

Chile's Education Crisis: Part 2 of a Case of Study

Dr. JoAnn Rolle, Dean

School of Business

Medgar Evers College, City University of New York (CUNY)

1650 Bedford Avenue, Brooklyn New York, USA

Dr. Roberto Acevedo

Pasaje Rector Horacio Aravena A. Ex Pasaje 1. Casa 2950 Macul Santiago Chile.

Postal Code: 7810000

Dr. Miguel Jordan

Julia Bernstein 1201. La Reina Santiago Chile.

Postal Code: 7860243

Abstract

We believe that updated and high quality teaching and research should be introduced to Chile students, preferably from the very beginning of their academic studies so as to educate and motivate them to consider both creation and innovation in both social sciences and new technologies in their academic and professional careers. It is should then be advisable and mandatory that Higher Education Institutions in the country hire, in full time positions academic staff of the best possible quality (M.Sc. PhD and/or well known practitioners in their fields). Our experience indicates that the Chile that much of the work done at different levels of the students' education is obsolete and therefore we are convinced that many Chilean professionals are not quite prepared to face the many challenges related to the fourth technological revolution, in due course in developed countries.

We have, therefore in the current article, focused our attention upon a number of evaluation indicators so as to take action in due time and to improve and/or modify some components of the current models (indeed, new curricula should be worked out based upon the right assessment). The current article is devoted to analyze thoroughly, many changes in due course in our country, and aims to improve the standards of education of our fellow citizens. Chile is a small country and its population is about 16.5 million people. There is agreement, which suggests to us that many well-known structural obstacles must be modified and/or removed in order to overcome a number of both failures and weaknesses observed in our processes. Besides, the assessments executed by both national and international studies, reinforce strongly our overall believe that the current situation of the education system in Chile is inadequate when compared with those standards required to be able to become worldwide competitive. We believe that our accreditation processes should be reviewed and many structural changes must be enforced to achieve those goals.

Key words: Chile, Education, Quality, Research, Indicators, and Country Development

I. Preliminary Remarks

There is an overall agreement with reference to the essential and urgent need to improve the opportunity and the quality of the studies to be taught to the students in their different academic stages of their lives. We know and are very much aware that over many decades ago, our country decided neither forward nor to continue with the development of the industrial processes with the remarkable exception of metallic resources such as Copper and with a less effort on nonmetallic materials.

Many people still speak about our natural resources as the main source of income, the so-called “Chilean wage”. As a consequence and due to the lack of industries at large scale, we as a country started exporting none refined minerals for a long period of time, with its negative consequences for the global economy of our country. This was particular true until 1970, period in which the government and the public sector started investing a substantial amount of money to reverse this rather awful and complex status. Along these lines, many national and foreigner capitals started operating and doing business in the country on several areas, including mainly areas such as, mining, forest planning, tourism and services. This change in the agenda of several governments and private investors made a real change and several opportunities became available for the Chilean people. Nevertheless, we kept a structural problem and a good estimate of the population indicates that almost a half of the whole population of the country live in Santiago, the capital of the country. This is a very important issue since we feel that the whole capacity of the country is not well used and Santiago is becoming overpopulated. It is important to observe that the length of the land is about 4,200Km and the mean width is roughly 177Km.

Santiago is without any doubt, the core of the activities of the Government and also of many public services. The lack of job opportunities and services out of Santiago is to be taken into account and therefore, the regionalization of the country must become real (that is to incentive the private sector to create job opportunities and welfare for the people) being essential to establish a general policy associated with the concept of a well-organized society.

The main goal is to add value to each region of the country; therefore, to increase job opportunities and a better quality of life for our fellow citizens. To achieve this task, we certainly need high standard professionals and technicians as well as a well establish education systems along the whole country. For this purpose, the government must do an additional effort so as to truly advance in the regionalization of the nation creating the appropriate conditions so as to provide the citizens with reasonable good Universities, schools, hospitals, housing, good sources of jobs creation and related essential attributes. We strongly believe that in this model, our families will be in condition to educate their children and to make their lives better. However, education must start at home where children should obtain values and principles from their parents and eldest members, relatives and friends. It is supposed that later, the students will be having the right academic staff and a suitable environment to grow up as good quality professionals and/or technicians. Our children must be surrounded by a comfortable environment and having the right conditions to access to knowledge as such.

It is indeed, education the essential factor in everybody life and the Government in office should contribute to make a real impact on the quality of life of the citizens. This is quite true since, all along the country, we need to obtain from the education system, good and sensible professionals able to face the many challenges with reference to an open market economy and in particular, in a global society which is undergoing non-trivial drastic changes. The new paradigm is such that people should be stimulated to accommodate them within this new and updated goal, and fighting poverty in all levels. One very important issue it is that the society we are working for should understand that to get better salaries it is crucial to both study and work harder and harder. This is the right path to reach welfare and good salaries so as to raise a family and to achieve a fair degree of success. The opposite leads to a badly organized society and a substantial number of unhappy people. Our experiences indicate that poorly incentivized people in a sick society are not likely to become good and productive professionals. The main goal of a country should be to host good, sensible, well-educated and honest people. For these purposes, several measurements and overall policies have been taken by the Government in office and also by several Agencies devoted to Education matters so as to change the miss behavior and bad habits of our citizens.

The education costs in Chile are extremely expensive for the average income, so a law has been put forward to allow people to access the Higher Education System, using a combined monetary system (grants and for the most gifted though vulnerable students, a model based upon gratuity subjected to a reasonable academic performance). This is a reasonable target to be tackled and achieved, otherwise the economy and the education system would collapse without any doubt at all. A non-competitive country is unable to access the open and free market based upon the quality of the produced goods and even worst will become incompetent and with a negligible chance of getting success in any area. It is worth emphasizing that a non-political view should be adopted as a general policy so as to make the necessary changes in the curricula and relevance of the studies available for our students. It is extremely relevant to bear in mind that the whole education process must take into account serious and formal studies so as to update, on a dynamic basis, the curricula and the require practices for the future professionals and technicians in the productive sector. It is essential to make quite clear that the Institutions of Higher Education should be under very demanding accountability processes, just to make sure that theses kind of programs are sound and solid.

Along these lines, we must follow the best practices, to be made explicit below in the text when dealing with the minimum set of indicators of quality appropriate to any Higher Education Institution. It is advisable to be in close touch with developed countries and top professionals so as to exchange ideas and experiences; and also to adopt successful scenarios from abroad. Governments should incentive these kind of practices and look very careful the quality and excellence of the professionals we must have so as to advance towards a well-organized and competitive society.

A crucial factor is indeed the Higher Education System itself, where the students do expect the right curricula, the appropriate academic staff, a high standard and updated library, access on line to the data basis of journals, suitable and well equipped laboratories, free time to practice sports ("healthy brain it does mean a healthy body") and so forth. In conclusion a good Institution should provide their students with the very best of the facilities and human resources. We also believe that, the society should be trained to understand that it is essential for the citizens to accomplish the best out of their studies and also to do once at working what they love to do, otherwise we wasting the talent and the capacity of many professionals.

We have observed that many professionals work in areas others than the ones of their studies at the Higher Education System. This is not bad by definition; nevertheless it is rather inappropriate not to have a well-organized database about the future job facilities, at least a reasonable forecast about opportunities so as to guide students and their families.

It is also true that a well-organized society with highly incentive people is a gift and should be encourage to get better and better in the short, medium and long terms in the time scale. Countries of this type are most certain to achieve success and to have the right people to face almost every single challenge. Chile needs to make a fresh start and people should avoid bad practices and mediocrity and start producing goods of the best possible quality. The best possible conditions should be offered to our professionals so as to get the best out of their abilities and to achieve our goals. To achieve this goal, we need to have around the best possible technicians, professionals and researchers. Creation and Innovation are the key factors to make progress and to achieve this goal we need good and sensible people with the appropriate education levels and the best practices, highly motivated to undertake research leading to the best possible standards.

The above mentioned off set is certainly most serious by noticing our lack of competitiveness with developed countries in North America, Europe and Asia. To find a state of equilibrium in the Chilean Society is by no means trivial, since many parents are convinced that their children should attend Technical Institutes and/or Universities, since they have been convinced that only professionals are most likely to achieve good living conditions. The absolute true is not available for none of us, we are aware of though it is essential to create the conditions for young people to consider all the possibilities available such as personal entrepreneurship and some many others activities which are essential for a country.

Education is necessary but quite expensive so people should never forget the doublet cost-benefit is to be included in any decision to be adopted within the family group. In Chile, there are a number of paradigms installed and many people do follow these kind of dogmas, though the evidence available to support this kind of statements is neither easy to find nor well founded. Many authorities of the Chilean Government have looked at the education model installed and developed in Finland and the results they have achieved. No problem to corroborate that they do a lot better, but we as a country, we are not Finland or some other similar kind of society. This is not just a copy and paste process. We must develop our own models taking into account all possible sources associated with good practices and results, but whatever we do it must be associated with our culture and values (The DNA of the Chilean Society). We have focuses ourselves in the current situation in our country and the necessary changes, which should be done wisely and urgently.

In general terms, we must fight against mediocrity and wrong policies based upon selfish manners and the lack of wisdom. We must know, what it is all about us so as to make progress with our lives. We have observed a rather frustrated situation since we have lost the symmetry in our processes and as a result, there is an obvious of set of scientific and technological nature when compared with country in South America such as Argentina and Brazil.

II. Models and Indicators

We have introduced some ideas in the section of Preliminary Remarks about the need to install a sensible academic-administrative, dynamic model to be considered for any Technical-Professional Institution and/or University in the case of this study. Our experience suggests that a flow chart structure may facilitate the decisions maker and these should be based upon on a well-defined evaluation metrics, leading to generate new and capable professionals able to create and innovate high quality goods so as to become competitive in an open global economy. There are some relevant issues to be considered and it is relevant to fully understand that there is a once to one correspondence between both the mission and the vision of the Institution, which will host the students for many years during their training. *Assessments seem to be the right path to be followed by all Institutions..*

There are a number of accreditation organizations in Chile and abroad, thus we shall emphasize some straightforward indicators which are important with reference to the DNA of the Chilean Society. We strongly believe that some indicators should be re defined and modified so as to gain the public confidence with regards to the quality of the Higher Education Institutions in our Republic. We have, therefore, developed an accreditation model based upon a number of relevant indicators in a sensible and simple form.

We propose to introduce a number of indicators with reference to the global education system in this country of study. To start with, we have classified these indicators in at least five categories orientated to Schools/Colleges, Technical Centers/Institutes, Universities, Academic Staff, Students and Communities-Academic Processes-Administration.

A particular and interesting example is the role to be played by the Universities: as a country, we must be extremely careful with these Institutions and the Society should have available solid data in a number of factors such as: enrollment of students (average values over the last five years), fraction of the total of the students who feel that the subject was under their expectations, an estimate of the students who leave the University either in the first or second years for reasons other than the lack of money to pay the fees, assessments of results of the tests and exams, quality of the academic staff, the quality of the human and material resources to offer a given academic career, well designed schemes of qualification for both the academic and administration staffs, a set of sensible rules to achieve the purposes of the Institutions, financial viability of the Institution and the quality of the students to be selected and enroll by the University. We must say that in our opinion, these trivial points already mentioned should not be neglected otherwise the failure is always paid by the process of generating the wrong professionals without the competences required by the global economy and market.

There are many national and international bodies dedicated to assess/accreditation the quality of these Institutions, nevertheless we have observed that elements other than pure academicians, in many cases, have overlooked the real situation of several Institutions and this is indeed a factor to be worried about and it would be desirable to make the whole process public and transparent.

There are, in the literature, a number of indicators and metrics, which allow us to have a better view about the chain: learning understanding projection (L-U-P). One of the indicators relevant to this study is with reference to the rate of enrollment per year and career of a given Institution of Higher Education. We may, in principle, write down a generic function of the kind: $N = N(n, n-1, n-2, \dots, n-r, t)$, where the label N is a function of “n-r” variables and the time “t”. Besides “n” indicates the year of the study on going and t is the time (evolution of the enrolment rate of students along the years to be covered by the study). Say; $n = 1$ (2017), $n-1 = 2016$ and so forth. With this simple generic expression we may have some of the indicators needed for our study.

It is straightforward to display in “n+1” dimensions); N versus t . This simple display may be considered as the first step to continue our study. Also, it may be claimed that if the enrollment increases along the coordinate of time, then we might feel that the work has been well done, otherwise a thorough study should be carry out to find out the reasons for this failure.

There are a number of factors upon which we may explain the failure and/or the success of the model, however it is essential to consider some of these items: (a) both the academic and the administrative staff do the job properly? , (b) the academic staff is first class and do research in the state of the art? , (c) The professionals in charge of the laboratories are capable and willing to transfer the students the best practices based upon a creative approach? , (d) is the material of the library updated? , (e) do students have access to an “updated on line library” of high quality and so forth? It is significant to declare that the indicators to be developed later on, in this article are useful nevertheless they should not be considered by themselves as the answers to the many issues included in our study.

At this point of the discussion it is relevant to introduce some ideas, regarding the profile of the students we need to work on, so as to achieve our goals. In Chile, the study chain is: basic education-secondary education-tertiary education-university education. As for the academic staff: it is advisable to have as much data as possible with reference to the enrolment rate of students, results of the transversal evaluation on the students conducted by the Central Educational Institution, fraction of the total of lectures with full academic titles (including academic degrees), regular update of the academic staff (state of the art in their disciplines), efficiency versus inefficiencies of the academic staff, percentage of the academic staff dismissed from their job for incompetency, financial shoulders of the Institutions, external sponsors, grant obtained from their own Organization and from other Institutions, degree of satisfaction of the academic staff with reference to the general policies of the Institution they work for, links with the private sector.

With reference to the students: ratio among students and full time members of the academic staff, access to high quality and updated libraries and on line base of data (real use and assistance to the library-including electronic library facilities; reading abilities), degree of satisfaction of the students with the Institution they are studying, fair and complete institutional evaluation system (degree of satisfaction), rate of success and/or failure of students to advance in their careers and so on.

With regards to parents and family group: rate of satisfaction with the advance in the chosen career of their students, degree of involvement of the whole community with the Institution and the students, quality and represent ability of the authorities of the Institution, degree of commitment all along the academic process.

What we have already pointed out must be coherent with the declare mission and vision of the Institution and the assessment done by external bodies (Accreditation Agencies). One of the eldest accreditation agency in Chile is the CAN (National Commission on Accreditation, whose URL address is: <http://www.cnachile.cl>).

In figure 1; we suggest a strategy to improve the already mentioned indicators.

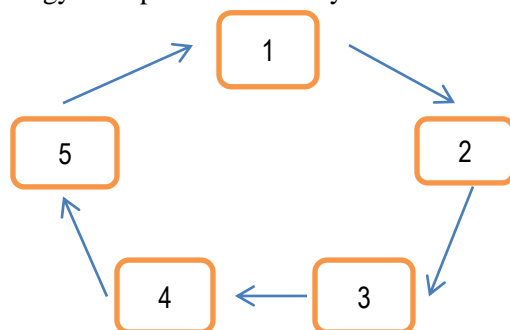


Figure 1: *Efficiency of the system of indicators (1), Assessment of the evaluation system (2), Measure program delivery (3), Measure analysis (4) and Improvement strategy (5).*

Furthermore and in line with the academic indicators, we must consider with most care and thoroughness the self-study worked out by the Institution and its Academic Faculties based upon solid evidence. Every single activities within the overall processes should be weighted and declare in a very accurate and precise form according to a number of indication and suggestions derived from the accreditation agency.

The idea is simple, the academic activities should be assessed on a regular basis and all the Faculties should follow the rules meticulously. The declared vision and mission of the Institution should be coherent with the activities in due course and subjected to an internal and external assessments so as to contribute to the quality of the work done on behalf of the students and the community.

It is quite import to take into account some tools to be included in the self-study of the Institution, such as: (a) lecturing survey, (b) academic survey to the students, (c) survey to assess the role play by the authorities, (d) survey to the former students of the Institution and (e) survey to the employers to find out the quality of the new professionals.

The latest data available indicates that about 48 % or the total Universities in Chile have been already accredited by some of the legal Agencies in Chile; nevertheless there is still a lot of work to be done. The top Universities in Chile have been granted seven years as a result of the accreditation process. Furthermore, these Institutions have a full accreditation. There are though, other Institutions in both Santiago and out of the capital, which are also well recognized, and with an important reputation. The Institutions we are referring to are those among the top ten in Chile [1,2,3]

The degree of requirements has become, year after year, more demanding so as to obtain after the whole process, better and more efficient professionals. In our case of study, there are a fair number of Institutions not fully accredited, though a partial fraction of the total careers offered to the students have passed the national accreditation procedure and have been granted a minimum number of the accreditation period (these Institutions are given a number of mandatory indications to be fulfilled during that period of time).

We must advise the reader, that in Chile most of the academic / professional careers last at least four to five years. We believe that the minimum period of time, associated with the accreditation procedure, to be obtained by a given University should be in a one to one correspondence with the length of the academic and / or professional titles offered to the students.

In our view, this is the minimum requirement otherwise it would be odd, and urgent action is in due time to be taken. This is indeed a matter for discussion, since we strongly believe that a Higher Education Institution should be an example of credibility and therefore both the Institution and the whole set of careers they offer should have the same level of requirements fulfilled. It is important to declare that in our view, any University should fulfill all the requirements to get the accreditation (this means that all and each of the processes to be offered to the Community must obey all the academic requirements. As a summary, a sensible accreditation system should follow as a mandatory rule, that the assessment of any Institutions should follow the higher possible standards. Furthermore, the Institution must be solid from the economic viewpoint and all the careers must be of excellence to be accredited.

Once again, this is an additional issue to be modified otherwise students will end up having studied a noncompetitive career and a straightforward consequence will turned not to be able to get a job. We have observed that a substantial amount of students obtain a professional title and in addition academic degrees, nevertheless at the end of the day, the market is not willing to hire them. This is quite frustrating though all and each accreditation procedure should undertake the job properly. Should these Agencies fail doing the job in a rather superficial way, then we have a major problem to tackle and solve immediately.

All Institutions should be demanded to assessed, in addition, doubtless, in fields such as research, postgraduate lectures and the links/exchange with the productive sector [1, 2].

It is rather interesting to point out at least two evaluation parameters which should be taken into account by any formal and serious accreditation agency: (a) student profile once they have passed all the requirements associated with the career and (b) human resources and facilities made available to the students to fulfill the already declared principles by the Institution with reference to both the mission and vision.

The National Accreditation Agency in Chile has established at least nine criteria to accredit a given career, say as an example: Civil Engineering: (a) Purpose, (b) Integrity and Organizational Structure, (c) Administration and Finance, (d) Curricular Structure, (e) Human Resources, (f) Processes Effectiveness regarding teaching and learning, (g) Evidence of the results obtained, (h) Infrastructure, Technical Support, Resources for a solid teaching and (i) Outgoing Profile.

III. A Faculty: Standards and Indicators

Any Faculty must exhibit well defined standards of quality so as to allow Accreditation Agencies to access a complete set of data on a regular basis, so as to make sure that the Institution are in full command to continue teaching students and to be ranked (at least at local level) as a serious academic Institution. Some of the most relevant standards are as follows [3,4,5,6,7]

(a) Mission and Vision

It is referred as the formal compromise of the Faculty with the Society so as to prepare students to become highly efficient and competitive professionals. These professionals should be recognized as leaders in their subjects

(b) Planning, Assignment of Resources, Institutional Renovation

This variable is utilized to have a control of the financial resources needed by a given Faculty to fulfill both the declared mission and vision. The outgoing profile is essential to work out the self-study process; the evidences require proving that the people in charge of the assignment or resources, inversions and global infrastructure are available. It is crucial to be in the position to demonstrate that all facilities are in due order (maintaining of the instruments and the right building facilities), renewal of obsolete instrumentation, updated library facilities both in print and on line.

(c) Institutional Resources

This standard is focused to assess the resources available by the Faculty at any time, so to justify in a short and medium time, the planning of resources to be in line with the future requirements. Obsolescence is major factor to be considered by any Accreditation Agency.

(d) Leadership and Academic Administration of the Faculty

This is a major key issue to take into account, since it is expected that the main authority and the associated team of collaborators must have the right credentials to be in charge of a task of this kind. These people must show expertise, the right academic credentials, pro activity and most of all be recognized by the Society as wise and fair. They must be trusted otherwise the whole project is most like to fail entirely. We cannot forget that the best do attract the best

(e) Administration

This is a very import element to be considered since this team is in charge to make a sensible decision with reference to those items relevant to invest financial resources and human capital. All those activities which do not contribute to the success of the Faculty should be removed and or modified in due time.

(f) Integrity

The rules of procedure established by the Faculty should be very well known by all members; academic, students and service personnel. Everybody should be aware about the pre-established rules so as to learn the right behavior and procedures to be followed in full agreement with the Accreditation Agency and Society.

(g) Institutional Evaluation Procedure

The focus is placed upon the self-study and the on-going procedures to improve on a continuum basis the quality of the educational offer to the members of the society. At the local level of the Faculty, it is relevant to declare that an external and independent Body should apply a multipurpose survey to all and each member of the Faculty so as assure the effectiveness and thoroughness of the processes involved in the whole process. These multipurpose surveys are used to improve the internal processes and in the limit may be use to eliminate all those processes with deceptive looks.

(h) Administration and Students Retention

This item is referred to processes such as; enrolment of students per discipline, rate of advance of the students in their careers (failure ratios in each level per discipline, students retention, out-going and number of students being awarding of titles).

(i) Assistant Services for the Students

Generally speaking, students are people acquiring a model of thinking and learning so to achieve these goals it is essential to have available the best possible and competent academic staff. This seems to be the most effective method to fulfill the mission and the vision of the Academic Unit. Additionally, when the right academic staff is available it is possible to improve on a regular basis the out-going profile for the students and also to establish the basis for the required changes to improve the curricula in line with the advances of technology, social sciences and fine arts.

(j) Academic Staff

This is also a relevant factor to be considered with most care and wisdom since an academic staff of excellence makes the difference and do contribute to work on solid basis and reinforce the academic prestige of the Institution. These extremely well gifted professionals will be in the position to help the academic processes and to deliver to the productive market the required professionals. Each and all Institutions must have a ranking of all the members of the academic staff. The requirements to achieve the status of professor should be very demanding indeed. The professors hierarchize must follow the three standard categories: Assistant Professor, Associated Professor and Full Professor. We must also add that to become a full professor, the academician should have an international recognized reputation and a solid evidence of the quality of the work done (some people believe that the category of full professor should be defined as a vacuum set and the most gifted professional should be invited to a selection process to eventually become full professor).

(k) Educational Offer

It must be coherent and consistent with both the mission and the vision of the Faculty and therefore with the various disciplines to deliver to students. This educational offer should be novel and able to attract new and smart students to the Faculty. It should also be in close relation with the productive sector, so as to promote students to be employed by the main productive sectors of the economy.

(l) General Education

This indicator is referred to the mechanism control of the Faculty so as to assess the quality of the curricula of the various levels of education for the students and, besides to keep on control of the number of hours in the classroom and laboratory required undertaking the activities properly. Also there is number of courses dealing with the so called “soft abilities” which should be introduced to the students so as to have a balanced curriculum vitae and a more sound and appropriate balance among rational and emotional intelligences.

(m) Related Educational Activities

This indicator is mainly related with the academic control of professional activities undertaken in the productive sector. The student during this period of time, continue his/her studies in the labor market (applying the knowledge and expertise learnt at the University and also exchanging this knowledge with the expertise of professionals working at different companies and factories of the productive sector and also banking, when applicable.

(n) Evaluation Report

This indicator is related with a number of items: a wise and expert control of the various courses associated with different disciplines included in the curricula of the students and also with a thorough analysis of the knowledge and practice obtained for the students. This is a cross examination and the results are essential to assess the various processes involved during the various levels of the career involved.

The above classification (a)-(n) does not pretend to be conclusive just the opposite, it has been thought to start a good academic debate. As an example, the library facilities may be associated to a central unit independent of the Faculty. This subject has been debated for many decades so as to have at a central level the funding to keep the collection of material updated. This is particular interesting when the resources are limited and we do not expect to have some duplicate collections of material obsoleted due to the lack of fresh resources.

(In addition to the above analysis it is relevant to tackle the infrastructure associated with the quality and facilities that should be available to both the academic staff and the students. There are also some indicators of satisfaction such the associated lighting, air heating and density of student (number of student over the volume of the classroom). It is also worth to mention the environmental conditions, being one of the most important the quality of the air inside the classroom [6] and so forth. A classroom is appropriate when the “tolerance indicator” is fulfilled. Some ideas are: (a) The Institution should be careful not to exceed the tolerance indicator, since the number of cubic meter should be appropriate for the whole and each student of the classroom to be utilized. (b) It is expected that the tolerance indicator with reference to the available surface is estimated to be roughly about $1.21m^2$ per student [6] in each classroom and also (c) the tolerance with reference to the volume per student should be about $3.5m^3$).

As a general conclusion: We have mentioned a number of indicators to be fulfilled by the Institution, though these indicators and metrics should contribute to the self-study. This latter study should be done with most care and rigorousness; otherwise the assessment of the Institution should produce negative results. The main goal is to provide the best possible and appropriate knowledge and practices to the students so as to contribute to the quality of living of the whole population and to make the country competitive in the global and open market [7] We also need to take into account a number of elements such as: (a) teaching survey (students), (b) Teaching survey (lectures), (c) survey to the authorities of the Institution (by the both academics and students), (d) survey (former students working in the productive sector) and (e) survey to the employers

IV. Evaluation Criteria

It is indeed relevant and pertinent to work out a number of evaluation criteria with reference to the various levels of the whole process of assessment of any Education Institution. Some of these criteria are as follows: (a) Pedagogic dimension, (b) Disciplinary Command, (c) Interpersonal Relations, (d) Administrative Responsibilities, (e) Ethic, (f) Self Study for the Students, (g) General Formation (educational level), (h) Professional Mission and Vision, (i) Social Responsibility, (j) Research Potential, (k) Degree of Satisfaction, (l) Current abilities, (m) Knowledge, (n) Competitively, (o) Institutional Administration and Quality Control, (p) Quality Control of the teaching/learning process, (q) Survey to the students of all courses, (r) Survey to the Authorities in charge of the educational process, (s) Survey to the postgraduate students of the Institution and (t) Survey to the Employers. These evaluation criteria should be examined with most detail and rigorousness so as to make sure that the Institution deserves to be accredited and their educational offer is valid and sustainable along the coordinate of time. It does seem pretty obvious that all Institution should be in the position to exhibit the right credentials to host both the academic staff and the students so as prepare the kind of professional for a well-organized society.

We could write and expand this article substantially, though it is by far more important to be consistent and coherent along time and to produce the professionals that the society require as a whole to increase the quality of living of all and each citizens of the country.

We also need to do a research about the quality of the Accreditation Agency offering their services to assess the quality of Institution. Chile is not free of a dictatorial academic regime; mainly because the chain: accreditation agency-institution-higher authorities-academic staff-students-administrators-service personal does not work properly. There are though, some Academic Institutions recognized for doing their job properly; say Universidad de Chile, Universidad Católica de Chile, Universidad de Santiago de Chile, Universidad Técnica Federico Santamaría, Universidad de Concepción, Universidad Adolfo Ibáñez, Universidad Austral, Universidad Diego Portales, Universidad de los Andes, Universidad del Desarrollo and some additional in the list (all of these Institution are currently ranked among the top 10 Universities). The top two Universities in Chile are: Universidad Católica and Universidad de Chile. These latter two Institutions are solid and transfer the results of their academic research to the students, so it is remarkable the efforts of the most selective Institution in the country. At this point, it is important to mention to the reader that these two Institutions are the eldest in the country and since they were founded have been improving their quality.

V. General Conclusions

As we have mentioned in the text, there is a number of indicators and metrics that should be applied on regular periods of time to the Educational Institutions in Chile, so as to make sure that they are doing the job properly and more important it is the fact that the professionals going out to the market have the right profile and competences to create and innovate. When this pretty obvious requirement is not fulfilled, then the Central Government should apply the law regarding both the quality and the excellence and take the due action in time.

It is quite relevant the role play by the Institutions in Chile, since a small country having a fragile economy should be most careful about all and each of the educational procedures. Bad professionals mean a poorer and poorer country. A country unable to compete in the global market will undergo an involution process.

We should be even more careful with our youth people since they are the future of the progress of a nation, so nowadays it urgent to take all and each action so as to be prepared to face the fourth technological revolution. It is indeed rather annoying to observe on a daily basis, people doing routine job, which are most likely to disappear in the short term. We strongly believe that Governments are elected to create the conditions for a country to be successful and as a consequence to increase the living conditions for all citizens.

We also believe that the private sector should get the incentives to create job opportunists all along the country and not just in the main cities. We are all aware that overcrowded cities are not ideal in a country like Chile, mainly because in Santiago, the capital of the country there not enough goods to cover the needs for everybody. We mentioned earlier on in the text, that almost a half of the population of the whole country live in Santiago.

We also, as a country, need to redesign a number of policies, so as to get the best possible human resources and to establish a solid basis to group up as a country. It is well known that research is essential, though we must look into this key factor since many of our best students were sent abroad to work for a good PhD and as they return, they find out that the opportunities and funding is just not available to continue what they were doing abroad.

Chile has not enough funding for all and every piece of knowledge though this is point of a transversal debate. We need the best but we cannot provide the best to all our talents and well-gifted people.

The study we have presented in the current article does not intend to solve or cover all the relevant point towards a quality education and the best professionals needed so as to be competitive in the global economy. Finally, next close fourth technological revolution is a mayor new variable that will affect academic and teaching activities elsewhere. Finally but not at last, we need to make explicit in this study, that there are still a number of essential and relevant factors to be considered so as to advance our state of the art. Some of these factors are: we observe a lack of realism about the graduate former students and the areas which the society needs well trained professionals (with the notable exceptions in areas such as mining, medicine, law and so forth), the members of the academic staff of any University and / or Professional Institution must do research to the highest possible standards, the staff must be prepared to lecture students from different levels of education (private and public educational system),

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