



## **Mechanism of Attainment of the Graduate Profile for the Curricular Harmonization in the University of Atacama**

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### **Abstract**

The progress of the curriculum redesign process promoted by the University of Atacama (UDA<sup>1</sup>) is presented, through the Academic Vice Rector and operationalized by the Center for Teaching Improvement. This process has been organized with a systematic approach defined to carry out curricular innovation with a competence-based approach, guided by its Educational Model (Universidad de Atacama, 2007)<sup>2</sup>. This understanding shows a significant first step materialized in the mechanism of achievement of the graduate profile of which we will explain the structure, the systemic approach and the possibility of implementation through participatory strategies. It is argued that from this proposal, a change in the logic of curricular implementations and evaluations is sought at a higher level, to incorporate

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<sup>1</sup> UDA: Universidad de Atacama Acronym

<sup>2</sup> Educational Model: Academic Commission for the elaboration of the Educational Model.

into the task the inclusive view regarding historicity, of the contexts in which guidelines for a sustained change that aims for quality.

**Keywords:** curriculum design, competencies, systemic approach, strategy

## Introduction

In the last decade, all higher education institutions face the challenge of adapting the curriculum, due to several reasons, one of them being that they have become the object of study, to mention the fundamentals, orientations and technical coherence of the set of elements that are translated and reflected in the curriculum. Regarding the curricular orientation, the adjustments focus on their aspects of change, the processes and mechanisms that teachers present to receive those changes, they also face the problem of the time required to wait for the adjustments to begin to give some result, since in the era of immediacy<sup>1</sup>, issues are expected to function at the same time they are designed and to be subjected to the understanding, appreciation and reception of educational agents, the visibility of the results becomes complex.

We point out what is mentioned above because the context of the curriculum reforms and specifically the adjustments, re-adaptations or curricular harmonization are the object of study, while these investigations are concerned with describing the difficulties that teachers present in appropriating the proposals for the adjustments, or focus on the operationalization of the proposals, realizing how gradual these processes tend to be. For this case, we focus on a descriptive presentation of what it is proposed to implement, of course, to show that it has not been implemented and that it is in the process of being appropriated by the curricular subjects.

Taking into consideration what has been said, showing the proposal to implement the “Mechanism of attainment of the graduate profile” and the organic of it will facilitate the confrontation of the difficulties that could appear, that is, from the appropriation of the educational agents, the feasibility and effectiveness given in the process of implementing the curricular change, that tends to the achievement of the learning outcomes declared in the graduation profiles with a competence-based approached at the University of Atacama, it will be mediated by a training plan for academics entering the academic and for those that are in the stage of implementation of the mechanism of attainment of the graduate profile.

Some theorists claim that the paradigm shift in education is given by the focus on a “competence-centered education paradigm, which promotes a logic contrary to traditional education — now the essential thing is to face a relevant (situated) task ...” (Tobón, Pimienta & García, 2010, p. 5). This conception that carries with it the American curricular thinking and, as it has been said, “refers to curricular innovation,

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<sup>1</sup> Historical events happen rapidly as a result of the dynamism generated by a march towards perfection, which, however, is sustained by the permanent delay of its advent (Bauman, 2013).

innovating the study plans' programs and the instructional didactic materials in order to really achieve greater efficiency and effectiveness" (de Alba, 1991, p. 28). This trend is the one that has had the greatest influence in Latin America, and the one that is prevailing in Chilean universities, however we do not show the impact of this new trend because we do not find the products, evidence, results and impact of the processes implemented.

It becomes essential within the curricula adjustments, curricular restructuring of the training of professionals aimed at responding to various demands, such as the irruption of communication technologies, globalization, the tension between situated didactics and recursive didactics, the configuration of new professional profiles. According to Barrón (2016) the curricula are appropriate to the so-called "knowledge society", relevant issue and an important part of the agenda of international organizations and agencies because a systemic view is maintained. Therefore, it is necessary to guarantee the relevance of training in relation to the demands and exigencies of globalization and the educational tendencies emanating from these organizations. Development of accreditation systems for educational programs and certification of graduates in different professions.

The establishment of trade deals with other countries becomes part of government agendas and the pertinence of the models that are received is not questioned. Vital importance is given to the need for countries that are part of this wave to generate policies that translate into equivalent professional evaluation mechanisms to provide guaranty of the quality of international trade in professional services. That is, that the credit system is similar, that the study programs' graduate profiles are almost universal.

The discussions on which the current curricular adaptations are currently based, are founded on a structural change within the institutions of higher education, the curricula and programs that are implemented, and the teaching and learning methodologies that are applied and the process evaluation system.

Higher education institutions focus on the training of professionals based on the requirements of globalization. That is, an excessive acceleration in the processes of innovation, which does not attend to the particularities of the subjects, an inappropriate understanding of trends, little relevance of the social context and lack of a broad social project. The educational, cultural, economic, political and ideological purposes of school establishments and also in higher education are disrupted until the edges are blurred, the seal guidelines. A low possibility of achieving coherence is assumed, pertinence of local educational projects in relation to the requirements and needs of different sectors of society. In that sense, we must point out that talking about innovation in relation to the design and application of new teaching models, curricula based on technocratic tendencies, based on prototypes, requires a conscious intentionality, a directionality that is concerned with facing and giving plausible

solutions to the demands that education should face in a globalized society (Díaz-Barriga, 2003).

It is suggested that the teachers should format their practice and take a different path from the one known to adopt the proposal indicated by the institution. In this task it would seem apt to work with novice teachers rather than with teachers who have spent years destined to what seems obsolete today. When the curricular adjustments are based on what is new as a blur of the previous, it causes tension and conflict in the theoretical and practical work of the teacher. Consistent with what has been said, the work proposed at the University of Atacama attends to a strategy of transition and integration between what has been learned, experienced and the new demands at a national level, which are based, as it is known, in international agreements that sometimes, and most of the time, they neglect the specificity of the region.

The process of curricular redesign at the University of Atacama, involves a transition from a traditional model to one with a competence-based focus, which aims to the updated and professional training of future graduates of the different programs that constitute the educational offer at the University of Atacama. An updated redesign with the investigative advances of the disciplines to which it attends and the curricular instruments that support the concretion of this process.

For the process that is being carried out in the institution, the curricular design is conceived as an articulated set of principles, concepts, criteria and processes that guide the planning, an implementation understood as the determination of decrees and regulations that support the proposal as human and material resources; in addition to the qualification of infrastructure with educational spaces that allow the development of the proposed innovation, and permanent evaluation of the curricula with the purpose of offering quality in the training processes of its graduates.

The University of Atacama has generated the functioning of spaces for reflection of the processes developed in response to the particularities of the regional and institutional context, these spaces are what allow to socialize the proposals that the institution generates with the intention of being proactive and consultative, in these spaces different agents can discuss and validate them. The Institutional Curriculum Analysis Committee (from now on: CACI), consisting of Directors and deputy directors of all Undergraduate programs, functions as one of the aforementioned spaces.

From this, the product that was obtained after curricular negotiations and tensions is presented below, understanding that a large part of the task in curriculum design is knowing how to read the reality in which it is intended to install a new logic of academic performance, to the case, the competence-based teaching exercise. The effort is conceived as a support, to increase the quality according to national criteria without detriment to the institutional hallmark.

## Methodology

To achieve what concerns us –the achievement of the graduate profile, it was proposed to design a theoretical methodological mechanism. A methodological strategy was required.

The review of specialized bibliography was carried out and was triangulated (teacher trainings with the educational model of the UDA, in addition to incorporating diagnoses that were available) For instance, a diagnostic survey of the teaching practices of evaluation of the formative processes, as one of the multiple factors that affect the critical subjects. Mastery of elements that are decreasing or in an incipient state of academics evidenced through surveys (designed online).

Once the information is collected, it is triangulated in a focus group and remedial measures are established as a single training plan; where the academic is enabled in response to those weaknesses that prevent the optimal development of the teaching practice. Because the mechanism as a proposal to bring the institutional policy to the classrooms is required to operate based on academic practice.

## Findings

This conceptual scaffolding is categorized as a mechanism of which its concept will be understood from what is defined by the National Accreditation Commission (CNA Chile) as “Elements that are part of a procedure or actions that are carried out systematically and constantly over time, which are intended to carry to the practical orientations of institutional policy in the different levels of the operation of the institution” (CNA-Chile, 2016).

Intentional mechanism agreed upon and guided by the guidelines of the Academic Vice-Rector, the UDA's strategic development plan, educational model and the Annual Operational Plans (POA), the Undergraduate Directorate, the Pedagogical Technical Unit, and the Teaching Improvement Center (CMD); which declares in its mission “to be a unit that provides support and assurance in the implementation of best teaching practices, enhancing a student-centered teaching process through the following actions: Train professors in Curricular Innovation and Renovation, in the acquisition of new Methodological Strategies, applying the use of the new Information and Communication Technologies ” (CMD-UDA, 2016), a mechanism that is articulated with the following devices<sup>1</sup>:

Curriculum redesign teams for programs integrated by:

Pedagogical technical link: Professional of the CMD in charge of the Faculty and, therefore, responsible for the career programs that are members of it, whose function is to guide and operationalize the technical guidelines of the Educational Model and

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<sup>1</sup> <<A device is this: some relationship strategies of forces supporting some types of knowledge, and supported by them>> Foucault, M. “The game of Michel Foucault”, in *Foucault, M. Saber y Verdad*. Translated by Julia Varela and Fernando Álvarez-Uría. Madrid: La Piqueta, 1991, pp. 127-162.

Institutional Policy (PD), whose essential task is to homogenize and regularize the process of redesign of the curriculum. Also, to link with the academic members of the career programs' redesign teams, to advise and guide in the different stages of the Undergraduate Curriculum Redesign, in the elaboration of curricular instruments and support in the teaching qualification, to allow improvement of the pedagogical practice.

Career programs redesign team: composed by the Director, Deputy Director and academics responsible for leading and guiding the curricular innovation of their respective programs as with the guidelines of the Educational Model, such as the design, implementation and monitoring of the new undergraduate academic offer. In this case it would be, stage one: diagnosis and design, and for the implementation and evaluation stage, the curricular pedagogical commissions are considered as a strategy that is composed of the same members. The external elements that affect the pedagogical practice must be diagnosed and analyzed to design proposals that allow the monitoring of the implemented curriculum. Specifically, the UDA attends to this through the Learning Technology Center (from now on, CTA); considering the achievements in the academic, student and institutional dimensions. It allows knowing the variables that affect the results, enabling educational spaces and human resources.

Institutional Curriculum Analysis Committee: Made up of Directors and Deputy Directors of all Undergraduate courses, led by the Undergraduate Director and the Director of the CMD, responsible for organizing the theme of the committee.

Teaching Improvement Center (CMD): Its functions are to strengthen the development of Undergraduate teaching, with methodological innovation and integration of new methodologies; support the Curricular Redesign Processes and implementation of the curricular renewal based on Learning Outcomes and competences according to the Educational Model; promote continuous professors improvement through training: teaching support, strengthening academic competencies and supporting the results management from teaching planning.

The UDA's Educative Model defines the curricular renovation process with the following stages, from a perspective of continuous improvement contained in the feedback of the tasks performed. Starting by the analysis, where special care is given to the processes by which the curriculum is being implemented, what are its weaknesses and in whom the responsibility lies, well understood as an action that brings together two or more subjects in interaction mediated by a teachable content. After identifying those gaps, setbacks, inconsistencies, a strategy is designed that delivers elements that can be ordered or organized in an intervention model. Later, the intervention-implementation plan is suggested in which the agents involved participate, emphasizing certain moments and actions leading to the achievement of disaggregated objectives in different phases of the proposal. Next, the process evaluation, in which all those involved should participate. This will be done with the

help of instruments that give an account for difficulties in the strategy, model, or method that is being implemented and the feedback, which is the most significant stage, where ideally the participants, the curricular subjects (De Alba, 1991) share their comments and address identified weaknesses.

In the process of operationalization of the educational model, the CMD has executed the different phases framed within the macro and micro processes of the curricular redesign. The methodology used in the curriculum redesign process is the functional analysis that allows the determination of the performance areas which for each career program, are taken from the CNA Evaluation Criteria and competencies of the graduation profile, which are disaggregated into: competency units and competency elements (CINDA, 2005).

To monitor the achievement of the graduate profile, the UDA Teaching Improvement Center has designed a mechanism based on the CNA's evaluation criteria for the accreditation of Professional Careers, Professional Careers with Bachelor's Degree and Bachelor Programs, which states that "Universities must establish the way in which they will evaluate the development and acquisition of the competences declared in the respective Graduate Profiles" (CNA-Chile, 2016), which is evidenced in the First Dimension: Purposes and Institutionalality of the Career Program: "The unit that teaches the degree or program has systematized and documented monitoring and evaluation mechanisms that allow to demonstrate that its graduates, effectively reach the declared graduate profile" (CNA-Chile, 2016).

The evaluation of the achievement of the graduate profile is a process that must be permanent throughout the entire training process. The mechanism will allow obtaining information on the teaching and learning processes from the following aspects.

Macro-Curricular aspect:

The mechanism has three essential elements:

- Domain levels: Initial, Intermediate and Advanced.
- Achievement indicators.
- An achievement degree scale to evaluate the indicators: Unsatisfactory, Basic, Satisfactory and Competent.

To evaluate the curriculum of a certain program, its curriculum will be analyzed.

a) An analysis of the program that allows the collection of how that specific training is consistent with the institutional mission and vision. In what way does the training of professionals contribute to regional and national development? What are the impacts that future graduates of the programs generate in the national and regional environment? What regional and national needs are intended to meet the academic offer?

b) The simultaneous evaluation carried out by specialized academics: this is designed based on the CMD and is validated with the organizations mentioned, such as the curriculum commission, for the student to demonstrate the performance achieved in the training process.

c) Three cuts are established in the curriculum to determine the domain levels: Initial, Intermediate and Advanced, this information will allow the different career programs and their academics to reorient pedagogical activities and make relevant curricular adjustments. These will be understood as major and minor adjustments; in order to achieve the procedural achievement of the graduate profile. An important part of the implementation will be the systematic review with permanent evaluation strategies. The cuts are determined by the programs, considering criteria such as: duration or number of semesters, as well as the location and nature of subjects in the curriculum, for instance: Research Seminars, Seminars or Degree Work, Professional Training, etc.

This is due to the fact that the domain levels allow us to give an account of what competences the students have acquired and guide the progression in the development of the competences. In the same way, they provide a more specific orientation to academics regarding what is expected of them in terms of their responsibility and commitment to the development of the subject(s) that aim to a competence (Pimienta, 2012). In addition, the student facilitates an acquisition of the competence in more significant terms, since these levels will be associated with a progression from the closest to the most complex and uncertain (UDLA, 2017). The three levels are defined based on three dimensions: Deepening, Complexity and Autonomy (Fuentes, 2013).

Proficiency levels of competences and their dimensions, according to Bermúdez, et al. (2011).

**Deepening:** Ability of the student to demonstrate the mastery of different knowledge or information required to address situations that are relevant to their profession, which will be visualized when the level of appropriation of these resources is deployed, ranging from an initial level to an advanced level.

**Complexity:** Ability to identify variables and their interactions to carry out an action or process.

**Autonomy:** Ability of the person to act and decide according to their own principles, in this autonomy the student is able to manage, design, implement and evaluate projects.



**Table 1. Definition of levels and operationalization by dimensions**

|  |  |   |
|--|--|---|
| Initial Level  |  |   |
| Includes the theoretical-conceptual knowledge that the student needs to develop the competence, managing to identify its variables and interrelations, in contexts close to the students, with established guidelines and directed by the teacher. |  |   |
| Operationalization   |  |   |
| Deepening  | Complexity   | Autonomy  |
| The student must be able to know, understand, explain the concepts, theories, principles, laws, procedures, operations and attitudes that are considered as the basis in professional training.  | The student identifies conceptual variables and the relationships between them. The teaching activities and evaluation procedures at this level are simple, with specific situations and close to the student (in terms of homework, examples, exercises, among others).                                       | The student's learning at all times is directed and guided by the teacher.  |
| INTERMEDIATE LEVEL   |  |   |
| Applies knowledge and skills, identifying new relationships between them, in new situations, with some guidance and some autonomy.   |  |   |
| Operationalization   |  |   |
| Deepening  | Complexity   | Autonomy  |
| The student must apply the theoretical-conceptual basis that he or she understood in the first level, selecting which information is more important, which is analyzed systematically and fluently.  | The student is able to identify new relationships between the studied variables, resulting in new learning. Teaching activities and evaluation procedures at this level increase its complexity by combining theory with practice in new situations (simulations, practical work, laboratories, among others). | The student receives basic guidance from the teacher, to be able to perform with certain autonomy the tasks of the subject. |
| Advanced Level   |  |   |
| The way the student integrates the competence into his/her activity, self-regulating and identifying new variables and the relationships between them.   |  |   |
| Operationalization   |  |   |
| Deepening  | Complexity   | Autonomy  |

|   |   |  |
|---|---|--|
| The student integrates the competence managing to anticipate, plan, design, execute and make decisions. | The student is able to identify new variables and the new relationships that can occur between them.<br><br>The student is able to solve problems from real and new complex situations. | The student works autonomously in any activity of their professional training, with teacher supervision. |
|---|---|--|

*Note.* Retrieved from Tobón, Pimienta & García (2010).

### Micro Curricular Aspect

The achievement indicators evidence the fulfillment of a competence in a more specific way and establish its scope in a sequential and gradual way: its enunciation must allow to visualize clearly if a subject has learned certain content expressed in the procedural dimension of the curriculum. The acquired competence is expressed in the conceptual and / or procedural, even attitudinal. The disaggregation of a competence through the achievement indicators allows to evaluate what the student has learned and what is missing. It is also an aid for the development of activity worksheets, since each achievement indicator guides the planning of the didactic cycle and the task that the student must carry out to develop the competence.

The evaluation of the competences with mastery levels will be carried out through a scale of four degrees of achievement of the Learning Outcomes, in an ascending order of complexity. It is very important to establish the incidence of the teacher in the levels of complexity regarding the discipline, the content that is required to brought to the classroom and its articulation with the practical-procedural dimension of the curriculum.

**Table 2. Four-degree scale.**

| Degree 1   | Degree 2   | Degree 3   | Degree 4  |
|--|--|--|---|
| Unsatisfactory   | Basic  | Satisfactory   | Competent   |
| Reaches less than 60% of the achievement indicators of the competence. | Reaches between 60% and 75% of the achievement indicators of the competence. | Reaches between 76% and 89% of the achievement indicators of the competence. | Reaches between 90% and the totality of the achievement indicators of the competence. |

### Subject Evaluation

The following procedure will be carried out:

a) Identify Domain Level to which the subject belongs.

The pedagogical commission is in charge of establishing the mastery levels that define the performance criteria through the evaluation mechanism.

b) Identify the level of contribution of the Learning Outcomes for the Competences of the Graduate Profile.

The performance levels head towards the learning outcomes, the contents that will be considered relevant for the progress regarding the curricular coverage and, therefore, the origination of the graduate profile. In addition, the curricular commission is expected to select the subjects per semester of the curriculum, paying attention and discriminating with regarding the learning outcome obtained with the students, together with the information emanated from the CTA, the results that seem relevant and that are consistent with the achievement of disciplinary competences, and they are part of the generic competences that the commission determines.

c) Four degrees of achievement are established for the Learning Outcomes.

These degrees are unsatisfactory, basic, satisfactory and competent, and each academic defines the evaluation criteria for them, however the evaluation criteria should have coherence and be related with the competences declared in the graduate profile, with the processes experienced to achieve said competence. The evaluation and monitoring criteria should consider triangulating the proposals of CTA and CMD, as a reference framework and institutional coherence.

## **Discussion**

The identification of the competences that contribute to the programs' graduate profiles, places us in a possibility of concrete improvement. If the implementation of said work plan was developed in each unit of the University of Atacama, the visualization of the changes arranged in the concrete, the learning of the students, would be a matter of time. It can be visualized that after the installation of the whole process, the profile of graduation declared and developed through the study plans, evidenced in the student and teacher's performances; it would be responding to the national and regional requirements in terms of labor insertion from a concretion of aspects declared in the mission and vision of the university, contributing to the sustainable development of the region, guiding its work to the interests and needs of the community in which is inserted (UDA, 2007); increase institutional internal efficiency rates such as timely degree obtainment.

## **Conclusion**

As stated at the beginning of the article, we wanted to show the efforts to consolidate participatory strategies that invite to perform evaluation and feedback processes within the curricular adaptation. The design stage of mechanism of attainment of the graduate profile constitutes an advance in terms of conceptual scaffolding that responds to how a change in logic can begin to be established for curricular readjustment.

This article takes as a starting point the diagnoses regarding the achievement of the graduation profile of the study programs that are taught and that the institution has.

From this, the assumption that was handled was the relationship between the competences declared in the graduate profiles and the didactic strategy used for the gradual achievement of them. These indicators of achievement of the competences provided in the curriculums could lead us to establish the generic or specific competence that is aimed for in the graduation profile, and at the same time analyze the evaluation processes used in it, a very important issue.

It is then pointed out that the main difficulty in achieving this correspondence is that there is no systematic and constant review of the curricular redesign processes. We maintain that a sample of it is the manner, form and indicators with which the evaluations are constructed. There is little evidence regarding the coherence between indicators and didactic sequence for the achievement of competences.

To maintain that the competences or abilities declared in the graduate profiles are not reflected in a concrete and evident way in the study programs, rather than in a declarative way. This means that the programmed activities, evaluation processes, correction and feedback of the subjects that contemplate the study plan, indicators and fulfillment of the stages, phases, levels by which a competence declared in the graduate profile is acquired, are inconsistent with the systematic review exercise on curricular coherence and contribution of the graduate profile. On the other hand, it is important to emphasize the need to improve aspects of the planning and didactic evaluation tools in different dimensions to achieve the required and specified competences in the graduation profile.

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