

Technical-Professional Education: What Makes the Difference?

Experiences of other countries demonstrate that technical-professional education must aim at developing the skills and specializations that the industrial sector demands. Estimates in Chile indicate that in the near future increasingly more workers with technical-professional training will be required. Therefore, the fact that technical-professional schools may train better prepared young persons will gain more importance.

A few days ago, the Ministry of Education announced a modernization plan for the specializations taught in technical-professional schools. Currently, they offer 46 specializations defined 15 years ago, which needed updating because knowledge and requirements of the productive sectors have changed. Within these specializations there are some related to productive activities (such as mining, agriculture, mechanics) and others related to services (administration, trade, social and health care, secretarial jobs and tourism). The curricular updating established a total of 34 specializations and 17 minors which will be gradually implemented in this type of schools.

The change, which we will not analyze in detail this time, is one of the challenges that technical-professional education must face and which lacks proper academic levels and integration to the labor market.

Who follows technical-professional education?

In our school system, two types of instruction are offered in upper secondary education (11th and 12th grade): scientific-humanist (SH) and technical-professional (TP). The latter concentrates a high proportion of students, since approximately 43% of young persons choose this option. This percentage has remained relatively steady in the last decade. It is an option chosen by many families who want their children to finish with some specialization or skilled education that allows them to enter the labor market when graduating from secondary education. Technical education is taught in 946 institutions with slightly over 182,000 students.

Enrollment is concentrated on schools reporting to the municipality (46%) and private subsidized ones (42%). There are two paid private schools and 69 institutions with nearly 22,000 students with a Delegated Management System of D.L. 3,166 of 1980, whose administration has been entrusted to private or public non-profit corporations, mostly belonging to trade organizations linked to the fields of construction, agriculture, production and trade (see Table 1).

Table 1

INSTITUTIONS AND ENROLLMENT IN TECHNICAL-PROFESSIONAL SCHOOLS ACCORDING TO THEIR DEPENDENCE

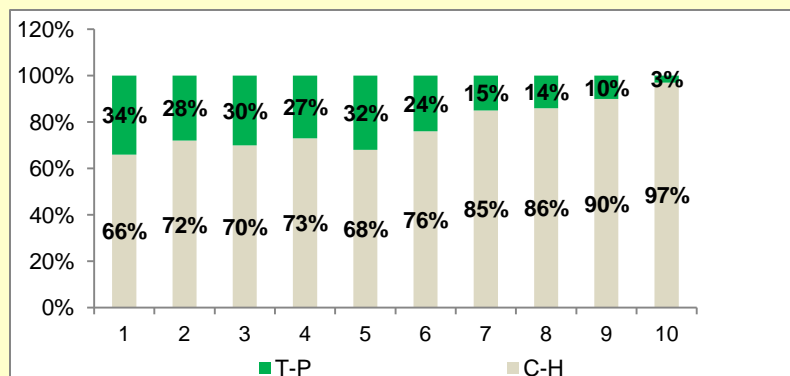
Dependence	Institutions		Enrollment	
	Nr	%	Nr	%
Municipal	430	45.5	83,269	46.0
Private Subsidized	445	47.0	77,430	42.0
Paid Private	2	0.2	54	-
Delegated Management	69	7.3	21,806	12.0
Total	946	100	182,588	100

Source: Ministry of Education (MINEDUC), enrollment 2011.

When analyzing the socioeconomic composition of the students who attend technical-professional schools, according to the CASEN Survey 2011, there is a greater proportion of enrollment in the poorest deciles. On the other hand, nearly 50% of the students who attend these schools come from households of the poorest 40% of the population.

Chart 1

ENROLLMENT DISTRIBUTION IN SECONDARY EDUCATION BY INCOME DECILE



Source: CASEN Survey 2011.

What are the failures of technical-professional schools?

TP schools have many failures, except a few that are successful. Most of the students are not well prepared when they graduate – neither to continue in higher education nor to participate in the labor market; thus, families' expectations are not fulfilled. According to data from the Ministry of Education (MINEDUC), a high proportion of students never get a degree in the specialization they chose, because they do not do the internships required to obtain the degree.

The results of the 10th grade SIMCE test show that, just like in the scientific-humanist education, there are big differences in the students' results according to the institutions' dependence (see Table 2). On average, TP schools get 35 points less in reading than the SH, and 47 points less in math. There is a relatively better performance in technical schools with delegated management, which are those linked to business corporations. Many of them have understood that students have to be well trained in basic skills – reading comprehension and math knowledge – which are equally appreciated in the labor world as the technical knowledge.

Table 2

STUDENTS' AVERAGE SCORE IN READING AND MATH BY DEPENDENCE AND TEACHING MODALITYⁱ

Dependence	SIMCE test	SH	TP (2)
Municipal	Reading	262	233
	Math	263	228
Private Subsidized	Reading	275	246
	Math	287	250
Delegated Management	Reading	279	247
	Math	251	253
Average	Reading	276	241
	Math	288	241

Source: MINEDUC – 2012 10th grade SIMCE. It does not include Paid Private.

Another inconvenient of the TP schools is the low number of students who get a degree. Many of them finish their secondary education, but they do not do the required internships to obtain the technical degree. Figures of 2011 indicate that only 58% of those who finished in 2010 got his degree. Moreover, in general these schools do not make great efforts to obtain internships for their students and they have a hard time finding them.ⁱⁱ Consequently, they have to face the labor work without the necessary

training, or still worse, they study specializations while ignoring that they have low employability.

Currently, many of the students who finish high school enter higher education the following year, which produces a provisional conflict with their professional internships. Scholarships allowing to access careers of higher technical level have significantly increased their coverage in the last years, which has benefited young people with lower financial resources who wish to follow higher technical studies. The New Millennium Scholarship (*Nuevo Milenio*) increased from 55,594 beneficiaries in 2009 to 97,069 in 2012, and the Juan Gómez Millas scholarship from 2,853 to 9,476 people. The Technical Excellence scholarship (*Excelencia Técnica*) was granted for the first time in 2012 to outstanding students coming from technical education, with 4,000 scholarship holders.ⁱⁱⁱ

However, in spite of the significant coverage growth of scholarships in the country, most of the students who finish technical schools do not make use of them. In the best case, three out of ten young persons continue with higher education when finishing schools, even though this figure has increased over time. According to the MINEDUC, between 2006 and 2011, the percentage of students who finished school and who immediately entered higher education grew from 14% to 27%, with preference for non-university careers. In 2011, 74% entered careers taught in Technical Training Centers or higher level Professional Institutes.^{iv}

What makes the difference?

There has been much discussion at the level of public policies on the pertinence of technical-professional or vocational training and the labor market demands. Today, in addition to the knowledge of a technical trade, the development of basic cognitive skills is also important; for example, language and reading comprehension, fluency in a foreign language, working out mathematical problems, non-cognitive or soft skills such as habits (punctuality, discipline), team work and adaptability to changing technologies.

Therefore, it is necessary to set certain quality requirements for these schools, which are different from those of scientific-humanist institutions. Quality measures should aim at the adequate integration and performance of its graduates in the labor market.

The key factor of successful TP schools (where graduate students are rapidly connected to the labor world and/or continue higher technical training) is that they have great mystic. They rely on a motivated administration team and teachers who put emphasis upon the student's general education – in fields like language, math and English – as well as on important basic skills that will allow them to perform the technical specializations they offer in the labor world. However, the alliances of these

schools with the industries linked to the specializations they teach are also essential. They are often connected with business corporations such as the Federation of Chilean Industry (SOFOFA, in Spanish), the National Agricultural Society (SNA, in Spanish) or the Chilean Chamber of Commerce, and sometimes with companies of the community. As part of this link, the companies contribute with financial resources and collaborate in the students' training through school-company agreements and the internships that the students have to undergo.

Experiences of other countries show that education has to develop industry- oriented skills and specializations, such as the German dual education system, which has succeeded in training high-productivity technical workers. Besides, in this country great deal of the funds come from the same companies, which are highly committed to the schools.

Australia and New Zealand have worked in defining the occupational profiles required by the industry through collaboration between companies and schools. Therefore, business councils have been created to advise educational institutions in defining the specializations required in the labor market. Likewise, systems have been developed where students can certify their know-how along the way from technical education at schools until finishing their studies in a professional training institute.

We should take these experiences into account, considering that if the current economic growth trend is maintained, the demand for workers with technical specializations will increase in the near future. In fact, after finishing their training 95% of technicians with higher education enter the labor market in the following four months.^v

Thus, it will be increasingly significant for TP schools to train better prepared young persons and to rely on a stronger link between school education, companies' demands and higher level technical studies. Likewise, in order to improve the employability of TP school graduates, greater coordination is needed between educational policies and those concerning the labor market.

In brief...

- Technical-Professional education (TP) has wide coverage and half of the students belong to the poorest 40% of the population.
- TP schools have lower results in the SIMCE test than their SH peers and 58% of their students does not obtain his technical professional degree. Only three out of ten young persons who finish their studies continues with higher education.
- There are successful TP schools which make the difference. They rely on good professional and managerial teams and are connected with business corporations; this facilitates the labor incorporation of their graduates.
- If the current economic growth trend is maintained, the demand for workers with technical specializations will increase in the near future. Therefore, it is important for TP schools to train increasingly better prepared young persons.

ⁱ Although in 10th grade students follow a general cycle and choose the TP or SH modality in 11th grade, the value attributed to the institution considered as a TP the one that teaches at least one level in that modality, and as a SH the one that teaches levels in that modality only. Then, an institution that teaches both modalities was recorded as technical professional secondary school.

ⁱⁱ MINEDUC – Quality Agency 2011. Data obtained through a systematization of degree records delivered to the Education SEREMIS (Regional Ministerial Secretaries).

ⁱⁱⁱ MINEDUC: Higher Education Division, Student Grants 2012.

^{iv} MINEDUC-SIES 2011

^v www.trabajando.com