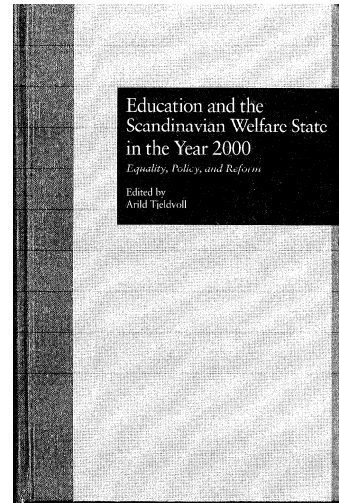


EDUCATION AND THE
SCANDINAVIAN WELFARE STATE
IN THE YEAR 2000
EQUALITY, POLICY, AND REFORM

EDITED BY
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GARLAND PUBLISHING, INC.
A MEMBER OF THE TAYLOR & FRANCIS GROUP
NEW YORK AND LONDON
1998

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Library of Congress Cataloging-in-Publication Data

Education and the Scandinavian welfare state in the year 2000 :
equality, policy, and reform / edited by Arild Tjeldvoll.
p. cm. — (Garland reference library of social science ;
v. 1129. Reference books in international education ; v. 39)
Includes bibliographical references and index.
ISBN 0-8153-2476-6 (alk. paper)
1. Education—Social aspects—Scandinavia. 2. Educational
change—Scandinavia. 3. Education and state—Scandinavia.
I. Tjeldvoll, Arild. II. Series: Garland reference library of social
science ; v. 1129. III. Series: Garland reference library of social
science. Reference books in international education ; vol. 39.
LC191.8.S34E36 1998
379.48—dc21

97-8635
CIP

The Foes of Icelandic Vocational Education at the Upper Secondary Level

Jon Torfi Jónasson

INTRODUCTION

The main thesis argued in this chapter is that vocational education at the secondary level in Iceland is not a viable option in spite of a consensus among government agencies, many educational establishments, and representatives of various bodies in the labor market that it should be encouraged. Vocational education simply has too many serious organizational enemies that are hard to control. There has been and continues to be a strong emphasis on vocational educational programs in both developed and developing countries (see, e.g., Lauglo and Lillis 1988; Psacharopoulos and Loxley 1985; Ryan 1991). But a strange paradox is emerging. On one hand there seem to be compelling social, economic, educational, and political arguments (e.g., summarized by Grubb 1985, p. 527), for a very strong vocational educational component within an education system, some of which can be classified as common sense and some as theoretical. On the other hand there seems to be a disappointing dearth of evidence in support of these arguments in spite of serious searches. The economic arguments may be the most compelling, but it is difficult to disagree with an energetic analyst of the issue that “nearly every valuation of the performance of vocational education to meet the [needs of a modernizing economy] whether in developing or industrialized

countries, has been negative" (Psacharopoulos 1987, p. 201). It is doubtful that this lack of empirical support for vocational programs will deter those who believe in their value and most likely "because of its inherently logical and simplistic appeal, vocationalism will be with us for years to come, and more countries will attempt, in vain, to tune their formal educational system to the world of work" (Psacharopoulos 1987, p. 203). This view is echoed by King (1988, p. 291) who maintains that the "vocational school paradigm may be dead in the view of many academics and researchers, but in the world of politics it still seems to have a good deal of life in it. . . ." In the present chapter a similar conclusion will be reached but for different reasons, thus attempting to add another dimension to the debate. The principal thesis is that even though various negative evaluations are ignored, vocational education has very little chance of surviving, primarily for various compelling organizational reasons; the forces at play nearly all work against vocational education, at least within the upper secondary school system. The evidence is collected within the Icelandic system, but many of the arguments will presumably transfer to a number of other economies, labor markets, or educational systems.

There has been "rivalry" between vocational and academic (liberal, general) education in Iceland most of this century, and we have witnessed a gradual takeover of academic education at the secondary level (see, e.g., Jónasson 1996a). This is contrary to expressed government policy during at least the latter half of this century which has put strong emphasis on vocational education at the secondary level (see, e.g., Gudmundsson 1993; Óskarsdóttir 1995). The main thrust of the present chapter is to show that these trends are influenced by strong external factors, some of which are impossible or very difficult to control. These are the enemies of vocational education, even though it might be conceded that some of the developments we have witnessed may in the long run be beneficial to society in general and the world of work, in particular (see, e.g., Psacharopoulos 1986 p. 562; Foster 1965). It will also be inferred that any counter measures by government will in the future only turn out to be short-term stalling maneuvers.

BACKGROUND

The compulsory part of the Icelandic school system covers ten years, extending from age six to sixteen. The secondary school system, which then takes over, can be divided into a number of categories.

1. Four years of academic programs, which conclude with "Studentspróf."¹
2. Vocational programs, most of which conclude with a trade license and typically take four years, even though some programs vary in length.
3. Shorter vocational programs, some of which conclude with a license.
4. Shorter pseudo-vocational programs, which mainly feed into the four-year academic programs. These are normally within the comprehensive schools and are perhaps most akin to what is sometimes described as diversified curricula (see, e.g., Psacharopoulos and Loxley 1985).
5. Programs at the upper secondary level, which require some previous secondary preparation for entrance.

Categories 2-5 cover the vocational spectrum that is being considered in this chapter.

The Development of the Secondary System

The relative share of vocational education at the secondary stage has apparently diminished steadily but very gradually through the best part of this century, declining from around 50 percent of the secondary school population around the turn of the century to about 25 percent today (Jónasson, 1996b, Figure 1). However, the evidence for this may be disputed as the classification of many of the programs offered is difficult, especially within the present-day comprehensive system. There are two parts of the secondary school system that are often taken as representative of their respective classes of education. The first is education for the licensed trades, and the second is the second is university entrance examination (UEE). The former is a substantial part of vocational education at the secondary level and the latter the bastion of general education. Figure 1 shows how these two strands of education have grown over the last forty years, with a clear divergence evident from the early 1980s onwards.

Proportions of 20-year cohort obtaining a trade license and taking university entrance exams

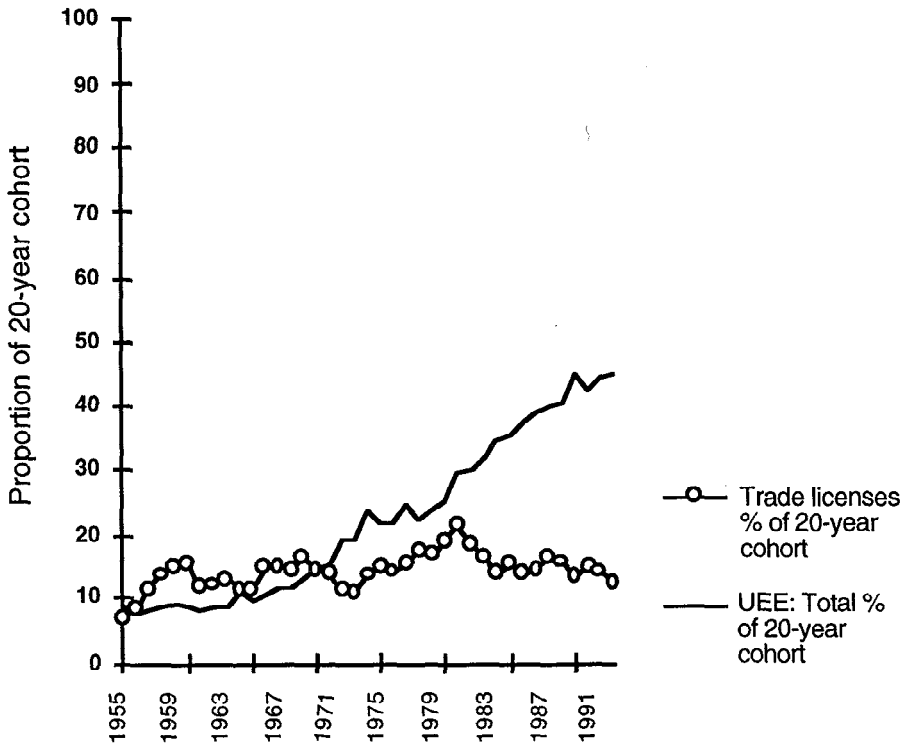


Figure 1. The proportion of the 20-year cohort obtaining a trade license (lower curve) and university entrance examination, UEE (upper curve). Available numbers for the trade licensees prior to 1955 may be unreliable and are therefore not shown.

Government Attempts to Stem the Flow of Students into the Academic Tracks

It may be maintained that for the second half of the century there has been a fairly continuous rhetorical effort made by the Icelandic government to encourage vocational studies in the secondary sector and in particular to stem the relative upsurge of students in the academic tracks. The policy has had varied emphasis and has ranged from very direct calls for the strengthening of vocational programs to a more general vocational emphasis which is more akin to calls for diversification within the secondary schools (see, e.g., Psacharopoulos

and Loxley 1985). In an attempt to reorganize the school system in 1946, a two-track set-up was proposed within the last part of the compulsory system, where one track was meant to be with vocational emphasis and the other of a more academic nature (Jónasson 1995). It was, however, up to the municipalities to decide whether to adopt this system, and many did not. Thus this attempt to underpin the vocational system at the secondary level did not succeed. Since then, the government has taken a substantial practical initiative—in 1955, by taking over the responsibility for, and financing of, the vocational trade schools, and in 1966, by allowing as an option that some of the previous apprenticeship training would be transferred into the schools. These two steps probably ensured the continued relative growth within the licensed trades by taking the training burden off the trades themselves. The third initiative was the establishment of the comprehensive system at the secondary level in the 1970s. The effect of these various steps has not been systematically studied, but a cursory inspection indicates that it has not been effective in enhancing or renewing vocational education in the long run, even though probably in all cases some signs of the desired influence can be detected.

In the past decade the rhetorical emphasis the government has put on vocational education has been especially consistent and strong. Several reports supporting vocational education in general have been published, and proposals, if somewhat diffuse, to enhance the share of vocational education at the secondary level have been put forward. Unfortunately the general criticism made by Psacharopoulos (1989) with reference to educational policies in several Third World countries probably applies here. This was that realistic financial implications had not been worked out and firm policies were not implemented. There have also been attempts made by several individual schools to strengthen and diversify their vocational programs. It is however very difficult to detect any substantial effect of this.²

THE FOES OF VOCATIONAL EDUCATION

In the following sections a number of the forces that contribute to the stagnation or even the relative demise of vocational education at the secondary level will be discussed and attempts made to produce the relevant evidence.

It is appropriate, however, to start with a brief description of what is meant by the term vocational education, even though definitional issues are taken to be among the foes of vocational education at the secondary level, and, therefore, this issue will also be discussed under a separate heading. In short, vocational education is taken to be any educational track or program which has as its primary aim to prepare a person for a particular field of employment. Preparation for further study or general educational aims is thus taken to be of secondary importance, even though these may be present in a vocational program. Apart from this very vague definition, there exists no consensus on a definition of vocational education. The spectrum of vocational programs covers both workplace-based and school-based programs, and these categories encompass a wide variety of programs (Lauglo 1983; Psacharopoulos and Loxley 1985, Figure 2.1).

The principal factors that may hinder the build-up of vocational education, in particular at the secondary level, are classified into the following groups which will be discussed in turn:

1. The labor market (industry, the world of work)
2. The education system
3. Financial constraints
4. Problems of definition
5. A changing society
6. The differential status of vocational and liberal education

THE LABOR MARKET IS INIMICAL TO VOCATIONAL EDUCATION

The labor market is the major enemy of vocational education. This may seem particularly strange as it is often thought that the various forces and bodies representing this sector are most appreciative of vocational education. They seem to put the strongest emphasis on its development within the education system and most emphatically claim that education should be much concerned with preparing the adolescent population for working life. If this is a somewhat self-serving attitude, it is, however, normally considered perfectly reasonable, understandable, and healthy.

But if one looks behind the scenes, a very different impression is gradually formed. The labor market ceases to be seen as the

affectionate guardian of vocational education. In many respects, it turns out to be its enemy. This claim will be discussed and defended in the following sections by explaining and demonstrating the negative effect of the needs analysis movement and by demonstrating the lack of encouragement for vocational education given by the labor market as measured both by wage differentials and specific demands for vocational opportunities. It will also be done by demonstrating that the Icelandic labor market is composed of small firms, which makes it unable to tackle in-service training even for its own employees. Finally, it will be indicated that the economy dramatically influences the licensed trade vocational education, which is the strongest component of vocational education.

The Needs of the Labor Market

Many phrases in the educational discourse seem to be practically devoid of meaning or used as ill-advised slogans. The phrase “needs of industry” is in that category, probably near the top of the list. It is certainly widely used, and it is even claimed that it is of paramount importance that education cater to the “needs” of the economy, industry, labor market, or whatever. It is argued in Jónasson (1992a) that this phrase is ill conceived, and it almost certainly has a negative effect on the development of vocational education. It may be one of its most damaging but at the same time one of its most elusive enemies. Perceived needs of an industry or an employer are determined by what the known options are, by tradition, by the status quo, and by short-term problems or interests. This may have very little to do with the firm’s, the sector’s, or the industry’s long-term interests. If these needs are influenced by a firm’s short-term financial problems, ignorance about the available spectrum of competencies or developments in the field, unwillingness to diverge from outdated traditions, or simply the belief that changes are unnecessary, it might be surmised that the asserted needs may be an assortment of demands which only by chance coincide with the long-term interests of that particular sector of industry that the education was designed to serve.³ If some kind of need analysis is used to determine the guidelines set for education, these factors would probably be overriding and incidentally undermine arguments based on vision, innovation, and dynamics. In what follows some

indications of the interests, or in many instances the lack of interest, of the labor market will provide some underpinnings of these claims.

Lack of Encouragement

Despite rhetorical involvement, the labor market, or the world of work more generally has not been very supportive of the development of vocational education within the education system. Encouragement at the practical level has been distinctly lacking. Three lines of evidence, to support this rather harsh judgment will be presented.

Mixed Demands for Substantial Additional Vocational Opportunities

It may be argued that practically all vocational and professional education in Iceland that was built up in the nineteenth and the first part of the twentieth centuries originated from within the working population.⁴ But as the state gradually takes over educational planning and finances, the initiative or encouragement given to the educational field from the various sectors of the labor market turns out to be marginal and seems to lack ambition, clarity, and force. To demonstrate this, three very important sectors of the Icelandic economy will be briefly discussed: the fishing industry, the tourist industry, and the "new" trade and services sector.

The fishing industry is by far the strongest sector in the Icelandic economy and has been the dominant provider of external revenue, above 90 percent for most of the century but has slipped down to around 75 percent (*Landshagir 1995*, Table 10.9). It is also the source of around 15 percent of the gross national income (*Landshagir 1995*, Table 14.5). In spite of this enormous strength, formal education for the fisheries workers has always been weak in relative terms, notably in the latter half of the century.

There are four schools exclusively concerned with education of specialized workers concerned with fishing or fish processing, and recently some comprehensive schools have offered various courses related to these fields. In the past decade or so, 4-5 percent of the secondary school population has registered in those courses.⁵ The bulk of these students have been concerned with the mechanics of fishing (skippers and mechanics in the fishing and the commercial fleets) and only a minority with the mechanics of fish processing. Furthermore, a

series of short courses has been organized by the fishing industry and the ministry of fisheries for in-service training, which make a very important contribution to the education of the work force on the factory floor. But compared to the importance of the sector, the effort put into educating the participants is minimal, certainly, in relative terms. There have been no emphatic demands by the fishing industry for the establishment of strong vocational schools or specialized courses covering various special fields within the industry to remedy this imbalance in the educational system.⁶ In a recent collection of in-depth analysis of the "needs for education within the fishing industry," submitted by four "representatives" from within the fishing industry, they agreed that they were more or less satisfied with matters as they stood (*Fjörð fyrir menntun í sjávarútvegi* 1992). The conclusion expressed in the summary is "that the education of the industry's workforce satisfies its demands and that the industry has been alert and been responsive to changing demands" (p. 23). But the criteria used as a basis for this judgment are nonexistent or at best obscure. That document alone should suffice as a basis on which to seriously query the whole needs analysis approach.

Tourism has become a major industry in Iceland in the past ten years, contributing about 11 percent of exported goods and services and approaching 4 percent of GDP (*Atvinnuvegaskrsla* 1993, Table 5.8.1). There have, however, been no clear demands from this industry that education should be a substantial part of the infrastructure that needs to be built to foster the development of this sector. In several reports published in recent years on this issue, education is almost entirely absent from the discussion. The sector is either indifferent to education or satisfied with the status quo.

In most western countries a huge sector has grown that is often defined by the uninformative word "information." This is a fairly heterogeneous field, however, with some common features which seem to involve dealing with verbal or numerical information, quite often relying on computers (see, e.g., Williams and Yeomans 1994). Now it might be suggested that the traditional liberal education offered by the general education system stands beside the vocational ideal for this field and that explains why there have been no strong petitions for the enhancement of education within this domain on behalf of any representatives of the labor market. No concerted pressure has been put on the government to establish vocational schools in this field or to

establish options within the existing schools. The practical initiative that has been taken probably stems largely from within the education establishment. To conclude, a cursory inspection of the formal indications, requests, or demands from three very important sectors of the economy demonstrates a lack of encouragement for serious vocational effort within the educational system. This state of affairs is both noteworthy and disappointing. In view of this evidence a list of positive examples would not suffice to counter the conclusion reached here.

Low Wages for Some Vocational Qualifications

The income of different educational groups may be the most important indicator of the value the labor market places on education. In a situation of full employment and perhaps often scarcity of labor the income distribution may be volatile and hence it may be difficult to obtain a clear picture. But at the same time, the market may be less constrained by formal agreements, notably salary contracts, and hence a more valid measure of how highly the market values education is obtained, than it otherwise would be, if unemployment had reigned for a considerable period.

A reliable income indicator is hard to find, mainly because of considerable overtime put in by a large proportion of the work force, which results in a significant departure from the basic rates in many sectors. Official wage tables are untrustworthy, and in fact no method exists for getting the "true" picture of how much people earn. One way of approaching the issue is to use surveys in which the respondents are asked about their basic earnings, their overall earnings, their basic working time, and their overall working time in addition to various background factors (Ólafsson 1993).⁷ In order to get a realistic estimate of the earning differentials between various educational groups, two measures were used (Jónasson 1996c). One is the total monthly income and the other is the average hourly income.⁸ Several inferences can be drawn from the data. First, that university education seems to be a very good bet, both when considering the total monthly income and the hourly return. Thus, it seems sensible from the financial standpoint to obtain a university education if it is at all possible. A careful cost-benefit analysis may, however, give a less favorable picture (Sigurjónsson 1988). Obtaining a UEE also seems to be a reasonably

sensible option based on the “hourly return” indicator. Thus the academic track at secondary school, even as a waiting option, is a sensible choice. Second, a trade license seems to favor its holder with comparatively good total income even though it seems to cost him a fair number of working hours. The average hourly rate is not much higher than for those with commercial vocational training or the UEEs. The third inference of interest here is that several vocational courses are the equivalent of no vocational training at all. This holds true whether we consider the total income or the average hourly return. Thus there has been little incentive for young people to obtain vocational certificates, except when these are formal licenses, giving job monopoly. The implications of the above for the secondary student, if he has any inkling of this pattern, are clear. The academic track not only gives the broadest educational base and opens up the most avenues for eventual further study, but it also pays relatively well, at least on average, and thus seems to be a most sensible choice. Miscellaneous vocational education at the secondary level, on the other hand, does not make much financial sense, and it is difficult to see why it should be chosen. On the whole, academic education is still a good bet in terms of average long-term income, though this does not take into account the invested cost. Here we are not investigating the rationality of educational choice or the fairness of the labor market but only the signals the market gives. To what extent these signals are actually noted and then used or interpreted by the young is as yet not known. It is important to note that the state of affairs for the youngest age group gives a somewhat different impression from the older age groups. The trend there fits with the evidence presented by Óskarsdóttir (1995, p. 202), which shows that UEE does not result in higher initial salaries than dropouts obtain. But this pattern changes with the older age groups.

Little Concern for Education in the Hiring Process

Óskarsdóttir (1995) investigated the criteria used for hiring people who are starting their careers in three occupational areas—office work, service jobs, and production work—where trade licenses or tertiary degrees were not required. She concluded that formal education played a very minor role (p. 291) and also that those responsible for the hiring were not particularly well informed about the education system to put it

mildly (pp. 321-324). This corresponds with Oxenham (1988) who concludes "that employers do not know what they want in the way of education, but simply take what is offered at prices they can afford" (p. 74). The general conclusion of this research is that the labor market is disturbingly indifferent to education and certainly does not give any special encouragement to vocational education.

What the Labor Market Needs

It has been claimed above that needs analysis is an inappropriate metaphor for determining the relationship between the world of work and the field of education. It was argued that some important sectors of industry seemed indifferent to the educational options available related to the sector, that the salary pattern in the labor market did not favor vocational education at secondary level in general and little emphasis is placed on education in the hiring process. This is in line with previous literature that shows little or very limited evidence for the relevance of vocational education (see above and, e.g., Wilms 1988, pp. 88-89).

The important question that remains is whether the labor market is justified in its basic attitude that is reflected in the indifference with which it treats vocational education or whether the market could simply be drastically wrong, not appreciating the direct and indirect benefits of vocational education? Is the labor market to blame for the apparent low interest shown in vocational education, or is vocational education itself to blame? Probably both.

The traditional view seems axiomatically to assume that the market is right and, in fact, knows what it is doing: "In competitive economies or private sector employment it is reasonable to assume that the earnings of graduates are a good proxy for their productivity" (Psacharopoulos 1987, p. 190). This fundamental premise needs, however, to be defended on empirical grounds, which is normally not done. Even though it may be possible on a macro level, it is doubtful that it can be done on a micro level (see, e.g., Bishop 1990). It is also doubtful that, except in very few industries, the employer has available the criteria, the monitoring devices, and the evaluation mechanisms to estimate objectively the productivity of each and every employee. Furthermore, if this is so, it is very unlikely that any effects of vocational education could be objectively discerned except perhaps with a very elaborate testing mechanism, which very few employers

could afford, and sample sizes that are simply not present within individual enterprises. And even though this could be done to some extent, it is likely that other factors such as experience and perceived personal qualities would be considered far more important, the former in the short run and the latter in the long run, and hence be overriding factors when personnel is hired and rewarded. There are thus several *a priori* reasons to doubt both Psacharopoulos's premise and whether vocational education, or education *in toto* for that matter, has been positively valued within the labor market except, of course, when this is done by government regulations or labor agreements. But it must also be said, that even though there is a positive role played by the labor market at the rhetorical level, what counts is what happens at the practical level.⁹

But despite the verdict that the labor market is probably unable to appreciate good vocational education, it may also be the case that vocational education, on the whole, is not worth very much. Studies that explicitly relate increases in productivity to "traditional" vocational programs are hard to find, and there are reasons why a lot of vocational programs might be mistrusted. The main points of this chapter are, however, that the needs analysis paradigm is probably unduly conservative and, therefore, has a stifling effect on vocational education and that the labor market, justly or unjustly, gives little encouragement to the development of vocational education and gives very faint, if any, encouragement to young people to choose vocational programs.

The Effect of Small Enterprises

Vocational training does not, of course, have to be school based, and there is not only a strong tradition for apprenticeship training for many occupations but both pedagogical and economic arguments can be made for the advantage of on-the-job training. But this type of training is often very costly and in an apprenticeship system depends largely on the trainees' allowances. In the German dual system, which is often looked upon as a model for apprenticeship training, all the in-company training is borne by the companies themselves. It is estimated that this is about 60 percent of the total training cost, and the net cost per trainee borne by a company in 1980 was estimated around \$1,400 per annum (Noah and Eckstein 1988, p. 61). The allowance paid by the German companies to the apprentices seems to be relatively low.¹⁰ More

generally the investment in training seems to be heavily dependent upon the size of firms. In France, firms with 10-19 employees spend 1.1 percent of their payroll on training, while firms with at least 200 employees spend some 4 percent (Drake 1991, pp. 224-225; see also Salomé and Charmes 1988, p. 64). Thus, it seems that only large establishments within a labor market can be counted on to take responsibility for vocational training. Nearly 60 percent of the labor force in Iceland are employed by establishments whose average size is near 15 or less full-time employees and 80 percent by establishments whose average size is around 50 full-time employees (based on Table 4.1 in *Atvinnuvegaskrsla* 1993). It is difficult to envisage small establishments having the financial strength to set up any type of independent continuing education infrastructure or having the capacity to invest in the training of a labile workforce. It needs to be established in the general debate about self-sufficiency in staff training and development or the role played by the labor market in an apprenticeship-type educational system to what extent the capacity of the market is dependent on the size of the financial unit concerned and thus the degree to which demands on a market such as the Icelandic labor market in these matters can be justified.

The conclusion reached here is that the structure of the Icelandic labor market does not seem to favor company-based vocational training when considered from this point of view. It is unreasonable to expect a market thus composed to carry a big share of the country's vocational system—even with some government support. In this sense the world of work is hostile to some forms of vocational training, even though it is of a purely structural origin and would not be directly detected.

The Influence of the Economy (and the Labor Market)

It may be assumed that the expansion of secondary education has been related to the strengthening of the economy. Figure 2 shows that the growth of the most prominent strands of the secondary system, when combined, has considerable affinity with the growth of the economy. This holds true in spite of the fairly dramatic divergence of these two major tracks in the 1980s (see Figure 1). Other certificates are not included here but would probably not alter the picture substantially. Even though the relationship seems surprisingly simple and strong, a causal link is not immediately obvious. It may, of course, just be the

case that two very important features of a complex society both grow at a similar rate. The rise in the educational level of the workforce may also gradually contribute to the strengthening economy but with a lag of decades rather than years. Not only is this difficult to detect but a cursory analysis of the Icelandic economy suggests other more potent explanatory factors of increased GNP than education. The reverse relationship is more likely, i.e., that the developing economy allowed the increased educational spending required by an expanding education system or that the state of the economy in some way controlled the output of the secondary schools (as shown in Figure 2).

Growth of the economy and of the two major secondary sectors

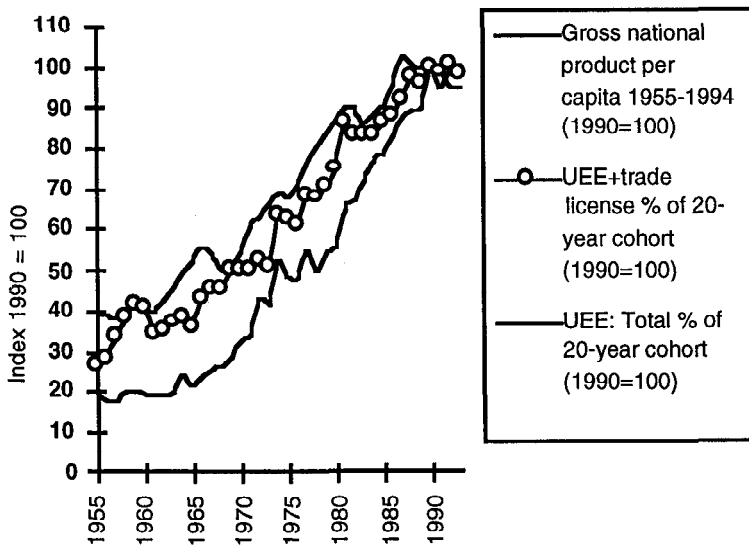


Figure 2. The growth of the economy (gross national product per capita) and of the two major secondary sector tracks—the university entrance examination and the trade license tracks—measured by the number of graduates. The measures are set at 100 in 1990. The bottom line shows the UEE on its own.

Apart from the general positive relationship between these measures, it is of interest to attempt to discern what direct influence, if any, the state of the economy has had on educational choices. This might perhaps be inferred by investigating the relationship between the fluctuations in the economy and those in the secondary school system. The most reliable

and best-categorized data in the secondary sphere are the number of graduates shown in Figures 1 and 2.¹¹ The most parsimonious explanation of this close relationship is that economic expansion “allowed” an expanding educational system. Furthermore, an optimistic atmosphere in a reviving economy may encourage young people to seek further education, and their parents might then have the means to support them.

When apprenticeship is part of vocational education, the employer normally takes on considerable responsibilities when he takes on an apprentice. He has to pay him a salary that is 40-50 percent (75-95 percent for those who finish the school-based programs first) of that paid to qualified personnel, and he has to ensure training for the total training period. It might, therefore, be expected that the availability of openings for apprentices was dependent on the state of the economy, which normally determines the state of at least the larger industries. Thus the state of the economy may be thought to determine directly or indirectly the number of trainees in a particular vocational discipline. This has been clearly established by Jónasson (1996b). There, it was shown that there was no relationship between the fluctuations in the economy and the academic UEE, but a clear correlation between the economic fluctuations and the trade licensees, with the expected lags as tested by cross-correlation. The results of these tests are very clear. The output of the trade licensed vocational education is very sensitive to even minor fluctuations in the economy. The available evidence suggests that the controlling factors are in the labor market rather than in the student population (e.g., the interest shown by students in vocational training).

The Labor Market and Vocational Education: Summary and General Discussion

We have asserted that so-called needs analysis may not serve vocational education well. This is especially true in the instances in which there is no tradition for such education and new initiatives in the field are simply not seen as relevant. It was argued that some large sectors of industry are certainly not craving for more vocationally prepared manpower. The extent to which vocational education is rewarded is rather limited and confined to the licensed trades. The evidence suggests that little value is attached to education in the hiring

process for large sections of labor market. Furthermore, it is suggested that the institutional structure of the labor market does not allow it to take care of vocational training, and the available evidence indicates that vocational education “on the job” is sensitive to year-to-year fluctuations in the economy. When this empirical inspection of some crucial aspects of the world of work is taken together, the general conclusion seems amply justified that this sector of society turns out to be inimical to vocational education despite its apparently genuine positive attitude at the rhetorical level.

The Labor Market as an Enemy of Vocational Education: Second Thoughts

Two important qualifications should be made when arguing that the labor market might be viewed as inimical to vocational education. The first is to remind the reader that the focus of the discussion is vocational education at the secondary level, even though some of the arguments may apply to vocational or professional education at the tertiary level as well. The second and more important point is that it has not been indicated that the labor market has intentionally been opposing the general build-up of vocational education at the secondary level. However, its functioning in general seems to have rather serious negative effects on any such development, and its indifference at the formal level has implicit negative effects. In a field where both implicit and explicit encouragement is sorely needed and expected, little is forthcoming. In this sense, one can call the labor market the enemy of vocational education at the secondary level no matter whether its indifference is justifiable or not.

THE EDUCATION SYSTEM UNDERMINES VOCATIONAL EDUCATION

There are a number of features in the development of the Icelandic school system that have been inimical to the strengthening of vocational education at the secondary level. Most of these are to be found within the secondary level, but it will also be argued that the development of the tertiary system has weakened the status of vocational tracks at the secondary level.

The Development of the Secondary School System

There has been a noticeable trend towards uniformity in the secondary system. There are a number of indications of this and a number of explanatory factors. Invariably this trend is towards the general education tracks and thus the vocational sections of the secondary system are gradually undermined, at least in relative terms. This is sometimes called the academic drift (see, e.g., discussion in Jónasson 1995; Raffe 1994, p. 151; Squires 1989, chapter 4). The relative weakening of the vocational sector was indicated already in Figure 2. In an extensive study of the cohort born in 1969 (Jónasson and Jónsdóttir 1992), it was found that over 80 percent of those entering secondary school enrolled in courses that have to be classified as general or academic (see Table 1, based on Jónasson 1994, Table 1).

Table 1. First registration in secondary school. Students born in 1969.

Traditional vocational education	15 %
Other vocational education	3 %
University entrance programs	<u>82 %</u>
Total	100 %

It was also found that of those who had obtained a degree or a formal certificate the year they reached the age of 22, only about 25 percent had obtained a vocational degree of some sort, with 11 percent occurring within the licensed trades, which is the sturdiest part of our vocational system (Jónasson and Jónsdóttir 1992, Table 4.1). The comparable figures based on the whole cohort are 11 percent and 5 percent respectively. It is, however, well known that the average age of those obtaining a trade license is above 25 years for many trades. At any rate vocational education within the secondary system is definitely not popular and has consistently become less so (see Figure 2). Some of the reasons for this decline of traditional vocational education within the secondary system may be found within the education system itself. Here we will consider some of the causes.

Uncertainty About the Role of the Secondary System

It has been interesting to follow the gradual change in the aims of the spectrum of secondary schools. During the first half of the century, one might be tempted to divide the secondary schools into two categories.

In the first category were schools with fairly well-defined principal aims. They were either concerned with preparation for university education (the UEE programs at the gymnasia) or some specific vocation (within specialized vocational schools). These specialized schools of either type were the dominant secondary schools during the third quarter of the century. The second category includes primarily schools at the middle secondary level with fairly general objectives: *gagnfræaskólar*, which are akin to *realschools* and *alfluskólar*, *hérasskólar*, which are related to the *folkehöjskole*. In the third quarter these were largely absorbed by the compulsory system. But in the 1980s the secondary system became dominated by the comprehensive system, and in 1988 a confirmation of the general character of the secondary system was passed by the Icelandic parliament. The law covers the whole of the secondary sector and contains a paragraph outlining a common objective for all schools. The new law allowed for the continuation of the dual system of gymnasia and vocational schools, but an important feature of the law was to confirm the existence of a large number of comprehensive schools that had been established in the previous decade. The new unitary objective of the secondary stage was threefold—to prepare students for participation in a democratic society by providing conditions for learning and development for all students, to prepare students for (qualifications in) different vocations, and to prepare students for tertiary education (the UEE).¹²

I have previously argued (Jónasson 1992b) that this apparently very sensible threefold purpose presents some problems for a system in transition. It is noteworthy that it has never been clear whether all schools should be obligated to cater to all the objectives for all students, or if they could select some of them and offer different selections to different students. The main point is that all schools within the system have the ability to shift emphasis, even from one principal aim to another. If this happens within a comprehensive school, which was originally established by merging vocational and general educational tracks, it might go unnoticed if only the loose legal criteria were applied. Such a shift would be squarely within the framework set by the law. Furthermore, a shift in the organization of vocational tracks in order to open channels into other tracks, notably the university preparatory programs, would not only be easy to defend on pragmatic grounds, they would fit very well within the web of the three different aims of the secondary system. Thus the system has formally become

much more complex and diffuse. It must be more difficult to plan and direct an organization that has three grand (and presumably equally important) aims rather than essentially one. Apart from the general administrative problem this presents, it is suggested that it contributes to the undermining of the vocational emphasis in the vocational tracks. Having said this, it must be conceded that the present state of affairs has allowed a development of the system that may in some sense be "natural" (Jónasson 1996a) and, therefore, positive.

Mobility Between Different Tracks

One aim of the comprehensive system is to facilitate the flow between vocational and academic tracks. The implicit assumption was that a number of students who would not find the academic programs to their liking would transfer to the vocational programs. An investigation into the number of such transitions and their characteristics (Jónasson 1994) showed that only 17 percent of the students have transferred from one type of program to another, and of those more than half did so after a year or less of study. It is of particular interest to note that the group that turned out to be most mobile consisted of those who started their secondary education in the vocational tracks in the comprehensive schools; one third of them moved to the academic programs.¹³ More importantly, there was a clear and significant positive correlation between the probability of transfer from the vocational track and academic performance at the end of compulsory school. Thus the drift of academically able students from the vocational tracks continues well into the secondary schools.

But there is an additional reason why the principle of transfer between tracks turns out to be inimical to vocational education. By insisting on good opportunities for transfer, education policy implicitly sets serious constraints on the planning of individual programs. Thus there is pressure to have initial courses be fairly standard (i.e., general) and to postpone the vocational courses towards the end.¹⁴ This is in spite of some serious pedagogical reasons for starting vocational training with substantial practical experience and placing the more academic courses towards the end of the program. Thus organizational pressure on the structure of the syllabus undermines the pedagogical integrity of the vocational courses. The modular set-up that dominates the Icelandic secondary system allows considerable flexibility in the

organization of the curriculum and thus makes it perhaps vulnerable to external pressure. In this sense the modular system can be said to facilitate the academic drift and reduce the vocational/academic divide (Raffe 1994).

Numerus Clausus (Explicit or Implicit)

In a number of vocational programs, there is explicit *numerus clausus*, and in some additional programs the *clausus* is only implicit.¹⁵ The formal evidence relating to this question is scarce, but an indication of the general long-term effect may be obtained from the admission figures to the Icelandic College for Pre-school Teachers, which has operated a *numerus clausus* for a considerable time, and the number of applicants has frequently been far in excess of the number being accepted. The formal minimum requirement is two years of secondary schooling, but Figure 3 shows that the proportion of successful applicants who have finished the four-year university preparatory program has risen steadily in past decades. The chance for others of obtaining a place thus diminishes steadily. Thus even though the program is formally at the secondary stage, it is clearly moving up and out of it in practical terms.

Even though comparable data are not available for other vocations, a similar trend is discernible and thus it is debatable how the various vocations should be counted at the secondary level. The data show that nearly 50 percent of students in the first year (the basic year) in two of the largest vocational categories within the licensed trades are eighteen years of age or older, and 25 percent are twenty years or older.¹⁶ The average age of those who finish these programs is between twenty-five and twenty-six years.¹⁷ Thus the vocational part of the secondary school system seems to have moved out of the secondary arena, and it does not seem to be fair either to students who may be interested in these vocations or to the curriculum planning within these vocations to pretend that these are courses primarily designed for and taken by students who have just left the general compulsory curriculum.

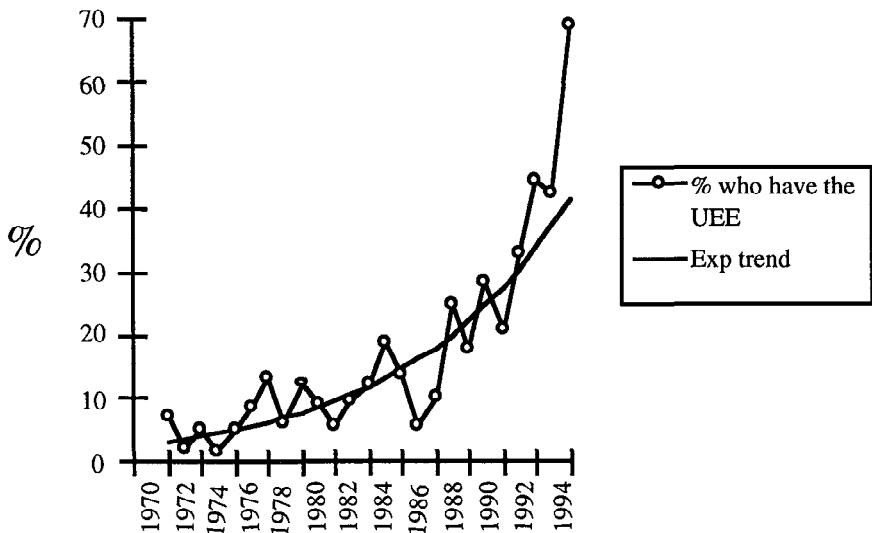
Access to pre-school teacher training

Figure 3. The proportion of those accepted to the three-year course at the School for Pre-school Teachers who have already obtained the university entrance certificate. The figure also shows the best exponential fit based on the years 1970-1994.

The Development of the Tertiary Level (University Level)

It is conceivable that the single most important factor influencing the development of the secondary system is the development of the next level—the tertiary system. In this case it is, however, singularly difficult to determine which comes first, the academic drift within the secondary system or the expansion of the tertiary system, largely dominated by the University of Iceland. This development is dealt with in some detail in Jónasson (1995), but two principal points will be made here. The first is that direct or indirect pressure on applicants to various degree courses to have passed the UEE when applying is steadily increasing within the education system. This can be seen by the steady and considerable rise in the number of institutions requiring this certificate or more importantly in the increase in the number of different courses offered at “university” level (Jónasson 1995, Figure 6). There are several indications that this trend will continue, i.e., the number of degree courses available at university level will continue to

grow in the near future. This is reflected in the second point being made in this connection which relates to the number of students registering at university level, which, until recently, has been dominated by the University of Iceland. Figure 4 shows how this number has grown steadily during the whole of this century, and there are various reasons, e.g., increased competition for jobs or status, why this steady growth will probably continue. This will, in turn, maintain the pressure on students to pass the UEE and thus support the general or academic trend within the secondary system.

Students at the university level in Iceland

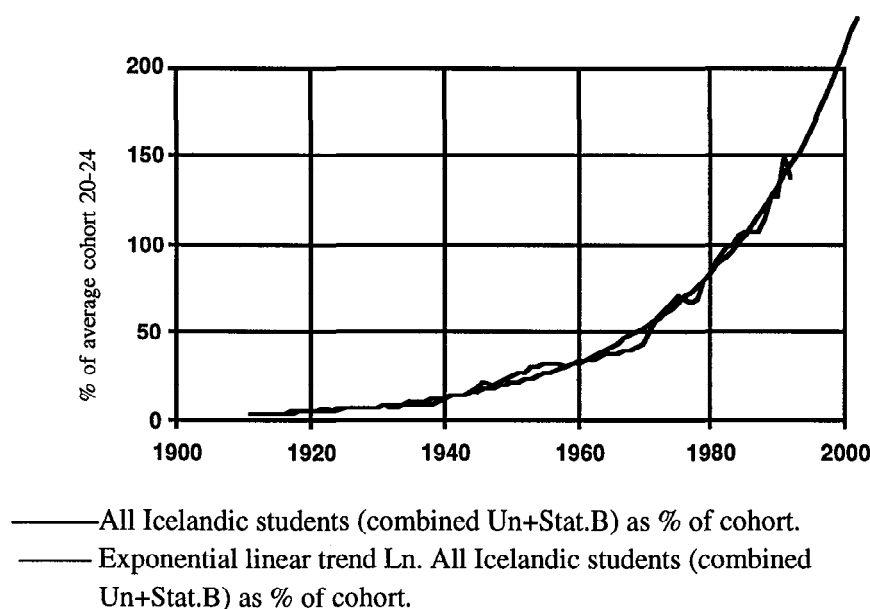


Figure 4. The number of students at the university level in Iceland expressed as a proportion (percent) of the average cohort size 20-24. The exponential best fit is also shown extending to the turn of the next century.

Summary and Discussion of the Trends in the Education System

Thus there are several features in the character of the education system that together tend to undermine the status or relevance of the more traditional vocational tracks at the secondary level. The uncertain role of the system, the “lifting” of some of the major secondary vocational tracks out of the secondary system, and the development of the tertiary

system, all push in the same direction, undermining a previously strong vocational bastion at the secondary level. Attempts may however be made to establish some vocational tracks partly in some "new" fields, partly perhaps of a remedial nature, but there are neither signs nor reasons why these can have the status the existing stronger vocational tracks have hitherto enjoyed within the secondary system. The pressure to establish new tracks will probably come largely from within the education system and from central authorities in order to solve administrative or general social problems and not from the labor market, which may, however, be coerced, or co-opted, to support these initiatives.

ACADEMIC TRACKS ARE INEXPENSIVE

In a world of scarce financial resources, the differential cost of competing programs may be a crucial factor. It is argued below that the relative high cost of vocational programs is certainly to their disadvantage. The common wisdom is that vocational education or training is more expensive than academic education, even though no established principle exists that allows a simple comparison (Cumming 1988). Is it very likely that vocational programs are undermined on financial grounds? In order to determine whether this might be so, some measure of relative cost must be obtained. As a very general guide it may be presumed that the teaching and recurrent cost of vocational subjects as compared to academic subjects is in the region of 1.5, with all the caveats concerning enormous variety between countries, subjects (Cumming 1988, Table 1; Psacharopoulos 1987, p. 193), and types of programs. The Icelandic case fits well within this norm. Individual courses in the trade vocations are roughly 1.5 times as expensive as a typical UEE course. The principal factors responsible for the difference between academic and vocational programs are teacher salaries, group sizes, and the cost of furnishing workshops. The variations in initial costs may be assumed to be in the same region. The differential cost can be further aggravated if the supply of students in the more expensive class of tracks is below optimum number, which is probably true in many cases in the Icelandic comprehensive system. From this vantage point the position of vocational education within the education system must be considered very weak in the long run, especially when the education sector faces either real or relative cuts. The facts are

simple. If the education budget is not to be increased but the number of students rises, what options are there, given the relative high cost of vocational education and a lack of a real general incentive to retain its strength? The vocational programs will either disappear or be gradually transformed into fairly standard academic programs.

DEFINITION AND RATIONALE ARE UNCLEAR

Two rather innocuous philosophical factors within the sphere of vocational education turn out to be among its serious and elusive foes. One concerns the definition of vocational education, the other its rationale. Protecting a vocational program that has no clear definition is difficult, especially as it may be hard to discern its transformation into something else. A program may be classified rather whimsically as vocational or not, largely irrespective of its nature. Its classification may be moved between categories of programs simply by changing names. Similarly, if the rationale of a program is vague, it is very difficult to stick to or defend any of its characteristics; none may be deemed crucial. Consequently factors external to the program may to a large extent determine its structure, especially if the internal practical or pedagogical rationale is weak. It is hinted at below that both of these theoretical factors undermine vocational education in two ways. First vocational education gradually becomes academic partly because no one appreciates why it should be otherwise. Second, any practical or clinical parts of the programs are moved to the very end largely under external pressure for reasons of expediency, exactly opposite to what most pedagogical arguments require.

The Consequences of a Vague Definition

It was explained at the beginning of the chapter that vocational education is any educational track or program that has as its primary aim preparing a person for a particular field of employment. But behind this rather innocuous statement lie various tangled issues. The terminology is vague. It is not clear whether vocational education or vocational training are the proper terms. The purpose is vague. It is not clear whether vocational education refers to preparation for particular, narrowly defined jobs or to preparation for any gainful employment (see, e.g., Nilsson and Svärd 1991, p. 4). The content or characteristic is vague. It is not clear whether there are any necessary or sufficient

ingredients that make a program vocational. At one extreme there are the apprenticeship-based programs in the industrial trades (where the apprenticeship seems to be the crucial part). At the other extreme there are the business programs that seem very similar to any general liberal education programs, with slightly more emphasis on bookkeeping and typewriting than is normally found in a general educational track, but otherwise substantially composed of general academic subjects with no apprenticeship component.

The definitional problem has several aspects to it. The first is the extent to which general education counts as a necessary ingredient in the preparation for a certain vocation. The second is how a vocation is defined and to what extent it is necessary to talk about vocational spheres or sectors rather than specific vocations or jobs. The third concerns the balance in the syllabus between actual practice at "on-the-job" tasks and more academic discussion about trends and issues relating to the nature of a specific vocation. The literature on these issues is growing, e.g., about what is meant by skills (see, e.g., Ashton, Maguire, and Sung 1991, pp. 233-236) but more on what skills may be relevant (see Gallie 1991 on the skill debate and Óskarsdóttir 1995, for a review of new vocational skills). In the present context, the only aspect of interest is the effect this uncertainty has on the standing of vocational programs, and it is suggested that the main effect is that the general (and academic) courses take over from the vocational programs. When there is financial pressure to reduce costly courses in practical training; when there are mounting problems with securing places and quality guidance within an apprenticeship system; when there is pressure from the mobility principle within the comprehensive system; when there are more problems of recruitment of qualified teachers within the practical as compared to the academic disciplines, then it seems relatively easy to accept gradually a higher percentage of general courses or modules within the vocational track—as a compromise, noting that there are convincing substantial arguments for it. This does not mean that there will not continue to be ambitious and temporarily successful attempts to maintain or even initiate vocational programs such as the national vocational initiatives in Britain and Norway or within individual disciplines (Williams and Yeomans 1994). However, the long-term fate of such efforts can be foreseen and it may even be possible to describe in some detail how they will operate.

Why Practical or Clinical Training?

The rationale for the practical, clinical, or apprenticeship part of vocational training is at least threefold. First, and probably most important, is the pedagogical necessity of being able to relate theory to practice. This pedagogical factor has both a motivational and a cognitive dimension. Another rationale is the necessity to learn to apply any academic ideas or practical skills in practical situations, where the student encounters genuine working atmosphere and conditions. This requires practice on the job or perhaps partly in a practical class to be ongoing throughout the vocational course. These may be termed student-centered arguments and are very important for the quality of the vocational course. They demand that fairly intensive practical training or at least practical experience be placed early in the vocational program and subsequently remain an integral part throughout. The third rationale for any type of "clinical" practice is the necessity to learn skills that are very job specific. This training may come at the end of the vocational period, or, as is of course more reasonable, at the beginning of a new job. This rationale is often related to the direct financial interests of the prospective employer and is of considerable importance in an economy dominated by small firms and probably for small firms in whatever economy (Grubb 1984, p. 451). If these three arguments for vocational training are not clearly understood by those in charge of the program and most importantly if their differences are not appreciated, then even though some general feeling for the importance of practice may be present, it is easy to succumb to several forces that push the on-the-job training to the very end of the vocational program, where its value as a potentially crucial pedagogical ingredient is minimized. Two additional reasons for maintaining a strong apprenticeship system should be mentioned in this context. One is access to cheap labor (Elbaum 1989 p. 342) and the other is an indirect method by which the labor unions might attempt to control the number of qualified additions to their labor market (p. 349). Only the former might coincide with the need to organize practical training as an integral part of the whole vocational program.

A FAST-CHANGING SOCIETY HAS ITS EFFECTS

The economic infrastructure of many western societies is changing and this is also the case in Iceland. And this change is probably perceived

by many young people, who face selecting a career, to be occurring rather rapidly. Many employers probably also have the same feeling. Whether such an attitude or feeling could be justified is, however, not at issue here. But the consequences are. There are at least three reasons why a fast-changing society, or rather the perception of this change, is a serious enemy of what we normally mean by vocational education at the secondary level and probably at the tertiary level.

The first reason is that students may be reluctant to choose a vocation at such an early stage in the system, if they have an alternative option, as there may be several signs indicating the insecurity of jobs in many fields. They may even be interested in a particular vocational program but prefer to get some kind of insurance by finishing secondary school and passing the UEE. The second reason why a changing society undermines traditional types of vocational education is that there is no tradition for vocational education in the new fields, and such trends may be very difficult to establish. It is noteworthy that substantial practical training exists principally within vocations where it has built up over a long time. In more recent disciplines, the practical or clinical experience is often minimal and superficial. Elbaum (1989) notes, however, that the apprenticeship tradition was adapted in new disciplines in the nineteenth century if there was a clear economic benefit. The third reason is the uncertainty on behalf of employers and educators alike as to what skills are most desirable in the coming decades. The colorful spectrum of skills that has been suggested in recent years (see, e.g., Levin and Rumberger 1989, pp. 235-236) shows vividly the practically impossible situation curriculum developers find themselves in.¹⁸ If the educational establishment attempts to go along with these suggestions the result is bound to be equally colorful, diffuse, and non-vocational. Note here that UEE does not result in higher initial salaries than dropouts receive as discussed earlier, though graduates presumably possess some of the new skills desired.

THE STATUS OF VOCATIONAL AND LIBERAL EDUCATION

It is often said that the academic schools have a higher status than the vocational schools and, therefore, attract keener students. The establishment of the comprehensive system was meant to counter this apparent problem of differential status. No domestic study has a number of important confounding factors, many of which have specifically addressed this issue but there are indications that there are a number of important confounding factors many of which have been discussed above.

Most of the forces at play seem to direct the students towards the academic programs, independent of their immediate interests. A survey conducted among students at two comprehensive schools in Iceland asked how interested they were in a number of options open to them, but they did not, however, have to rank the options (Bílddal 1993). Nearly half of the sample, 45 percent, said they were very interested in obtaining a vocational trade certificate but over 80 percent of the same group said they thought it very important to pass the university entrance examination. It is thus clear that the young people have to choose, and it is clear what they end up selecting.¹⁹ In a study among Icelanders born in 1969 who had not finished a secondary program by the age of twenty-two, 68 percent said they were more interested in practical than academic subjects (Jónasson and Jónsdóttir 1992, Table 5.3.2); more than 80 percent wanted to complete school (Jónasson and Jónsdóttir 1992, Table 5.4.4), and a large portion, at least 60 percent, expressed keen interest in some vocational program (Jónasson and Jónsdóttir 1992, Table 5.4.5). This fits reasonably well with the rather positive attitudes to practical or technical jobs reported in Lauglo and Närman (1988, pp. 248-249) and makes clear how some relevant industrial education enhances this attitude.

It might be conjectured in light of the scant evidence available that a large fraction of those who select the academic tracks do so for reasons other than keen interest. One reason may simply be an attempt to delay a vocational choice; another may be strong parental pressure, or a difficulty in getting an apprenticeship.²⁰ Many select the academic track as a default or a negative option.

In view of the previous chapters on the enemies of vocational education, it seems sensible for many students to make the general or academic choice even though they could well envisage a vocational choice. It is not the case that the relatively dwindling registration in the "secondary" vocational programs is a true reflection of the interest students may have in entering the vocations in question. The students themselves should therefore *not* be counted among the enemies of vocational education.

GENERAL DISCUSSION

Vocational education at the secondary level faces two classes of problems. One is that it is difficult to show empirically its relevance, at least in general terms. Second, there are several forces at play which seriously seem to undermine all genuine or ostensible attempts to strengthen vocational education at the secondary level. It is not clear how strong these forces are or whether they can be annulled. They appear to be both forceful and resilient, if somewhat elusive, especially as most of them seem to come into play inadvertently. Apparently the most damaging come from within the labor market and the education system itself. It is doubtful that any measures can be taken which would suffice to reverse or even halt the eradication in the long run of anything but nominal vocational programs at the secondary level. Whether such measures are sensible in view of the scant empirical validation of vocational programs at that level is another question.

These forces come from sectors that consider themselves to be favorable to the vocational enterprise. This holds true especially for the labor market but also for important sectors of the education establishment. Needs analysis is detrimental to vocational education; the salary structure in the labor market does not encourage vocational education generally; the apprenticeship system seems to control licensed trade education unduly and the size of enterprises is not conducive to on-the-job vocational training. Similarly several features of the secondary education system complicate the build-up of vocational education or camouflage its transition into general academic programs. The tertiary system has grown so strong and has such a wide spectrum of programs that it seems to be a somewhat poor option for any student who might have a chance by not opting for a university entrance certificate. In addition to these rather formidable groups of deterring factors, there is the lack of a definition to vocational programs, allowing practically anything to be counted as vocational and a lack of consensus about the rationale of vocational education, which again means that there is no defence against a smooth transition of any vocational program into an academic one. An apparently fast-changing society encourages a student to defer any final educational choice and gives an additional reason for choosing the general academic track at the secondary level. The question of status may have some influence in this respect but probably less than might be expected, given the

overwhelming numbers selecting the academic program. The cost of vocational programs as compared to academic ones certainly does nothing to counter this development.

It thus seems to be of paramount importance to those who still believe it makes good sense to maintain or to develop serious vocational options at the secondary level to reconsider their rationale very seriously, and if they are convinced that such programs hold up to close scrutiny, plan their actions so as to counter the hindrances discussed above.

NOTES

1. These may be called university preparatory programs, UPPs, which conclude with a university entrance examination, UEE, which awards a university entrance certificate, UEC. Cf. the French "baccalaureate," the German "Abitur," the Scandinavian "student prøve," etc.

2. The positive effects of work experience programs are difficult to assess (see, e.g., Watts 1983). Furthermore even though the surface characteristics seem to be right, vocational programs seem to be difficult to maintain (see, e.g., Evans and Davies 1988, pp. 43-46).

3. Documented cases of short-sightedness of industries may be scarce, but see, e.g., Gospel and Okayma 1991, p. 21; and McKinley 1991, pp. 93-111.

4. We do not discuss the extent to which the driving force should be exclusively attributed to certain individuals within each sector rather than the sector as a unit (see, e.g., Nilsson and Svård 1991, p. 5, on the initiative in Sweden). This becomes of crucial importance if someone wants to argue that industry should be given control over vocational education on the assumption that this would encourage its initiative.

5. Based on data made available by the Icelandic Statistical Bureau in May 1995.

6. The representatives of the industry have of course, when invited by the government, taken seats on a number of committees set up to propose educational initiatives and the individuals concerned have, without doubt, played an important role in molding the proposals made.

7. The data were collected in ten independent telephone surveys by the Social Science Institute of Iceland in the years 1993-1995 with the total number of respondents about 10,000, of which 7,500 received a salary. The sample on which these numbers are based, including the ages between twenty and seventy, is around 5,800.

8. It is assumed that inadvertent or conscious relative bias is independent of the groups being investigated, and thus the pattern obtained is trustworthy, even if the absolute numbers may not be.

9. Such initiatives are exemplified by Salomé and Charmes 1988 in an analysis of five newly industrialized countries in Asia, p. 73.

10. In the metal working sector in 1989, British apprentices received 73 percent of the pay of skilled workers, whereas the German apprentices received 35 percent (Marsden and Ryan 1991, Table 11.3).

11. It is problematic to extract the number of new entrants into the academic and vocational tracks from the centralized database available, except for the last few years.

12. It is also of interest to note that in an explanatory note following the proposed law for secondary education, it is stated that these three aims should be woven together as not to be seen as unrelated aims. In a regulation set subsequently the number of aims is increased and the formal problem of selecting between them or following all of them is further enhanced.

13. In absolute terms the picture is different because over 80 percent of the students entering secondary education register in tracks that must be termed academic or general.

14. There are other forces pushing in the same direction. The sheer logistical problem of placing a huge number of beginners in "on the job training" or in practical classes (many of which may drop out of the program) is often formidable. Prospective employers also almost certainly prefer to train their potential new employees towards the end of their studies.

15. It is implicit if it is required to obtain an apprenticeship contract at some stage in the study, and it is very difficult to obtain such a contract even though in principle there is said to be no limit on the number of students who could go through the program in question. The *clausus* is also implicit if it is known that a very high proportion of students will not pass vital exams in the program.

16. Based on data from the Icelandic Statistical Bureau, Hjalti Kristgeirsson, personal communication 19.5.95.

17. This is data made available by the Ministry of Education (May 1995) and is deduced from the three largest vocations: house building industry, electricity, and metalwork. These are fairly feeble indicators, however, because the pressure on those who are actually in a program to finish is often fairly low and thus an older completion age does not necessarily reflect an older starting age.

18. This is a very old dilemma, and there is an abundance of references to literature from the previous century and the early part of the twentieth century

to demonstrate this. See, e.g., Nilsson and Svärd 1991, p. 6, on the Commission on Rationalization in Sweden, which started work in 1936 and wanted to emphasize intellectual skills in vocational education.

19. Thus when Wright (1988, p. 130) reports that the proportion of students wishing to go to college or university ranges from 38-86 percent, he may be underestimating the independent interest in vocational education, as he only seems to allow one choice.

20. There is an abundance of anecdotal evidence supporting these different reasons for not selecting a vocational track, which may be of primary interest to the student. It has not been possible to substantiate it with solid Icelandic data.

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