high school students for the world of work through meaningful work experience, particularly in trades and technologies, and exposure to career choices" (Government of Alberta, 1997, p. 14). Another change that was partly justified in terms of providing "seamless" transitions for students to work or postsecondary education was the amalgamation of Alberta Education and Advanced Education and Career Development into a super-department called Alberta Learning in 1999. Taylor (2002) suggests that the FEBI tends to delegate action to other parties without a significant commitment of resources by the education department. Its influence is, therefore, more symbolic than material.

Education policies introduced in the 1990s reinforced the human capital idea that schools need to prepare students for the workplace as well as for further education. But unlike in the 1960s, when governments attempted to fulfill this role primarily through in-school programs, their more recent approach attempts to involve business and industry partners in the policy-making process and delivery of work education programs. Armstrong and Lenihan (1999) document the trend toward private-public partnerships across Canada. Governments in Canada and other industrialized countries have also encouraged the creation of "intermediary bodies to act as brokers between educational institutions and employers" to improve students' transitions (OECD, 2000, p. 20). Such brokers (like CNG) are reportedly successful when roles are clear and well coordinated and when governments take an active role in monitoring their impact and ensuring quality outcomes. A weakness of the Alberta approach to transitions is the failure to monitor the impact of initiatives on young people's aspirations, ideas about work, and subsequent education and employment (compare Levin, 1999). The absence of equity as a key policy goal of initiatives is also problematic.

Transition Initiatives

Three key transition initiatives began in the 1990s through the combined efforts of business leaders, school districts, and government representatives: the Registered Apprenticeship Program or RAP (introduced in 1991), Tech Prep (begun in Red Deer in 1995), and CNG (piloted in 1993). RAP and CNG were arguably driven by labor market demand. For example, a recently retired bureaucrat from Alberta Learning suggests that "the impetus for RAP was that the Alberta economy was heating up" (Interview, September 27, 2001). A participant from CNG adds that a number of pulp mill announcements in the mid-1980s added to employers' concerns about shortages (Interview, January 26, 2001). In response, the government began to look at youth apprenticeship programs in other provinces and undertook a series of projects in partnership with the Alberta Chamber of Resources, leading to a three-year pilot project (1993-1996) called *Careers, the Next Generation*. Tech Prep was more educator-driven, based on models in the US. The government later began to support consortia across the province. The following sections outline these initiatives.

RAP

Alberta's Registered Apprenticeship Program (RAP) provides opportunities for high school students as early as grade 10 to earn credits toward a journeyman certificate and a high school diploma at the same time. The number of students enrolled has increased over time, although the program continues to represent fewer than 1% of high school students overall. In 1997, 287 high school students were registered as apprentices with Apprenticeship and Industry Training (HarGroup, 2001). By 2000, 746 high school students were registered. Approximately 209 high schools were offering RAP courses. A 1993 RAP update from Apprenticeship and Industry Training indicated that male students tended to be opting for auto mechanic trades whereas female students were entering hairstyling (10 of the 13 female RAP apprentices in 1995 were hairstylists). The fact that so few young women are opting for RAP reflects more general concerns about how to integrate more women into the Canadian apprenticeship system (compare Gradwell, 1999). If programs are to be inclusive, government and educators must pay more attention to this issue.

RAP apprentices are paid at least minimum wage and work only part time until they complete high school. The number of new RAP registrations increased more rapidly after 1995 when a change in regulations allowed employers to pay lower rates to first-year apprentices who were still in high school. RAP proponents argue that participation in the program improves young people's range of choices and career options by providing them with work experience while in school and addresses the concerns of employer groups about skill shortages in these areas.

The target population for RAP appears to have shifted from the 1970s when vocational courses in high school provided training in areas such as pipe trades and welding. A representative from the building trades council suggests that students now require higher-level academic courses:

When I went to high school, I think the theory was that the trades were for the incorrigibles, the congenitally stupid, the people who lacked motivation, "big and dumb as a man can come." The truth in a lot of cases is that those people just learned in a different way.... [But] the trades themselves are more complex

now.... If you're a sheet metal mechanic ... you've got to be able to use a plasma arc, and you've got to be able to use a computer because that's how you make your equipment. So they have been upskilled and upscaled. (Interview, February 12, 2001, p. 10)

Although he acknowledges a hierarchy within the trades from pipefitter, boilermaker, electrician, and instrument mechanic down to cement masons and carpenters, he adds that if students "can't make the cut to go to university or community college, maybe we're a little doubtful that we want them either" (p. 13). Many employers are also interested in attracting students who meet minimum requirements in terms of grades and attendance. These beliefs about the upskilling of trades raise questions about what skills are actually used by workers in different trades and how these are best obtained.

Our interview participant also voiced concerns about political and employer support for the apprenticeship system in the province, as follows:

Part of the problem we've got is there is a significant economy of employers who don't indenture their apprentices, don't participate in the system, who say to young people that we'll make you an apprentice but don't get around to it, and poach the journeymen they need to run the job from somebody else who supports the system.... There's not enough push to [make trades compulsory in Alberta]. (p. 7)

In addition to more government regulation, he believed that schools could do more to promote the trades and to ensure that there were more people with trades experience teaching CTS courses. Although he was pleased with promotion of the trades by CNG (discussed below), he was concerned that they did not reach all students.

Tech Prep

In the US, Tech Prep is usually a tripartite program that includes school-based learning (integrated academic/vocational career education linked to college education), a work-based component, and connecting activities (Grubb, 1996). This also describes the Tech Prep programs that were first introduced in Red Deer in 1995 and are currently offered in 28 Alberta school districts. Although a representative from Central Alberta suggests that Red Deer programs were the first in Canada, Nova Scotia, Saskatchewan, and the Northwest Territories have begun developing similar programs (Interview, January 22, 2001). Ontario has also looked at improving articulation between high school and postsecondary work education programs (Williams, 2000).

We asked a representative from the Tech Prep Consortium in central Alberta about the components of the program, how it is delivered across Alberta, funding, and differences from programs in the US. Programs in Alberta focus on developing students' workplace competences in broadly defined occupational streams, linking high school and postsecondary curriculum through articulation agreements, teaching high school subjects in an applied manner, and providing opportunities for workplace learning.

The Central Alberta Tech Prep credential, which Alberta Learning recently agreed to recognize on students' high school transcripts, requires students to take a certain number of credits in noncore subjects (e.g., CTS), work experience, math, and science. A representative from Central Alberta says that, there-

fore, "the value added, the difference between a [Tech Prep] credential and a high school diploma is that the math, science, and CTS requirements are higher" (Interview, January 22, 2001, p. 6). Credits in work experience translate into 200 hours, which along with CTS credits should focus on a particular occupational cluster. Students are generally not paid for work experience unless they participate in summer internships. The credential also requires students to develop employability skills portfolios based on the list of generic skills provided by the Conference Board of Canada and to present this portfolio to a panel of employers on completion.

Central Alberta Tech Prep also encourages students to take applied curriculum courses. A representative from the consortium talks about this as follows:

When we first started in 1995, we didn't have applied curriculum, Alberta didn't have anything like that. Applied math just came around a couple of years ago. So we went through an agency in Waco, Texas called CORD, Center for Occupational Research and Development.... And Alberta Learning had a license for this. So we ordered this curriculum.... We pulled teachers from each of our schools, plus the colleges, Olds College and Red Deer College. And we said to them, "how can you make [academic courses] more relevant?" ... They sat down in subject groups and they started to develop lesson plans. And these are available now; we send these all over the place [within and outside Alberta]. (Interview, January 22, 2001, pp. 10-11)

However, the local development of applied curriculum was discontinued because of the lack of resources for this activity.

The required courses for the Tech Prep credential are generally accepted as prerequisites for most college and technical diploma programs. The consortium has worked with local colleges on articulation agreements so that students are given credit for high school learning. In addition to adapting CORD materials, the consortium shared information with the short-lived Centre for Applied Academics in British Columbia.

The Tech Prep credential is offered in 11 high schools in central Alberta with approximately 700 students indicating an interest in pursuing the credential (Interview, January 22, 2001, p. 17). Again, this represents less than 1% of the high school population. In smaller rural schools, the range of possibilities is more constrained because of the more limited offerings in CTS and work experience placements. The occupational clusters offered across the province vary also according to the local economy. For example, Fort McMurray offers plant and mining operations, whereas Medicine Hat offers agriculture. In terms of the target population, Tech Prep is aimed, as in the US, at the middle group of students. Students in high academic programs do not tend to have the space for the required nonacademic options, and students in IOP programs are unlikely to take the required level of applied courses in math and science.

The Central Alberta consortium began as a pilot project funded for three years by federal Human Resources Development Canada under its Young Internship programs and is currently funded by Alberta Human Resources and Employment (provincial), consortium partners, and industry sponsors.³ Alberta Tech Prep also receives \$50,000 funding annually from Alberta Learning to promote the concept across the province. When asked whether there

could be changes in Tech Prep programs, the consortium representative said, "I would love to see more funding come from Alberta Learning.... it's a smattering here and there and it's not a provincial initiative yet in my opinion" (Interview, p. 21). Therefore, although Tech Prep's strength is that it potentially provides a variety of pathways that connect to work or further study, the lack of provincial resources limits expansion. The lack of province-wide articulation agreements with colleges and their restricted scope are other weaknesses.

Careers, the Next Generation (CNG)

The CNG pilot project led to the establishment of the CNG Foundation in 1997. Eric Newell, the Chair of CNG (and Chair and CEO of Syncrude Canada Ltd.) describes it as a catalyst that works to link educators, employers, and community groups in facilitating students' school-to-work transition (CNG, 1999). The foundation currently employs several staff⁴ and is supported by government and private sector funding.⁵ It operates with a Board of Directors, Advisory Council, and Implementation Team. The Board of Directors in 1999-2000 included 10 government bureaucrats and industry leaders and served as a governing body for the foundation, developing policies and ensuring financial accountability. The Advisory Council includes representatives from industry (5), government (3), labor (2), and education (5). Almost half of the Implementation Team is made up of secondees from industry (Interview, January 26, 2001).

In the fall of each year, members of the Implementation Team go into schools in communities across Alberta and present workshops on employability skills and opportunities in the trades. In 2000 they provided workshops for 15,000 students, mostly in grade 10. This represents almost one third of the student population in grade 10 in 2000-2001. According to our interview participant, their target is "mainstream kids ... kids that have good academic standards" (p. 4). These students provide "value for money" and improve the image of trades among peers and employers (p. 4). The second step involves meeting with parents of interested students, followed by a matching process in the spring where team members try to find employers who will take on apprentices in areas of the students' interest. Finally, students participate in a summer internship to ensure that the placement is mutually satisfactory to employer and student before officially registering in RAP.

Although the foundation's initial focus was on RAP, it has also become involved in Tech Prep programs as follows:

The guru, of course, is Dale Parnell from Oregon State. The book he wrote was called *The Neglected Majority*, and it was about how we do a lot for the really bright kids and we do a lot for the "at risk" kids in trouble, but we don't do much for the kids in the middle. We borrowed a lot from that.... [CNG] started in Fort McMurray and there were a number of career pathways and the concept. (Interview, p. 11)

The Fort McMurray model involved determining competences in trades areas, determining gaps in what was taught in college, and then moving back into the high schools. Using this model, CNG has begun to market career pathways in ICT (information technologies) and health services. The target

population, according to our interview participant, is the “pre-baccalaureate student” (p. 12).

CNG plans to use a similar process to the RAP cycle described above. The foundation is finding that “industry has in a sense been coming to us ... everybody wants access to the students” (Interview, p. 15). Therefore, CNG has begun to work more with industry associations to promote Tech Prep and RAP in communities and ultimately to reach more students. As the representative from CNG suggests:

[Employers] like to work with the young people before they learn bad habits.... You have a young person who has done internships while they're in high school and by the time they graduate, they know they have to be on time. They know they have to smile at the customers, and they know they only have to be told once. (p. 15)

Although the strength of the CNG Foundation is said to be the fact that it is industry-driven and therefore closely connected to local labor markets, this initiative arguably places more emphasis on matching students' abilities and interests to particular jobs than on students' career planning and personal development. OECD writers (2000) argue that transitions information and guidance should not “steer young people in particular directions to satisfy labor force planning requirements” (p. 19). Similarly, we believe that policy makers in the Alberta context need to be more concerned about the tendency for industry-driven transition initiatives to try to shift student aspirations toward areas of labor shortage and to “cream off” the best students as opposed to promoting open inclusive initiatives. Ensuring that the process of developing and monitoring transition initiatives includes organized labor and perhaps parent organizations would be an important step toward a more balanced approach to transitions.

Discussion of School-to-Work Policy Issues

The above discussion points to historical and external influences that have shaped school-to-work policy in Alberta. The legacy of the TVTA Act includes the facilities that were built, courses that were developed, types of students who were targeted, and teachers who were trained during this period. Despite name changes from industrial and vocational education to practical arts and CTS, traditional views of vocational education based on past practices and social relations persist. However, there is a move to reinvent vocational education in keeping with current views of what is required in the new knowledge economy. For example, it is believed that jobs today generally require a higher level of skills. But although access to postsecondary education has expanded since the TVTA Act, the view that all students are not well served by the university pathway has also become more popular, leading to greater interest in preparing the “middle majority” of students for the subbaccalaureate market (Grubb, 1999).

This article examines current school-to-work programs and discourses in terms of persisting tensions and how they are manifested in policy. Issues raised about school-to-work programs in the US provide a useful framework for our discussion. Authors (Grubb, 1996; Ryan & Imel, 1996) suggest the following interrelated questions:

1. Are education or economic forces more apparent as drivers of school-to-work transition efforts?
2. How do school-to-work initiatives fit with broader educational reforms?
3. How do recent initiatives differ from the old vocational programs?
4. Do these initiatives represent a new form of tracking?
5. Do they promote equity?
6. Are employers able to meet expectations of school-to-work programs? and
7. Are resources for these programs adequate?

The Drivers and Context of Reform

In response to the first question, there is a strong economic impetus for reforms in Alberta, although the development of policies and programs has involved negotiation with educators and bureaucrats. "The Alberta Chamber of Resources has had a long relationship partnering with people at government" (Interview January 26, 2001, p. 7), and the establishment of the CNG foundation is a good example of this group's influence. This differs from the situation in BC, where employers were represented only marginally on policymaking bodies of the education ministry, according to Gaskell and Rubenson (2000). The involvement of organized labor is noticeably absent. The response from industry groups to projected skills shortages has been to encourage students to enter apprenticeships in high school—to "grow" workers. The idea of better matching students to occupational demand is perceived to result in a win-win situation for young people and employers. Although an industry-driven approach has the advantage of encouraging increased employer commitment to student transitions, governments need to take responsibility for addressing the transition problems of students at risk of exclusion and for ensuring that students are able to make informed and open choices. There is also a need for all parties to acknowledge that macro-economic conditions tend to be more important than education policies to overall employment (Levin, 1999; OECD, 2000). Therefore, there are limits to human capital ideas (compare Livingstone, 1999).

The second question asks how school-to-work initiatives fit with broader educational reforms. We can discern a number of tensions in education policy in Alberta. For example, the government expanded provincial testing in core academic subjects while announcing the new noncore CTS curriculum. The differential valuing of academic and more applied curriculum is, therefore, a continuing issue. The government's focus on increasing parental choice and increased competition between schools via open boundaries encourages greater differentiation and specialization in the system, whereas progressive vocational rhetoric emphasizes inclusivity and mobility across programs. Finally, the government's stated commitment to transition initiatives is challenged by the reductions in overall education funding that occurred in the 1990s. There are, therefore, mixed policy messages, which poses a challenge to attempts to improve the image of transition initiatives.

The question of whether transition initiatives are internally consistent is also warranted. For example, advocates of CTS, RAP, and Tech Prep suggest that programs focus on generic skills. However, in practice, students are expected to make choices and move toward specific occupations in specific industries over time. Furthermore, research on the subbaccalaureate labor

market in the US indicates that employers want entry-level employees to possess job-specific skills—facility with specific machines, computer programs, work processes, and procedures (Grubb, 1999). More generic skills were of greater interest for advancement. Thus there is a conflict between the interest in keeping options open for students and the demands of some employers for job-specific skills. Related to this, it is unclear whether the primary aim of initiatives like Tech Prep is to develop work skills or improve career awareness.

Differences from Old Vocational Programs

There are similarities and differences between old and new vocational initiatives (question 3). Concerns about labor shortages recall the discourse that led to the introduction of the TVTA in the 1960s. However, ideas about program delivery and target populations of students have changed. As mentioned above, there is greater interest in partnering with business and community groups to deliver programs. This is accompanied by cuts to provincial education funding. There is also an interest in encouraging more “academic” students to think about CTS and school-to-work initiatives, as part of attempts to remove the stigma historically associated with vocational programs. Finally, there is an emphasis on providing work experience opportunities for students through transition initiatives.

The question of whether initiatives represent a new form of tracking (question 4) may be prompted by research that suggests that students from lower socioeconomic backgrounds and certain minority groups tend to be disproportionately represented in nonacademic tracks (Curtis, Livingstone, & Smaller, 1992; Krahn & Lowe, 1993). Furthermore, these tracks have historically led to poorer employment and earnings outcomes. This leads to questions about which groups of students are involved in transition initiatives, whether there is mobility across pathways, and what the outcomes of transition initiatives are. The fact that little information is available to answer these questions suggests the need for provincial research.

We do know that young women are underrepresented in RAP and that Tech Prep programs have achieved only limited success in developing local articulation agreements with colleges and no success with universities. Therefore, mobility across paths continues to be restricted. This is similar to other industrialized countries where movement between pathways tends not to occur in practice (OECD, 2000). We know little about what happens to high school students who enroll in Tech Prep, RAP, and IOP. For example, do programs tend to dampen or raise students’ expectations? This is an important empirical question because university-educated workers in Canada have been found to earn 37% more than college or trade school graduates (Ferrer & Riddell, 2001). It is, therefore, important to track subbaccalaureate students involved in RAP, Tech Prep, and CNG internships.

Question 5 focuses on whether initiatives promote equity. We believe that an equitable distribution of outcomes by sex, social background, and region should be one of the basic goals of transition policies (see also OECD, 2000). However, our interviews with different stakeholders suggest that little is being done to address the particularly difficult transition experiences of historically disadvantaged groups of students (female, Aboriginal, some visible minority groups, disabled, rural; compare Crysedale, Kings, & Mandell, 1999; Krahn,

1996; Rehm, 1989). Although CNG plans to promote the trades in Aboriginal communities, representatives from this group and from the building trades council acknowledged that not enough was being done to redress inequities based on sex, race, and physical ability in transition programs. Canadian statistics suggest that women accounted for only about 1% of people enrolled in the 15 largest trade apprenticeship programs in 1992 (Normand, 2000): "The largest proportions of women apprentices were in machinist, and painting and decorating programs in 1992 (about 4% of each)" (p. 77). Only two of the larger trades were not completely dominated by men between 1988 and 1992: hairstylist (86% women) and cook (26% women). Youth apprenticeships have also been criticized for streaming working class children (mostly males) into working-class careers (Kantor, 1994).

Governments need to monitor impacts and outcomes of transition initiatives for historically disadvantaged groups and address systemic inequities. Providing safety nets for at-risk students is also critical. For example, safety nets for early school leavers and unemployed youth in Nordic countries tend to emphasize "prevention as well as remediation; integrated education, labor market and welfare policies; and locally managed delivery mechanisms that track early leavers" (OECD, 2000, p. 113). Although a complete assessment of Alberta policies is beyond the scope of this article, information about IOPs suggests that educational priorities have shifted. Furthermore, the direction taken by the Alberta government since the early 1990s has been to reduce income support and social welfare programs while encouraging individual self-reliance. This is arguably a one-sided approach to complex problems.

Capacity for Delivering New Programs

Question 6 asks whether employers can meet the expectations of school-to-work programs. One of the benefits of the industry-driven approach in Alberta is said to be the likelihood of greater employer buy-in when they are approached by business people from CNG. However, what programs require of employers in terms of money and time, and the ability and willingness of employers to respond is key to RAP and Tech Prep. Together these programs currently affect about 1% of all high school students. The question of how many additional placements can be found is critical for the future of programs. In Ohio, Ryan and Imel (1996) suggest that there were not enough paid positions in the work force for high school students and that many employers could not or would not absorb the cost. They cite an Ohio business owner, who says: "In a high performance workplace, we do not have the time. It's impossible. And when you look at the liability question, it's doubly impossible" (p. 8).

It is difficult to find work experience placements for large numbers of students in Alberta also. Company policy, collective agreements, or private insurers of businesses can make it difficult or impossible to hire apprentices who are under 25 years old. Industry downturns also affect the availability of placements. For example, whereas CNG projected that there would be 100 internships for students interested in gaining experience in the information technology sector, between 30 and 40 positions actually materialized in 2001 (Interview CNG representative, July 2001). The quality of placements may also be variable. For example, results from a survey of students involved in a health services internship organized by CNG in the summer of 2001 suggest that

approximately 17% of the 90 respondents did not feel that it met their expectations. The reasons tended to be either that students were placed in areas unrelated to their interests or felt that their skills were not utilized (Taylor & Lehmann, 2001). The quality and quantity of available placements are critical for work experience programs.

The kind of work that students are able to secure on graduation is also important. Ryan and Imel (1996) state that it is "unclear to what extent companies are transforming themselves into high-performance organizations requiring the skills that school-to-work programs will be designed to develop" (p. 9). In the Canadian context, Livingstone (1999) and Lowe (2000) suggest that the rhetoric of high-performance work organizations has outpaced the reality. From this perspective, there is a need to pay attention to the utilization of skills in the workplace as well as to how governments can promote youth-friendly labor markets.

The final question concerns the resources provided to school-to-work initiatives by government as well as private sector partners. Compared with the federal government's investment in vocational education in the 1960s, recent initiatives at both levels of government conform to Grubb's (1996) description of US initiatives as "piddle politics" (p. 5). The increased attention to transition initiatives has come at a time of reduced provincial education funding, which has particularly affected the delivery of costly programs. The political focus on public-private partnerships shifts responsibility, and to some extent accountability, away from government. Private sector contributions to CNG, although less than government's contribution, suggest that there is some commitment on the part of the private sector to pay for training youth. However, moving initiatives beyond piecemeal delivery and seriously addressing equity questions will clearly require greater provincial and perhaps federal commitment.

In conclusion, our examination of old and new vocational initiatives in Alberta suggests that the latter are strengthened by a high level of local support from educators and employers. However, new approaches are arguably hampered by factors that include the lack of provincial resources, lack of research into outcomes, mixed messages sent by provincial policies, lack of involvement by groups that might promote equity in transition initiatives (e.g., organized labor and parents), lack of clarity in the objectives of initiatives, and a failure to acknowledge the resilience of existing structures, attitudes, and practices in the implementation of policy.

Notes

1. Information about federal programs is available on the following Web site: www.youth.gc.ca/YES.
2. The page number refers to the interview transcript in this and subsequent interview citations.
3. Each of the six school districts and two colleges contributes \$5,000 a year, and Nova Chemical contributes \$20,000. Apparently, each of the different consortia across the province have different funding arrangements (Interview, January 22, 2001).
4. CNG had 16.5 full-time equivalent persons during the 1998-1999 year. Seven of these FTEs were secondees from industry, and one was a half-time liaison person from the Apprenticeship Branch (Annual Report, 1998-1999).
5. The 1999-2000 Annual Report for CNG indicates that corporate contributions amounted to \$452,500 while the provincial government contributed \$500,000 and the federal government \$206,000 for a total government contribution of \$706,000. Corporate in-kind donations are recorded as \$665,000, making it appear that the private sector surpassed government in

contributions. However, based on a combined federal or provincial tax rate of almost 37% (for manufacturing and processing companies), after-tax calculations present a different picture, with corporate donations of \$641,025 and government donations of \$1,082,475.

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