



## Education in Chile: Towards the Virtualization of our Educational Future?

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### ABSTRACT

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This article proposes a study of the evolution of educational offers of undergraduate and postgraduate degrees in a virtual or semi-virtual mode in Chile, based on its explosive increase, analyzed data, and breakdown of implications.

Higher education, after this analysis, evidently expresses a new context of reality in professional training; we are experiencing a new era, educational offer that perhaps responds to the demands of productive dynamism, customs, and experiences of the tremendous technological immersion by our young people, in response to programs that seek to approach this need but with a low level of development and organization quality.

### Keywords:

Online Education, Blended Learning, E Learning, Evolution Offers Online, E Learning And Productive Dynamism.

### INTRODUCTION

The training process concerning professional construction and qualification for the labor market is undergoing a profound transformation, allowing access to content and learning activities through Internet platforms and facilitating online programs. Concerning promoting their access to the freedom of movement or physical presence, it is a system that allows our young people, who are more accustomed to using and connecting to the Internet, to enroll in virtual or semi-virtual professional training with great flexibility.

Based on this need and the flexibility of studies, the growth of the offer of online training programs has increased significantly.

### ANALYTICAL CONTEXT AND DATA

In Chile, today, more than 360 professional careers are offered, including Engineering in virtual or semi-virtual mode, and 175 virtual or semi-virtual master's degrees in postgraduate studies, which shows an exponential growth of online programs in recent years, this being something unexpected, with a significant impact on the understanding of the educational process, understanding that the old paradigms of attendance, infrastructure, and provision of physical resources no longer make sense in today's world.

Table 1. Offer of Engineering, professional careers, and online degrees from 2011 to 2021 in Chile.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
e-Learning	64	74	80	91	129	144	175	190	193	207	293
b-Learning	29	39	63	62	70	64	67	66	61	53	68
Total	93	113	143	153	199	208	242	256	254	260	361

Source: Own elaboration based on data from Subsecretaría de Educación Superior, 2011 to 2021.

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Between 2011 and 2021, this offer grew, leading to the presentation of 168 engineering careers, 130 Master's programs, and another 193 professional careers in non-face-to-face format by the end of 2021. This situation poses a little studied reality, implying the great challenge of leading quality online training programs based on the emerging growth of the non-face-to-face training offer with recognized qualifications for professional job performance.

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### Are we risking the educational future in virtuality?

Indeed, the growth of the offer, with the flexibility of face-to-face attendance and dedication to a professional training or online postgraduate program, is increasing exponentially; in just ten years, we have quadrupled the offer of programs in these flexible training modalities. Furthermore, the Comisión Nacional de Acreditación (CNA) has already advanced by

accrediting some programs, adapting the standards to measure suitability through suitable indicators that guarantee procedures and quality development in virtual or blended learning; defining precise guidelines for Professional Institutes, Technical Training Centers, and Universities; but the reality is that the percentage of these accredited programs does not exceed 5% (17 programs).

**Table 2. The evolution offers online Master's Programs from 2011 to 2021.**

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
e-Learning	21	42	62	53	42	48	49	185	58	62	91
b-Learning	23	20	42	41	43	80	75	95	104	86	84
Accredited	1	1	1	1	1	10	6	9	13	9	11
Unaccredited	43	61	103	93	84	118	146	271	149	139	164
Total	44	62	104	94	85	128	152	280	162	148	175

Source: Own elaboration based on data from Subsecretaría de Educación Superior, 2012 to 2021.

It is essential to clarify that to exercise a career or profession in Chile, it is only necessary to have the title or certificate issued by the respective training institution, but the program does not need to be accredited, except if the student requires a scholarship to attend the program.

### The delivery of official qualifications without quality accreditation.

To practice professionally in Chile, the degree does not need to come from an accredited program, which is only required

for degrees in health and education. Still, technical, engineering, and other humanities areas are not required.

In practical terms, the accreditation of careers not in the health or education area only affects the situation of their students about not being able to apply for state scholarships. In this way, in the sectors of industrial productivity, engineering, or service attention, the professions do not need to be certified with a quality accreditation by the National Accreditation Commission (CNA); it is simply necessary that the institution that dictates the program be accredited.

**Table 3. Students enrolled in professional careers, engineering, and online degrees from 2011 to 2021 in Chile**

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
e-Learning	4542	6135	6547	9153	11708	13449	15159	18387	23246	27126	33567
b-Learning	1055	1565	2355	3283	3331	3521	3119	3040	2864	2784	3683
Total	5597	7700	8902	12436	15039	16970	18278	21427	26110	29910	37250

Source: Own elaboration based on data from Subsecretaría de Educación Superior, 2011 to 2021.

Table 3 shows the great growth of students enrolled in online professional training programs, what evidence an increase in

online enrollment, stronger than face-to-face education (table 4).

**Table 4. Comparison between face-to-face and online professional degree programs for students enrolled in the first year from 2011 to 2021 in Chile**

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
online	1930	2332	3602	5133	5081	6114	7768	9089	9918	9968	17862
face to face	188447	184011	181147	173833	170374	176281	176933	176882	174636	163480	165550

Source: Own elaboration based on data from Subsecretaría de Educación Superior, 2011 to 2021.

The assessment of face-to-face education, is the value of face-to face and off-line social interaction (Calzada, I., Cobo, I. 2015); but, the increase in enrollment in online programs is evident, having a growth over 1000% in the last decade. It is important to associate economic and productive growth to justify online growth, it is important to associate economic and productive growth to justify online growth.

### The growth and supply of training programs as a result of a requirement of the production system?

In a cross-sectional analysis of productive growth, associating employability and an increase in the Gross Domestic Product (GDP) between the years 2011 and 2021, measured growth is evident, which is not consistent with the growth of virtual training enrollments in higher education in the same period.

**Table 5. Active population in the work market 2011 to 2021 in Chile**

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Employees (Millions)	8.08	8.16	8.28	8.43	8.54	8.65	8.84	8.99	9.09	8.53	8.50
% growth (2011- 2022)	0%	0,99%	1,47 %	1,81 %	1,30 %	1,28 %	2,19 %	1,6 %	1,11 %	-3,83 %	-0,64 %

Source: Own elaboration based on the World Bank 2022.

The population of employees has not grown as much percentage in the last decade (table 5), similarly, economic

growth in the same period (table 6), these growths are lower than the 1000% growth of online education (table 4).

**Table 6. GDP (US\$) 2011 to 2021 in Chile**

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
GDP (US\$ Billions)	251.22	267.18	277.24	259.41	242.50	249.30	276.36	295.40	278.58	252.73	317.06
% growth (2011- 2022)	0%	6,35 %	3,76 %	-3,56 %	-3,48 %	2,80 %	10,8 %	6,88 %	4,30 %	-10,7 %	25,4 %

Source: Own elaboration based on the World Bank 2022.

The need to participate socially in the 21st century require that, in terms of productivity, we must work in coherence with a globally connected world, in a new ecology of being and being, demanding communication literacy and handling of new media in the context of intelligent machines and systems, where Artificial Intelligence is proposing new ways of operating the access and production of information in a context or ecology of a computational, digital, virtual world (Ballestar, M. T., Díaz-Chao, Á., Sainz, J., & Torrent-Sellens, J. 2020).

Faced with this great dynamism and an attempt to be qualified according to labor demands, living is not understood except in permanent educational construction, in which the improvement, the formative restructuring, and the deconstructing of new skills in the workplace labor and technology give us certainties to live in coherence with continuous change (Putro, H. P. N., Hadi, S., Rajiani, I., & Abbas, E. W. 2022). In such a way, face the degree of uncertainty with the hope of facing the accelerated demands of the environment. (Bulger, M., Bright, J., & Cobo, C. 2015). For educational institutions, this requirement is not a new challenge, they have already survived several decades in the face of a changing world, with which they have demonstrated their ability to survive, but it is not a minor issue that today there is an online education and an online education, or a more permanent concern for training beyond the classroom, and even in an immaterial space such as virtual education. (Cobo Roman & Moravec, 2011).

**New challenges in the face of the demand for new changes.** They arise with a high demand for change, varying the approach to teaching from enabling new learning ecosystems,

considering environments implemented remotely with technologies that facilitate the management and generation of information, and moving towards the development of empowerment skills. (D. Tapscott 2009)

Moreover, in such a way, formal learning is falling into disuse, and progress is being made within a context of ubiquitous and digital extended learning.

**CONCLUSIONS**

An education must be rethought from new perspectives, forms, and ideas, so today, we know how to coexist with the technology students take to classrooms and training spaces in their own pockets. The socio-productive transformation in the 21st century poses a paradigmatic change based on new practices, which must be built in this new digital learning ecology, requires pedagogical and didactic diversification, with flexible, creative, and technological teaching environments, but always considering that technology does not solve by itself the great problem of education, but complements it.

Unquestionably, the virtualization of training programs contributes to enriching the teaching proposals. This is a call to rethink to advance in flexible and integrated processes, with resources that allow interaction with the knowledge desired to be reflected in a competence associated with technology. We just do not know what future jobs will be, but we can predict that they will use technology as a professional tool (Grigorievna, B. T., Alekseevna, P. N., & Sotnikova, L. V. 2021)

One of the main challenges for Chile is to find a way to deepen experiences that are increasingly closer to digital culture, without losing academic traditions that facilitate

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natural processes of inclusion in our higher education institutions.

Although the virtualization of teaching generates a provocation for the teacher, it is decisive to highlight the benefits that it entails, particularly in this historical period in which time increasingly collides with the representation that each one makes of life (García, 2022). From this perspective, it is necessary to carry out a training process in digital skills for teachers with an emphasis on an aggressive and innovative culture of "CyberLearning," and for this, the interdisciplinary promotion of communities of CyberLearning researchers and specialists is recommended; inculcate the use of a platform of activities in perspective with CyberLearning; to emphasize the transformational power of digital technologies for Learning, finally that programs and policies should be adopted to promote open educational spaces and resources, assuming responsibility for maintaining specific standards of safety, quality, sustainability or performance by sponsoring innovations.

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