

Higher Education Institutions and Regional Development: An Analysis of Centro Universitário Para O Desenvolvimento Do Alto Vale Do Itajaí's Contribution

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Abstract: The present study has analyzed Centro Universitário para o Desenvolvimento do Alto Vale do Itajaí (UNIDAVI) as a regional development propellant. Based on quantification of actions carried out by the institution it has been possible to construct, in a preliminary way, its Regional Insertion Index and to evaluate its relationship with Alto Vale development, in which a relevant and positive correlation has been found within the analysis methods. In the same way, the research has proposed to capture and interpret the organized society opinions on Centro Universitário performance based on a qualitative field research with five Associations working in the region. Four business associations have been present in the cities where UNIDAVI has a campus as well as micro-region Municipalities. Being of exploratory nature and having a great participation of bibliographical revisions, the research has pointed out that UNIDAVI has contributed to the region development since its foundation in 1946, however the vision that it has transpired for the society has been focused only on teaching. From a data survey made directly with the institution, an expressive number of activities, projects and works covering research and extension fields have been evidenced, yet the society has not recognized Centro Universitário's activities in the mentioned fields, The study has concluded that even though several research and extension actions have been carried out, the higher education institution has been recognized only for its promotion to professional education, having the postgraduate education is an icon of its recognition when it comes to quality.

Key words: regional development; Alto Vale do Itajaí; UNIDAVI; science and technology

JEL codes: R1

1. Introduction

Alto Vale do Itajaí region is made up of 28 municipalities (IBGE, 2018) and it has been subject of several

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surveys, due to the fact it has been part of Alto Vale do Itajaí, a region of great economic dynamism linked to the European immigrants colonization, more properly of Germanic origin. Centro Universitário para o Alto Vale do Itajaí (UNIDAVI), founded in 1946, had been the first Higher Education institution constituted in the region, carrying the word development in its name since the beginning. It may be assumed that promoting regional development has been the goal since its foundation. The present research has sought to identify the relationship between the role of UNIDAVI and the development of Alto Vale do Itajaí region, analyzing Centro Universitário's contribution in regional development based on its Teaching, Research and Extension practices.

Being the oldest higher education institution, it has been necessary to link the many ways of participation between HEI and socio-economic development experienced by the region since its foundation. In this way, projects carried out by Centro Universitário contemplating the teaching-research-extension triad will be identified, based on an on-site data collection, focused on community needs.

With a methodology based on dialectical synthesis, the research has aimed to understand the Organized Societies perception about the Teaching Institution performance as a development agent.

Also, the research has had a qualitative structure through its field research application with questions answered by Associations, and quantitative because of data collected in UNIDAVI that have allowed the calculation of Regional Insertion Index (RII), aiming to detect possible problems and reveal actions that enable the integration of HEI in the development process of its region.

2. University and Development

Siveres (2006) has defined universities as “critical instances”, intrinsic to the society building process, that have not been responsible for independent and isolated educational practices, but have participated in the educational policy belonging to a national project, for which it must have the capacity to identify social deviations and to point out, with creativity, solutions for them.

The University has been a social institution, which means that it has performed and expressed, in a determined way, the society of which it has been part of. It has not been a separate reality, but a historically determined expression of a given society (Chauí, 1980, p. 98).

In advances regarding social development, academic role has been important in identifying concrete needs of contemporary society. In this context, university activities that move this social commitment have been based on projects understood by teaching, research and extension (Siveres, 2006).

The insertion of academic activities might influence the community progress where the University has been inserted, fostering characteristics of what Piacenti (2009) has called Development.

The development of a region may be driven by influences and resources that have been endogenous or exogenous to the region itself. The theory of endogenous development has presupposed local actors protagonism, interacting in territorial cooperation ties that constitute the social capital of a region. When there are local investments, the multiplier effect itself is responsible for explaining significant improvements that occur by internal initiative and are carried out within the same pre-established region (Piacenti, 2009).

In the context of globalization, liberal solutions, located only within the macroeconomic framework, have not seemed sufficient to produce innovative solutions to meet the development needs. From this, technology has been combined with the development process. Barreto (2012, p. 5) has defined this technology not as a machine, a piece or a physical apparatus, but rather as “knowledge that allows to construct or modify the product, its

transformation or commercialization process". Thus, a new technology would be a set of knowledge with a content composed of wide news and large amount of information.

2.1 Teaching, Research and Extension

The virtuous cycle provided by the process described above has been based on the university triad compiled in three application stages: teaching, research and extension, which have complemented each other.

Almeida (2006, p. 75) has treated graduation education as "the most important function in a country like Brazil, whose development phase has required more and more skilled labor". Teaching has been based on its structure quality development, involving teaching qualification, bibliographic collection and other working conditions.

Regarding research, Favero (2006 apud Moraes 2014, p. 89) has argued that "the university, to be worthy of this denomination, should become a focus of culture, dissemination of acquired science and creation of new science".

The effect of the joint action between teaching and research has been the third component of the university triad: extension. Neto and Atik (2005, p. 16) have treated university extension as an object of "science with conscience", in which rational and social aspects have interfered with one another in a dialectical way. They have defended the subject interconstruction with their own history, where extension, besides transmitting techniques and knowledge, has acted as a changing agent, endowed with an emancipatory character.

Finally, Sampaio (2002 apud Rocha, 2006, p. 172) has defined university extension as "the one that might ask the question for the ethics of knowledge".

2.2 Alto Vale Do Itajaí

Between 1860 and 1880, the engineer Emil Odebrecht had received the mission to connect Blumenau to Planalto Serrano. In 1867, the expedition led by Emil had reached the region where Rio do Sul has been currently located, making it the waypoint for anyone who used the "trail" (picadão) that had been formed between Blumenau and Curitiba. It had been only in 1892 that the region had began to be colonized, from the purchase of a plot of land in a place called Matador (current Rio do Sul) near Itajaí do Sul and Itajaí do Oeste rivers, where Itajaí-Açu river has been formed (Dagnoni & Wartha, 2016).

Menezes (2009) has emphasized the role of Itajaí-Açu River as a propeller of extractive industry products distribution, which had fostered the initial development of the region known as Alto Vale. It has been important to note that Alto Vale had been consolidated as an independent geo-economic region of Blumenau only in 1958.

Subsistence agriculture and wood extraction (as a way of making available arable land) had been the first economic activities developed in Alto Vale. The cultivation of cassava, tobacco, corn and rice have become an agriculture characteristic in the region.

From experiences of handling and maintaining machines focused on the wood sector as well as its decay, the mechanical metal sector emerged timidly in Alto Vale, producing paper and cardboard. From 1960s, Brazilian economy entered in an instability period, bringing a crisis in the wood sector of Alto Vale region as a consequence. Local authorities had sought alternatives for the economic restructuring of the region, which had a strong potential to metalworking sector and textile-clothing sector interiorization in Blumenau (Menezes, 2009).

2.3 Centro Universitário para o Desenvolvimento do Alto Vale do Itajaí (UNIDAVI)

In the development context, Centro Universitário para o Desenvolvimento do Alto Vale do Itajaí (UNIDAVI) has been highlighted as an intellectual capital production actor. The institution has been this article study object and this topic has reported its creation inside Santa Catarina educational setting.

At the beginning of nineteenth century, the state had become aware of the need to create Higher Education Institutions to guarantee Santa Catarina development. In 1932, the state had seen the first steps of what it had been officially its first college, in 1935, the Law School, located in Florianópolis (Zanella, 2006).

Zanella (2006) has mentioned that Governor Ivo Silveira had defended Higher Education expansion outside the capital, Florianópolis. Starting from this, the idea considered as utopian, to create a college in Alto Vale do Itajaí had started to take shape. It had been in an informal conversation between Dr. Guilherme Gemballa, Viegand Eger, Gilberto Leal de Meirelles, Rolf Odebrecht, Rubens Bins da Silveira, Leandro Dellagiustina and Osni José Gonçalves, that on April 15, 1964 discussions about setting up a college in the city of Rio do Sul had first started, so as to suppress the lack of knowledge that had been compromising the growth of the region.

Faced with several difficulties, such as lack of qualified teachers and people's doubts about the project, the idea mentors had begun to seek support from public agencies and business associations. The initial objectives and how they should be executed had been presented to the Mayor, Mr. Alfredo João Kriek. It had been on June 21, 1966, that by unanimity, the Municipal Council Chamber had approved the law, which "instituted the Fundação Educacional do Alto Vale do Itajaí - FEDAVI. This date has been recognized as the institution's establishment date" (Zanella, 2006, p. 59).

The first class in the institution had started in 1967, Administration course, in a provisional seat. In May 1971 classes began to be taught in the unfinished Block A, since its actual inauguration had solemnly happened on January 27, 1973, when the building had been completely ready and equipped (Zanella, 2006).

In May 1974, Fundação da Associação Catarinense das Fundações Educacionais (ACAFE) had been founded, being FEDAVI one of its founding entities. With growth and vast coverage in Alto Vale, in 1997 FEDAVI had started Ituporanga campus with Administration course, Taió with Accounting Sciences course and Presidente Getúlio with Pedagogy Course (Zanella, 2006).

In 1996, FEDAVI had won the accreditation of Plena(full) University, having its name changed to Universidade para o Desenvolvimento do Alto Vale do Itajaí – UNIDAVI in 1998, through a popular consultation held in the city. In 2001, its effective recognition as a University had been given (Zanella, 2006).

Currently the institution has been called Centro Universitário para o Desenvolvimento do Alto Vale do Itajaí and has already brought 28 Higher Education courses to the region (UNIDAVI, 2019).

Moraes and Serra (2001) have argued that the University may not be seen only as a knowledge producer or culture transmitter, but rather as the main development agent, from which a country may leverage its intellectual capital, which in turn strengthens the nation's international competitiveness.

In this context, Neumann (2003, pp. 74-75) has highlighted some requirements the current professional has needed to meet the expectations of the changing processes, among which the critical capacity derived from acquired knowledge. Regarding Alto Vale do Itajaí's competitiveness characterization, Neumann has complemented that:

Teaching Projects With the accomplishment of strategic planning, UNIDAVI has identified its strengths and weaknesses as well as regional and state contexts in which it has been inserted, analyzing national educational scenarios and trends, to define, through research and extension, priority actions and research lines in regional socioeconomic context, using research as a teaching methodology. Although we live in a globalized context, UNIDAVI has been the present and future of Alto Vale do Itajaí and it is up to each of us to be the main actors of this changing process.

UNIDAVI, besides graduation courses, has offered options ranging from kindergarten to master's degree to the community. This topic, however, will be focused on graduation courses offered by the institution. With this, part of the execution of the teaching-research-extension triad, that is one of the specific objectives of this research, will be quantified.

Table 1 has listed ongoing courses in the second half of 2018, with their respective number of classes, registered students and total number of people who have already graduated in these knowledge areas:

Table 1 Graduation Courses (2018/2)

Abbreviations	Course	Ongoing classes	Enrolled	Graduates	Professors
B.S	Business Administration	11	298	2154	40
B.ARch	Bachelor of Architecture	7	140	0	17
B.Acc.Sci	Bachelor of Accounting Science	6	167	1118	21
BEc	Bachelor of Economics	3	60	60	10
LLB	Bachelor of Laws	21	906	1766	61
BPE	Bachelor of Physical Education – Bachelor's degree	5	135	524	14
BPE	Bachelor of Physical Education – for teaching	2	72	94	15
B.N	Bachelor of Nursing	4	88	267	14
BCE	Bachelor of Civil Engineering	9	228	111	29
BProdE	Bachelor of Production Engineering	3	73	258	10
BME	Bachelor of Mechanical Engineering	2	33	0	7
BM	Bachelor of Medicine	3	92	0	32
BEd	Bachelor of Education	2	20	481	4
BA	Bachelor of Arts in Psychology	5	227	233	14
BSc	Bachelor of Computer Information Systems	4	86	204	12
ID	Technology- Interior Design	2	45	135	8
CP	Technology – Chemical Processes	1	1	71	0
MP	Technology – Multimedia Production.	1	20	0	6
Totals		91	2691	7476	314

source: Drafted by the author based on data provided by UNIDAVI (2018).

Figures 1 and 2 give a comparative illustration between number of students enrolled in courses in 2018/2 and total number of undergraduates each course has already obtained. It is worth mentioning that in Law, Administration and Accounting Science courses data presented by the campuses of Ituporanga, Presidente Getúlio and Taió had been added.

The highlight of Law, Administration and Accounting Science courses within the university context of UNIDAVI has been noticeable. Besides being the only courses offered in the three institution campuses, together they have represented 68% of the 7,476 professionals graduated by Centro Universitário since the beginning of its activities. Civil Engineering course has been also representative, once it has been authorized by MEC in 2013, it has already represented a significant 8% of the total number of UNIDAVI scholars. Comparing the graphs, there has been a decrease in the demand for students in the Pedagogy course at the institution. The course in question has represented 6% of the number of graduates and currently it has had only 1% of the total number of academics

in training.

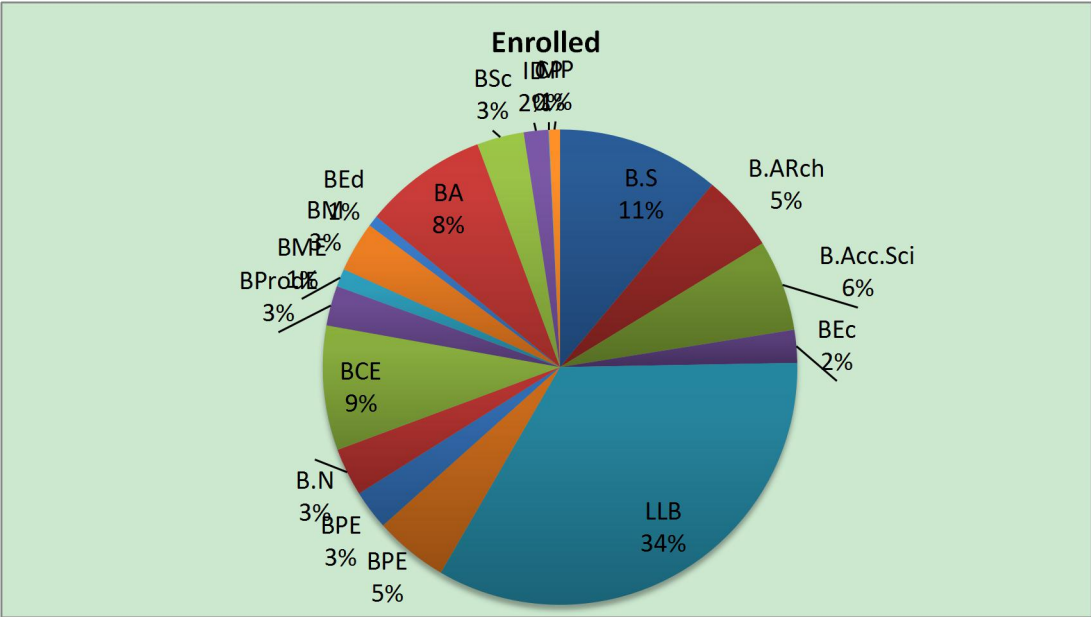


Figure 1 Enrolled in 2018/2

Source: Drafted by the author based on data provided by UNIDAVI (2018).

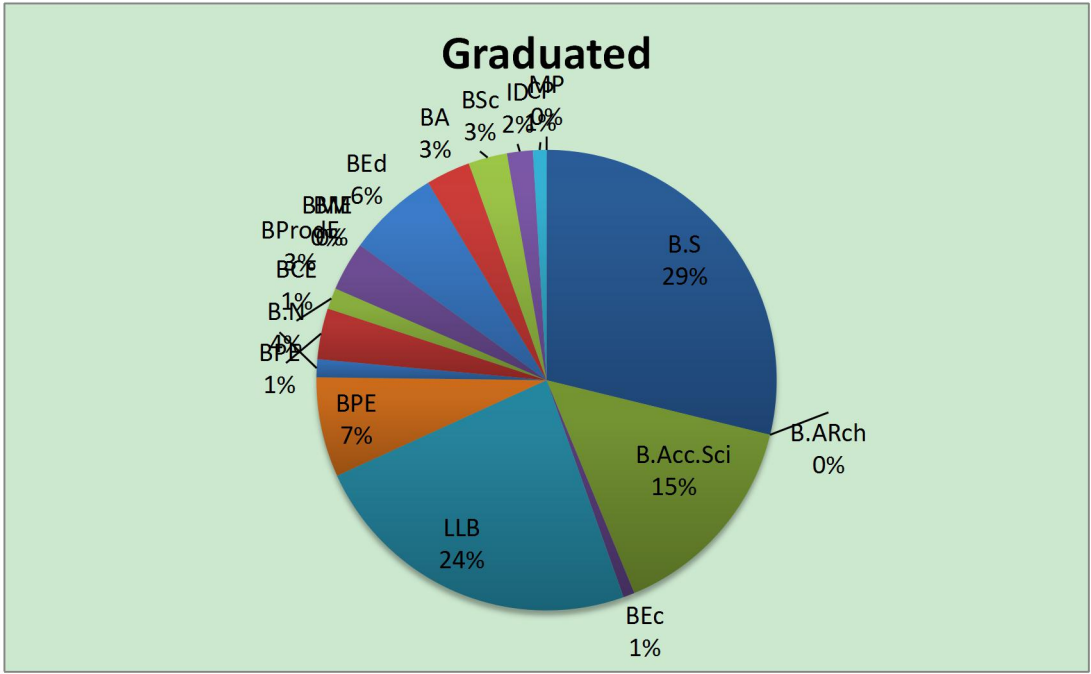


Figure 2 Graduated until 2018/2

Source: Drafted by the author with data provided by UNIDAVI (2018)

2.4 Research Projects

The Higher Education institution has practiced and encouraged university research. This way, this topic has pointed out research projects that have been promoted by the institution and segmented by its area of activity.

Table 2 has shown a relation between number of academics participating in research projects promoted at

UNIDAVI in 2018, as well as the courses with greatest participation in this type of project and its scientific area.

Table 2 Research Projects (2018)

Project	Course	Area	Students
Reading Angels – Casep (E)	B.ed	CHALEC	4
In search of a new didactic-pedagogical profile of Physical Education teachers in schools of Rio Do Sul city: continuing education and other interventions (P)	BPE	CHALEC	8
Presence, distribution and quality in the bicycle paths system in Rio do Sul (P)	BPE	CIMESB	4
AMICO (friends of the heart): proposal for primary and secondary rehabilitation for academics and UNIDAVI employees. (E)	B.N	CIMESB	5
Solid Waste Management Plan for Health Services of 12th Regional Development Secretariat - Rio do Sul (P)	CP	CINCE	3
ProAGRO - Information Technology and Innovation applied to small agricultural and farming producers of Rio do Sul (E)	BSc	CINCE	3
Ituporanga campus law course of Centro Universitário para o Desenvolvimento do Vale do Itajaí - UNIDAVI and socioeconomic development of Ituporanga region (P)	LLB	CSA	18
School Consciousness (E)	LLB	CSA	18
Innovation incentive laws and partnerships for regional development (P)	BEc	CSA	5
Law course and Community (E)	LLB	CSA	9
Analysis of financial impacts of personnel turnover or turnover in textile companies in the city of Rio do Sul (P)	B.S	CSA	5
The content of rural school education in Taió microregion (P)	BEc	CSA	5
Total			87

Source: Pro-rectory of Post-graduation, Research and Extension (2018).

Twelve research projects developed by UNIDAVI in Alto Vale do Itajaí, in 2018 had been listed, being that 50% of them had been addressed to Socially Applicable Sciences area (SAC). The same area has mobilized the largest number of students, 60 in total. Likewise, the SAC area has presented projects with the greatest academic involvement.

Humanities, languages and arts, education and communication areas (HLAEC) have involved 12 students from Pedagogy and Physical Education courses — teaching degree — in the 2 research projects that have been developed.

BMHS - biological, medical and health sciences area - despite having a few courses in progress in Centro Universitário has developed 2 research projects, with a total participation of 9 academics.

Natural sciences, computing and engineering areas (NCCE) have presented the lowest participation rate of academics, registering only 6 students involved in the 2 research projects carried out within this scientific area.

2.5 Extension Projects

Based on Rocha's (2002) thoughts in which he has defined university extension as a “feedback” instrument in which the institution has collected popular demands through interaction with community, UNIDAVI has practiced this type of project since its foundation. In this way, this part has brought the list of extension courses carried out by the institution, as well as the social areas that have been contemplated with this type of initiative in 2018. Table 3 has shown, in detail, extension actions developed in 2018.

In 2018, the Extension Nucleus of UNIDAVI has developed 81 extension projects, which have been diversified into courses, actions, lectures and others. They have covered many areas such as health, administration, communication, mathematics and investments, for example. Among these 81 projects, 4 of them have reached a number of people over 500, being: The Well Living Project, Unidavi Circuit (Taió), Financial Education Week and

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Schools Evaluation. These projects have reached between 8% and 14% of the total of 6200 people that have been impacted by Centro Universitário extension actions.

Table 3 Extension Courses 2018

	Name of the course	Methodology	WH	Registered
Itup.	Digital Investments - BlockChain and Crypto-coins	Theory and Practice	04hs	9
	Drugs in school: What to do? Managers' meeting	Theory	02hs	56
	Basic Excel	Theory and Practice	4hs	22
P. Getúlio	Excel	Theory and Practice	04hs	26
	Digital Investments - BlockChain and Crypto-coins	Theory and Practice	04hs	6
	Drugs in school: What to do? Managers' meeting	Theory	02hs	26
Taio	Digital Investments - BlockChain and crypto-coins	Theory and Practice	04hs	9
	Drugs in school: What to do? Managers' meeting	Theory	02hs	18
	Excel Taio	Theory and Practice	03h30min	17
	Changes in adolescent behavior and key skills for professional development	Theory	01h30min	64
	verbal Expression course - Oratory	Theory and Practice	08hs	11
	Lecture with a teacher from Taio's Secretariat of Education	Theory	02hs	180
Rio do Sul	AutoCAD for Civil Engineering	Theory and Practice	32hs	12
	Archicad 21 Basic	Theory and Practice	30hs	17
	Digital Investments - BlockChain and Crypto-coins	Theory and Practice	04hs	23
	Digital Investments - BlockChain and Crypto-coins	Theory and Practice	04hs	6
	Good practices of Food handling	Theory and Practice	16hs	20
	Good practices of food handling	Theory and Practice	16hs	20
	Basic Eberick	Theory and Practice	20hs	10
	Verbal Expression - Oratory	Theory and Practice	08hs	12
	Verbal Expression - Oratory	Theory and Practice	08hs	12
	Verbal Expression - Oratory	Theory and Practice	08hs	8
	Verbal Expression - Oratory	Theory and Practice	08hs	14
	Verbal Expression - Oratory	Theory and Practice	08hs	14
	Basic computing project - FIA	Theory and Practice	10hs	9
	Basic computing project - FIA	Theory and Practice	10hs	24
	Sports practice- FIA	Theory and Practice	10hs	16
	Sports practice - FIA	Theory and Practice	10hs	18
	Financial education lecture	Theory	01h	14
	Active Methodologies	Theory and Practice	120hs	28
	Notions of Social Security Law	Theory	04hs	22
	Accounting Inspection in Labor Area	Theory	06hs	30
	King of derivatives	Practice	08hs	18
	Basic Revit -1	Theory and Practice	30hs	17
	SIPAT - The Importance of Physical Exercise	Theory	01h30min	50
	SIPAT – Life and Health from physical to emotional	Theory	01h30min	53
	The importance of tolerance in the relationship with disabled people(Videoconference)	Theory	02hs	6
	Judiciary Technician	Theory	64hs	22

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	Basic Archicad 21	Theory and Practice	30hs	16
	Linux System Administration	Theory	08hs	15
	Good practices of food handling	Theory and Practice	16hs	13
	Good practices of food handling	Theory and Practice	16hs	28
	Good practices of food handling	Theory and Practice	16hs	18
	Basic Eberick	Theory and Practice	20hs	7
	Distribution Electrician	Theory and Practice	144hs	40
	Methodological Practice in Evaluation Items construction: Unmasking ENADE Standards	Theory	03hs	17
	Methodological Practice in Evaluation Items Construction: Unmasking ENADE Standards	Theory	03hs	37
	Verbal Expression - Oratory	Theory and Practice	08hs	11
	Verbal Expression - Oratory	Theory and Practice	08hs	12
	Verbal Expression - Oratory	Theory and Practice	08hs	8
	Excel	Theory and Practice	04hs	22
	Training for Scholarship Process	Theory	05hs	17
	Revit - Intermediate I	Theory and Practice	14hs	8
	WORKSHOP Business Model Canvas	Theory and Practice	04hs	65
	Financial Education - ANBIMA	Theory	40h	285
	Current Technology Lecture	Practice	01h30min	40
	Zumba and Strong	Theory and Practice	01h40min	20
	Teacher Self Esteem	Theory	01h	14
	Showcase and Focus on Inclusion	Theory and Practice	16hs	153
	Living Well	Practice	20hs	700
	Career Planning Workshop	Theory	08hs	4
	Toll on behalf of Feminine Net to Prevent Cancer	Practice	08hs	9
	Toll on behalf of Samária Hospital	Practice	08hs	1
	Accounting Inspection in the Labor Area	Theory and Practice	06hs	30
	RDD REVIEW Elimination Phase	Theory and Practice		405
	RDD REVIEW Final Phase	Theory and practice		43
	Managers' meeting for a lecture about drugs in school	Theory	02hs	19
	Google For Education	Theory and Practice	12hs	18
	Active Methodologies	Theory and Practice	120hs	28
	Extension Course for Regional Development - PROESDE	Theory		54
	Regional Development/Degree	Theory		11
	Actions, Seminars, Lectures, among others			
	Unidavi Circuit - Taió Action	Theory and Practice	08hs	850
	Planning and Organizing Physical Education Events	Theory and Practice		295
	Santa Terezinha's Teachers training	Theory	04hs	109
	Formação de Atendimento ao cliente - Que imagem estou passando?	Theory		26
	Financial Education Week	Practice		623
	Schools Evaluation	Theory and Practice		820
	Rio do Sul's Social Observatory - Information for Accounting Sciences Students	Practice		8
	River Cleaning Project	Practice	03 - 10hs	294
	Yoga	Theory and Practice	02h30min	24
	Unidavi Choir (15% discount on academic fees)	Theory and Practice	03hs	44
	Total			6200

Source: Extension/Language Center (2018)

3. The Perception of Society

Alto Vale has several Associations, among which five of them have been selected to represent Organized Societies in order to gather information to understand their perception about UNIDAVI performance as a development agent. In this way we have chosen the Associations presented in Table 4.

Table 4 Alto Vale do Itajaí Organized Societies

Association	Initials	City
Ituporanga Business Association	ACEI	Ituporanga
Taió Business Association	ACIAT	Taió
Presidente Getúlio Business Association	ACIPG	Presidente Getúlio
Rio do Sul Business Association	ACIRS	Rio do Sul
Alto Vale do Itajaí Association of Municipalities	AMAVI	Rio do Sul

Source: Organized by the author.

The listed associations had answered a qualitative questionnaire composed of seven open questions that had sought to collect information that had contributed to understand the perception of Organized Societies about UNIDAVI's performance.

Regarding graduation courses, Associations that had answered the survey have agreed that, in fact, they have contributed for promoting labor market, preparing academics to contribute in the most diverse areas and economic sectors of the region. However, they have pointed out the lack of courses aimed at agroindustry, which has represented an economically important sector in Alto Vale, in which other universities have been in charge of meeting these demands. According to data collected from AMAVI (2016), on average 42.19% of economic activity of the 28 municipalities that make up Alto Vale do Itajaí have been represented by movements involving agriculture, livestock and related services.

Also, a "distance" between academic learning and labor market reality has been identified. Talking to some entrepreneurs in the region, ACIRS (2018) has summarized that "companies have demanded more and more dynamism from professionals, more experience and understanding of academics and teachers about the problems and needs of the companies".

The postgraduate courses offered by the institution have been positively evaluated by all Associations. These associations have perceived a diversified character regarding areas of performance and qualified teaching staff. The study has shown that specialization courses have been well viewed by professionals from outside the region as well as a good cost-benefit ratio. There have been, among answers, a caveat that they could offer more vacancies, given the increased demand for skilled labor in the region.

Regarding Research and Extension projects, as well as their integration with Associations interviewed, there has been a clear lack of understanding about the topic. Most Associations have said they do not know about these projects, and, as long as they do, they have not perceived an effective interaction with the activities practiced by them. The research has shown that extension activities practiced by the Institution have not made clear the link between activity and extension nucleus. About integration between research and extension practices with activities

of Associations, these have been limited to “disclosure to their associates” (ACIPG, 2018).

The understanding of Organized Societies regarding research and extension projects effectiveness has become distorted, since they have shown lack of familiarity with the subject. Few reports that have identified research and extension actions have referred to administrative, legal, psychological and technological areas, however, it has been worth mentioning that each Association has perceived the performance in, at most, two of these areas.

The vision of UNIDAVI scholars and graduates as potential collaborators integrated into regional labor market has been unanimously positive. Despite ACIRS' observation (2018) that graduates “are disconnected from the needs of companies”, it has admitted the complexity of the theme. In general, the Associations interviewed have agreed that “UNIDAVI has had its excellence recognized and, therefore, it has allowed greater credibility to the graduates” (ACEI, 2018).

The contributions analyzed until then have added to the construction of the region development process, whether with collaborations to the promotion of economic or intellectual capital. The research has ended by asking the Associations their opinion about Centro Universitário's contribution to the effective development of Alto Vale do Itajaí, in which it has been possible to perceive an extremely positive common opinion compatible with its performance as a development agent of Alto Vale do Itajaí region. For ACIRS (2018) “over the years, UNIDAVI has been protagonist of transformation and regional development”.

ACEI (2018) has highlighted the “unceasing search for excellence developed by UNIDAVI that has supported the region development”. Besides that, ACIAT (2018) has pointed out the Institution's potential to “promote and enhance companies in the region”, while AMAVI (2018) has highlighted the significant role of Centro Universitário in “training people for the job market”.

4. Regional Insertion Index - RII

The construction of a Regional Insertion Index, explored by Rolim (2005), has considered the various dimensions of a Higher Education Institution impact in the region in which it has been active. It has aimed to detect possible problems and reveal actions that allow a greater integration of HEI in its region development process.

From the selection of baseline indicators for a regional impact index, Rolim (2005) has determined the methodology that has indicated the short-term economic impact of a HEI on regional economy. In creating categories of analysis, Rolim (2005) has subdivided the index calculation into steps, ordered by four dimensions, that Paim and Yamaguchi (2016, pp. 12-13) have specified in the following ways: 1st Dimension: Contribution of Research to Regional Innovation; 2nd. Dimension: Contribution of Teaching and Learning to the Labor Market and Professionalization; 3rd. Dimension: Contribution to Social, Cultural and Environmental Development; 4th. Dimension: Training for Cooperation.

In this way, starting from the premises followed by Rolim (2005) in his study, in the first dimension, projects carried out linked to a university extension program and the public reached by them will be considered for calculation purposes. The way of weighing in order to calculate has been the division by the total number of teachers of the HEI. Therefore, this dimension has been composed of the interaction between the number of extension projects of all areas weighted by the number of teachers, added to the number of people affected by the projects, also weighted by the amount of teachers.

The second dimension has only considered face-to-face extension courses, with an eight hour minimum workload and a formal evaluation process. In this case, following the Rolim (2005) model, the number of in-class extension courses weighted by the number of HEI teachers has been incorporated into the calculation, together with the total number of students approved in these courses, weighted equally by the number of teachers in the Institution.

Continuing the propositions explained by Rolim (2005) the third dimension has used the same information standard of the second one, however, the verified courses have been the distance learning ones. The calculation has followed the same principle, where the total number of distance learning courses have been weighted by the total number of teachers and the number of students approved with the same weighting criterion.

The fourth and last dimension has had peculiar and specific criteria referring to the provision of institutional services. Rolim (2005, p. 11) has explained that “it refers to the performance of work offered by the HEI or contracted by other institutions (community or company)”. It has been peculiar because it has presented seven subdivisions, being them: Customer service in culture, science and technology spaces; (cultural, science, technology and museums spaces and others); Occasional service (consultants, consultancies, curatorships numbers and others); Intellectual property activities (patent deposit number and utility models, trademark and software registration, technology transfer contracts and copyright registrations); Exams and technical reports (number of reports issued); Legal assistance (number of visits) and Human health care (number of scheduled outpatient appointments, emergency/urgency appointments, number of laboratory tests, complementary exams and number of other visits).

The calculation of this dimension has followed the same purpose adding the services specified in each of the subdivisions weighted by the number of HEI teachers and, later, parameterized with the arithmetic mean of the six sub-dimensions. The final Index calculation has been a simple mean of the aggregate index of the four explained dimensions.

Rolim (2005) has explained that the RII has a similar interpretation to the HDI, varying from 0 to 1, being that, closer to 1, greater will be the Regional Insertion of the HEI.

4.1 Unidavi's RII

For the index construction, it has been necessary to select the data collected in order to meet the calculation criteria explained by Rolim (2005). In the first dimension, that has used the total number of extension projects as well as the total number of people affected by them, it has been necessary to filter only those linked to a university extension project that has been integrated into an articulated program of actions with common objectives, implemented in medium and long term. In this way, only projects linked to a program have been considered for calculation purposes, since “they demonstrate an activity with greater consistency and permanence in time”. (Rolim, 2005, p. 11).

Initially, 81 extension actions had been implemented by Centro Universitário in 2018, which included 6,200 people in Alto Vale do Itajaí. However, following the description suggested by Rolim (2005) for the first dimension effective calculation, 34 projects that reached 584 people in the same period of time, meeting the criteria of “articulated university extension programs”, described at the beginning of this section, had been selected.

Following the calculation, in what concerns the second dimension, the extension projects with an eight hour minimum workload and formal evaluation process identified in UNIDAVI had been: The Extension Course for Regional Development - PROESDE; and Regional Development/undergraduate course focused on education.

Both taken in 2018, with 38 and 10 students approved within their evaluation criteria, respectively.

Distance learning module courses, with an eight hour minimum charge, that make up the third dimension of the index had only one that met the requirements in the HEI studied. It is the Financial Education course — ANBIMA, which had 285 people enrolled for lessons diluted in 40 hours class.

To calculate the data in the construction of Regional Insertion Index, as explained in item 5.1, the sum of teachers from the Centro Universitário had been used. In order to do so, the total number of teachers who had taught at the Institution in 2018 had been considered, being 27 in UNIDAVI School, 314 in Graduate Courses and 216 in Postgraduate Courses, totaling 557 teachers.

Table 5 has summarized all these data divided into the three initial dimensions that have integrated UNIDAVI'S RII, in which indices of the respective dimensions have already been calculated following the criteria defined in the previous item of this chapter.

Table 5 Calculation of Dimensions 1, 2 and 3

1				
Extension projects	Projects	People Reached	Teachers	Id1_j
All (Table 10)	34	584	557	1,1095153
2^a Dimension				
Extension projects – Face to face	Projects	People Reached	Teachers	Id2_j
Extension course for Regional Development– PROESDE	1	38	557	0,070018
Regional Development/Bachelor degree for education	1	10	557	0,0197487
Summation	2	48	1114	0,0448833
3^a Dimension				
Extension project – Distance course	Projects	People Reached	Teachers	Id3_j
Financial Education – ANBIMA	1	285	557	0,513465

Source: Drafted by the author.

The three dimensions described in Table 5 have constructed their respective aggregate indices to represent each of them in the final RII calculation. The first dimension had been more expressive, demonstrating better effectiveness regarding the scope of university actions in the scope of social needs. The second dimension had shown less relevance among the three ones. With this, it might be considered that extension projects with a formal evaluation process taken in face-to-face mode have still been in the maturation stage in the HEI.

Table 6 has summarized the data collected by the institution. It has subdivided the services into categories in which it has provided these services, but not all services have been measured.

The fourth and last dimension that has made up the Regional Insertion Index has presented the services provided by the Institution to the community in which it has been inserted. Given the subdivisions elaborated by Rolim (2005) and duly detailed in item 6.1, it has subdivided the services considered as inherent in the composition of the RII.

After dividing services into the subdivisions explained, the aggregate index of each of them has been reached. In the end, the four indices had been added together and divided by six, since there has been six categories that have made up sub-dimension number 4. In addition to the four sub-dimensions described in Table 6, the activities of intellectual property and technical examinations and reports, which UNIDAVI has not given any relevant

information that fit into the formulation of these subdivisions, have been included for calculation purposes. Nevertheless, they have added to the denominator that has given rise to the indicator calculated in Table 6.

Table 6 Calculation of Dimension 4

Subdivision	Provided Services	Responsible Sector	Number of People Served	The Public Reached	Id4 _j (aggregated)
Juridical Service	Juridical Services	Nucleus of Juridical Practices – NPJ	843	General Community	
	Subtotal 1		843		1,513464991
Health Care	Psychological Care	Center for Advanced Studies in Psychology - NEAP	1009	General Community	
	Physical Exercises	Physical Education Health Club	110	Students, Graduates and Staff	
	Subtotal 2		1119		2,008976661
Culture, Science and Technology	Language courses	Language Center	235	General Community	
	Business Development	Incubation Development Center - GTEC	16	Incubated/Pre Incubated Companies	
	Cultural Visits	Madeira Museum	Not measured	General Community	
	Subtotal 3		251		0,450628366
Occasional Service	Social Projects	Extension Center	335	General Community	
	Professional orientation	Internship Center	Not measured	Students	
	Labor Recruitment	Employability Fair	29	Companies of the Region	
	Subtotal 4		364		0,653500898
					Id4_j
	Total		2577		0,77109515

Source: Drafted by the author.

Table 7 Unidavi's RII

RII _j =	1,109515	+	0.044883	+	0.513465	+	0.771095
	4						
	RII_j= 0.60974						

At the end of the four indexes construction it had been possible to make an average that resulted in the Centro Universitário para o Desenvolvimento do Alto Vale do Itajaí Regional Insertion Index. The result had been 0.60974. Considering that the evaluation form proposed for such index has been similar to that of the HDI, varying between 0 and 1, it has been possible to affirm that UNIDAVI'S RII has been high.

In the findings made by Rolim (2005) in his study, the University with the best performance had been Universidade Federal de Itajubá (UNIFEI), which has presented an RII of 0.42471. The index presented by UNIFEI, leader in ranking, has been about 30% lower than the preliminary one found in UNIDAVI. The number of HEI teachers has also had a significant impact, where UNIDAVI has had 557 professionals while UNIFEI has had only 158 in 2005.

It is worth emphasizing some differences between the researches that have made, in certain way, a complex

comparison between the results. Rolim's study has covered only Federal Universities and it has compiled data extracted from the Higher Education Census published by INEP in 2005. The present research has comprised a Centro Universitário with a community character and a private nature, in which the data collection has been done in loco. Initially, the RII elaboration has also aimed to meet certain evaluation criteria, however the limitation in data extraction had limited the researcher - Rolim - in the composition of the considered index, unknown until then. Likewise, the difficulty of finding the data inherent to the calculations required for conclusive results had limited the author of this research to adapt them in the most coherent possible way.

As Rolim (2005) has found in his research, smaller cities have had a tendency of presenting a greater regional insertion capacity, a fact verified in this research. The small number of teachers used to weight data has been a hypothesis of influence for this finding in Rolim's research, but the same hypothesis has not matched the results presented in this research.

The limitation of local markets as promoters of certain services has been the second hypothesis proposed by Rolim (2005) in explaining the relationship between smaller cities with higher rates. This may be considered positively when evaluated within the parameters of this study. The relatively high index presented by UNIDAVI has been consistent with the provision of specialized services in Alto Vale do Itajaí, which has been somehow limited.

However, the Regional Insertion Index calculated in this chapter has not been enough to say if in fact, the Centro Universitário has impacted, in a proportional way, to the result obtained in Alto Vale development. What may be interpreted from the data extracted and analyzed is that the HEI has participated actively in society, contributing in several areas with suitable effective services according to the needs observed in the regional scope of Alto Vale do Itajaí.

5. Final Considerations

The Centro Universitário has been responsible for a considerable number of professionals trained in higher education. By 2018, more than 7,476 people had been graduated from the institution. Currently, there have also been courses in Civil Engineering and Psychology among the preferences in choosing a course in UNIDAVI. The expressive numbers regarding professional training have been increasing in the institution and recognized by the organized societies of the region.

Among information collected from the five Alto Vale Associations, UNIDAVI has been considered a good labor source. The Associations have considered it as an important agent for Alto Vale do Itajaí development, indicating it as the protagonist of this phenomenon. The associations have reported that, the Institution's credibility has been replicated to the egress when they seek professional opportunities. It has been important to highlight that in the interviews, the Associations have made it clear that UNIDAVI has not supplied the demand for courses aimed at Agroindustry, with 42.19% of the region's GDP coming from this sector (AMAVI, 2016).

Another point highlighted in the interviews had been the lack of unity between teaching and practice, in which professionals trained in HEI have been seen, in a certain way, as strange to companies reality. In the same line the research has found a lack of knowledge of society about extension courses. In all reports there had been lack of knowledge about extension activities or lack of connection between such activities with the responsible nucleus and its specific purpose. In this way, it may be verified that the positive information expressed by the associations has been limited to undergraduate and postgraduate courses. From this, a failure in the

teaching-research-extension triad integration has been identified, since it has not been seen by community in an integrated way. Teaching has still been responsible for the social opinion formation about Centro Universitário.

In contrast, the number of actions performed by the Institution in the scope of research and extension has been significant and has reached satisfactory indicators. After analyzing the data collected, we have identified a high range of projects that have comprised the most diverse areas. The organization of these data had given sustenance to the formulation of the HEI Regional Insertion Index, which had been representative. However, the index has still had limitations for concrete evidence regarding regional development, but it has been a good indicator for further studies.

Also regarding the RII, following the interpretations of Rolim (2005), difficulties reported by the author have been identified. The limitation of data has been an obstacle in the construction of the indicator. The difficulty in finding them, since the INEP Higher Education Census has not detailed the data of community/private nature universities, ended up limiting the power of reaching the study. The lack of measurable units to contemplate all the dimensions involving regional development has made the RII restrict to expressive conclusions about the subject. The indicator has been a preliminary way of evolving research with such objectives. The fact that the index had been calculated for only one year has also limited the comparison and identification of evolution of the institution's performance.

So, the challenges for further research have been to construct a measurable timeline in which the annual RII calculation could provide baseline for performance analysis. It has also been necessary a comparison between RII and HDI, per capita GDP and Gini Index. An econometric analysis of these indicators, after RII time construction, will be able to verify if there has been a relationship between UNIDAVI's performance and Alto Vale do Itajaí development in a precise and consistent way.

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