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Corresponding author:

Ignacio Irarrázaval;
iirarraz@uc.cl

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In recent decades, numerous universities have included a third mission in their institutional strategy. Alongside the traditional missions of education and research, it has become clear that universities must also connect with the non-academic world: industry, public authorities and society (OEU 2006, p. 127). According to the Observatory of the European University (2006, p. 130), the third mission can be realised in two ways: through economic development, related to human resources, intellectual property, spin-offs and agreements with industry; and through social development, related to public understanding of science, involvement in social and cultural life, participation in the discussion and formulation of public policy, and agreements with public institutions.

In the case of Chile, universities carry out a variety of public service activities that benefit surrounding communities, and which have been included in the Higher Education National Accreditation System (World Bank 2009, p. 198). The Chilean National Accreditation Committee included connecting with the non-academic environment as an additional area for institutional assessment, requiring universities to 'have systematic mechanisms to link with their environment, that refer to a substantial part of the institution's work, and that have a significant impact in their area of influence' (CNA-Chile n.d.).

The Pontifical Catholic University of Chile was founded on 21 June 1888, with the goal of being an institution that integrated academic excellence and a training inspired by Christian doctrine. Since its inception, it has sought 'excellence in the creation and transference of knowledge, and the training of people, inspired in a Catholic conception, and always in the service of the Church and society' (UC 2015). The current *Development Plan 2015–2020* states that one of its core principles is public engagement, understood as a 'concern, commitment, social interest and contribution to the development of the common good' (UC 2015). In this context, the university seeks to contribute to the formulation of public policy through applied research and social interventions.

Although service to society has been part of the founding mission of the Catholic University for nearly 130 years, the consideration of ‘public engagement’ as one of the specific axes of the new development plan is the consolidation of a challenge that has been strengthening since the 2005 development plan. In the earlier plan, the need to deepen the relationship with society was achieved through academic extension and leadership in the public agenda. The current challenges of public engagement for the university centre around the need for interdisciplinary work, innovation and the need to create a better management structure and coordination of engagement activities.

Since 2002, the Catholic University has operated the Puentes UC program (*puentes* meaning ‘bridge’), which constitutes a particular mechanism by which the university is connected with the external environment at the municipal level, and thereby seeks to contribute to the development of society. This article provides a detailed overview of the Puentes UC model, including a discussion on its successes and challenges. Through this model of professionally managed engagement, Puentes UC is able to generate value for all participants: students, teachers, municipalities and the wider public.

PUENTES UC: A MODEL FOR UNIVERSITY CONNECTION WITH LOCAL INSTITUTIONS

The Catholic University created Puentes UC with the goal of strengthening its contribution to the field of public policy. The program is set up as part of the Center for Public Policy, whose mission is to contribute to the development of Chile by linking scholarship with the main challenges of society. The original brief sought to develop projects that would benefit municipalities near the university’s four campuses, facilitating the transportation and work of students and teachers from across the university’s various academic departments. The university chose to work with municipalities as they are conceived of as the true laboratories for the implementation of public policies. As Chile is a highly centralised country, most of its policies are designed at the national level, yet implemented at the local level. It is at the local level that the problems of public policy design, implementation, monitoring and evaluation are perceived most clearly. Therefore, each of these ‘diversity labs’ expose a multiplicity of challenges that incite the academic world to leave their comfort zones and get involved in the analysis and solution of real problems.

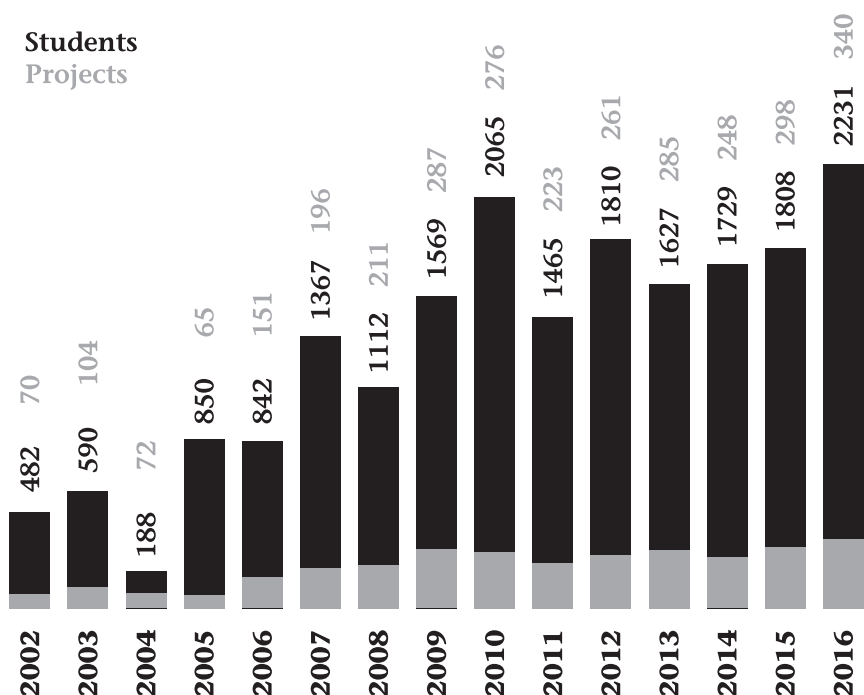
During its first year, in 2002, Puentes UC signed agreements with six municipalities within the city of Santiago, where the university is located, and one agreement with a municipality located 100 kilometres north of the city. A team of professionals from the Center for Public Policy identified the needs of these municipalities that could be addressed through the academic work of undergraduate students studying diverse degrees at the university. The agreement gives the municipality access to all of

the university's faculties, and the ability to develop projects as part of the 103 undergraduate programs or numerous master's degrees that the university offers.

In the initial year, Puentes UC carried out 70 projects with the participation of 482 students and 52 academics. The projects were developed as part of undergraduate courses (59 per cent), undergraduate internships (28 per cent), undergraduate theses (6 per cent), as well as a smaller number by volunteer students (7 per cent). Both teachers and students chose to work with Puentes UC voluntarily, developing the projects as part of their course work, internships, theses and scholarship. Furthermore, the first year of Puentes UC confirmed that the municipal scale was an appropriate one for undergraduate students' academic work to benefit local development and produce a positive impact within the municipalities involved, while providing students with an opportunity to gain technical and ethical training. Over the course of the first five years, Puentes UC broadened participation opportunities for students, adding new agreements and fostering the development of more projects every year. By the end of 2006, Puentes UC was carrying out 150 projects per year, with the participation of more than 800 students. In 2008, the Puentes UC methodology was systematised in a research project funded by CONICYT, the government agency for scientific cooperation, and made available to all Chilean universities (Puentes UC 2008).

More recently, Puentes UC has signed agreements with five municipalities located outside Santiago, thus broadening the territorial scope of the program, and one agreement with a non-municipal institution, the Chilean Gendarmería (the state prison service), thus broadening the institutional scope of its contribution. Puentes UC currently has agreements with 14 public institutions, under which it carries out over 300 projects per year, with the participation of more than 1800 students (see Figure 1).

Figure 1: Development of Puentes UC programs, 2002–2016. Source: Puentes UC 2016.



The Puentes UC model is based on a joint collaboration agreement between the university and the institution (municipality, association or public service) for the development of academic projects that produce mutual benefits. Puentes UC projects allow students to comply with an academic course prerequisite, be it an internship or a research project that they must carry out depending on their study plan; realise a project in which they can put their technical knowledge and professional capabilities to the test; aim to solve a real world problem, with counterparts effectively involved; and produce benefits in a vulnerable municipality.

In exchange, the institution that signs the collaboration agreement receives technical advice in areas where it has scarce technical resources, or where its staff are overwhelmed by day-to-day demands. Puentes UC projects allow the institution to gather information, assess administrative effectiveness, develop preliminary projects they wish to promote, innovate, and have additional technical resources at their disposal to carry out priority initiatives.

The key element of the Puentes UC model is the role of program coordinator, who manages the link between the university and the municipality or public institution. The coordinator is a member of the Puentes UC team, located at the university, but with a strong presence at the partner municipality or institution. Puentes UC recruits former students, who have participated in past projects, or young professionals, who are interested in working with the initiative, as members of its team. Currently, Puentes UC has nine program coordinators who monitor 14 agreements between them. The coordinators have diverse academic backgrounds, but share strong skills in terms of empathy, teamwork, initiative, autonomy and leadership.

Each coordinator manages one or two agreements, depending on the location and complexity of the municipality. They remain with the same municipality for at least two years, and supervise 30 to 60 projects per year. As well as monitoring existing projects, the coordinator is responsible for meeting institutional staff, officials and directors of various departments in order to detect needs, opportunities, problems or projects that could be addressed by undergraduate students in the context of their academic training. They must encourage the generation of requests from the institution to the university, making sure requests are relevant to program goals; therefore, filtering requests that are too simple or too complex to be addressed by undergraduate students. The coordinator is the concrete link between the university and the public institution, making it possible to develop initiatives that benefit both parties.

For the municipality, the Puentes UC coordinator is the university's representative, through which all requests can be channelled, and the person who coordinates project execution and evaluation. As mentioned, the coordinator acts as a filter for

municipal demands, thereby adjusting the expectations of the municipality so that they do not anticipate products or outcomes that cannot be developed by undergraduate students; at the same time, the coordinator can assist them to take advantage of the multiple options for collaboration that are available to them under the agreement with Puentes UC.

Once identified, requests are analysed by Puentes UC coordinators in order to assess the most appropriate academic department and type of resource needed to address it. The same team of coordinators are the ones who meet with academics to encourage them to address these requests in their undergraduate courses, and meet with students to offer them the chance to undertake a professional internship and conduct research in connection with these projects. Once there is a match between the request from the institution and the interest displayed by an academic or student, as the case may be, the project is commenced under the supervision of the Puentes UC coordinator. This professional is not the technical supervisor (that responsibility lies with the academic), but he or she monitors the progress of the project, seeking to guarantee the satisfaction of both the student and the institution, the delivery of the outcomes which have been committed to, and the assessment of the project. The coordinator, along with the student and the municipal staff involved, has the responsibility of solving any problems that might arise during the realisation of the project. For students and teachers, the coordinator is an ally who facilitates their access into the municipality and aids coordination with municipal officials, acting as an intermediary, or mediator in the case of disputes with municipal officials.

A real example allows for a better understanding of the Puentes UC model. In the Department of Education at one of the municipalities with which the program works, there was a request to address a problem the department had with the children of immigrants' families who attended the municipal preschools. According to the municipal authorities, the children did not eat the lunch they were given because it was not the type of food they were accustomed to. The department requested a menu be designed that offered alternatives, with consideration given to the types of traditional foods consumed by the children. The Puentes UC coordinator in charge of this agreement analysed the application in conjunction with other program professionals, and resolved that it was necessary to first look deeper into the issue before designing a solution to the problem. The Sociology Institute at the Catholic University was subsequently contacted, and the subject was presented to students as an alternative preschool practice; the result was a qualitative research study of one of the preschools, carried out by two sociology students. The conclusion of the study was that *most* of the children in that preschool did not eat their lunch, regardless of whether or not they came from families of immigrants, and that, in fact, the main cause was actually related to the time when lunch was served and the preschool employees'

attitudes towards the children. The children preferred to play than eat, and were shouted and yelled at by their teachers, instead of being encouraged to eat their food. The solution, therefore, was not to create a new menu, but to change the behaviour of the preschool employees.

The Puentes UC model has allowed the university to carry out projects on issues or challenges proposed by the municipalities, as in the previous example, and has also fostered and supported the creation of new initiatives emerging from within the university itself. In this way, Puentes UC has become a platform not just for the university's academics, but also for other programs and research centres within the university, to develop research activities, projects and training activities in partnership with the municipalities with whom Puentes UC works, thus taking advantage of the existing connections and of the management skills of the Puentes UC coordinators.

Funding for the program comes from mixed sources: the university contributes the infrastructure and part of the direct costs of the professional program team (30 per cent of the total cost), and the institutions pay an average of US\$2600 per month to access the program (70 per cent of the total cost). The fact that the institutions make a monthly contribution is an ongoing indicator of their interest and degree of satisfaction with the results.

ACHIEVEMENTS OF THE PUENTES UC MODEL

In nearly 15 years, Puentes UC has developed into an effective model for linking university and society at the municipal scale. Winning the 2010 MacJannet Prize for Global Citizenship was an important achievement for the team and contributed to the consolidation of the program within the university. Thanks to this international recognition, the program gained greater institutional support and commitment.

Puentes UC contributes in a significant manner to the development of municipalities, day-by-day, step-by-step, addressing very concrete problems in a collaborative manner and with a scale of solution that few other methods permit. Puentes UC contributes to the analyses, proposal and design of precise solutions that have an impact on the daily life of many people who live in the municipality. The program provides a strong link between the university and the urban environment, and allows students and teachers to expand their knowledge and be challenged. The main achievements of this model are:

- a. Links training and public engagement:** Puentes UC offers students and teachers the opportunity to develop a real project for the benefit of a vulnerable community through the provision of technical knowledge. Many students participate in social volunteer activities during their time at the university; however, these are generally not related to their major area of study. Puentes UC offers the possibility for them to work in the public realm in a professional capacity, opening up the possibility of future work in the public sphere or providing useful work experience for the

private sector or in civil society. In the case of teachers, the work with Puentes UC allows them to link their academic expertise with the public sphere, generating new research topics or possibilities for collaboration between their academic work and the public domain.

- b. Provides professional facilitation:** The academic units and staff reduce their transaction costs by relying on the Puentes UC program, which offers them a varied and up-to-date portfolio of projects that their students can work on. This way, academics themselves do not have to seek out project opportunities for students, and furthermore they can count on support from a Puentes UC professional to monitor the progress of student projects and maintain relationships with local counterparts. Similarly, academic units are improved by having a range of internships and research projects made available, thus increasing opportunities for students.
- c. Offers a new approach to problem-solving:** The external perspective provided by a group of undergraduate students supervised by a university academic, within the context of a course, an internship or academic research, offers a new and distinct approach to confronting a complex municipal problem. Feedback from participating municipalities indicate that key highlights include: a deeper diagnosis of the problems municipalities face; an assessment of administrative efficiency; and the generation of new courses of action, which may not have been previously considered.
- d. Allows for multiple points of participation:** The Puentes UC model is inserted into the public institution as a whole, opening up opportunities for collaboration with diverse departments and areas throughout the organisation. In the case of Chilean municipalities, this includes a wide range of public policy areas such as education, health, security, social development, economic development, housing, urbanism and citizen security. The variety of issues addressed allows the university to involve two thirds of its academic departments, not just the most traditional ones such as engineering, economics or law, but also programs such as theatre, art, literature, chemistry and biology.
- e. Facilitates horizontal knowledge exchange:** All projects developed by Puentes UC are available to participating municipalities and are therefore used as references for the development of similar projects in communities other than where it was first developed. Additionally, Puentes UC has facilitated direct knowledge exchange between officials of different municipalities that work in the same area or on similar projects. The knowledge that the Puentes UC team acquires from each municipality allows for horizontal knowledge exchange between diverse municipalities and between students who work on similar projects in different communities.
- f. Facilitates bi-directional links:** Working directly with municipalities over long periods of time (up to 15 years, in some cases) has allowed for wide-ranging participation by students and academics in the partner municipalities, and has also allowed

for an active participation by directors and professionals of these municipalities in university activities. Puentes UC is often used as a means for inviting municipal staff to participate in seminars, workshops and training sessions offered by different academic departments and areas within the university, as well as in the generation of new research projects borne out of these alliances.

- g. Builds trust between the university and municipalities:** The Puentes UC working format has made it possible to bring the work of the municipality into the university context, raising awareness in the academic world of municipal staff and day-to-day local issues. Furthermore, it has served to modify the perceptions of university students and academics about local government, and indeed has given them an appreciation of the complexity of the work they undertake. In Chile, municipalities are generally seen by academia as weak institutions, both in the development and management of local public policy. This program has contributed to changing this perception, allowing for a better understanding of the complexities of policy implementation at a local level, and the importance of the university to be involved in this process.
- h. Is flexible and adaptable:** The Puentes UC model has been applied in different municipality sizes: large-size municipalities (more than 500,000 inhabitants), intermediate-size municipalities (on average, 100,000 inhabitants) and small municipalities (20,000 inhabitants or less). It has also been implemented for two years' running in the Chilean Association of Municipalities, which includes most of the municipalities of the country, and for three years now in the Chilean Gendarmería. The diversity of size and institutional characteristics shows the flexibility of the model, which allows the university to adapt it to different contexts. The model has also been tested in emergencies, such as the 2010 earthquake that affected the central-southern zone of the country, when the Catholic University channelled its assistance to seven municipalities of the Maule Region using the Puentes UC model to organise the work of academics and students.

SUCCESSFUL CASES

Between 2002 and 2015, Puentes UC carried out 3087 projects in 25 public institutions. This section highlights some of these projects in order to illustrate the potential impact at a local level.

Design of the Civic Centre and Town Hall of Frutillar

In 2013, the Municipality of Frutillar (semi-rural, 17,000 inhabitants) decided to construct a new building to house the municipal offices and become the city's new civic centre. The traditional municipal approach would be to call for bids for the design, specifying an architectural brief and number of square metres to be built, but without further specifications in regard to location and architectural design, thus missing a valuable opportunity to build a public building that would contribute additional architectural value to the city.

The assignment from the municipality was addressed by a compulsory workshop for undergraduates in the School of Architecture, in which seven distinct proposals for a master plan and building concept were developed over a one-year period. Based on these proposals, in 2014 the municipality called for bids for a feasibility study for construction, and will soon call for bids for the final building design.

The project developed by Puentes UC allowed the municipality to systematise the needs of its staff and community, and to gather diverse proposals that established criteria and standards to be considered in the design of the building, ensuring that it will be sustainable, architecturally attractive, and responsive to the characteristics and identity of the municipality, as well as to the needs of the people who will inhabit it. Thanks to the contribution of Puentes UC, the Municipality of Frutillar has a vision, mission and technical criteria that it did not previously have at hand.

Development of a Fit-out Suitable For Small Children in a Waiting Room in Puente Alto

The Social Action Department in the Municipality of Puente Alto, an urban municipality of some 583,000 inhabitants, receives on a daily basis a high number of members of the community who are in the process of requesting social services. Many of these people must bring their children with them; therefore, the situation required a space for children to play while waiting.

The assignment from the Municipality of Puente Alto was addressed in 2015 by an intern from the School of Design, who focused on the consolidation of a space oriented towards early childhood in the busy waiting room of the Social Action Department.

The project developed by the student managed to consolidate, through different elements, a space for kids to move about in, with furniture especially designed with this in mind. Currently, the space is not only used for children to play, but also serves as a space to carry out children's workshops and activities.

Assistance in the Creation and Development of the Inclusion Department

Estación Central is an urban municipality with around 144,000 inhabitants. Facing a significant increase in its migrant population, the municipality requested a social profile of its migrant community, in order to develop a local management plan.

The brief was addressed in 2013 by the course *Methods and Techniques of Social Research II*, at the Institute of Sociology, which developed a questionnaire and conducted more than 1000 interviews with migrants in the municipality, allowing for a characterisation of this population group.

Based on the information provided by Puentes UC, the municipality created the Department of Inclusion in 2014, which was supported by other academic projects. One course from the

Law School devised the *Migrants' Rights Manual* in order to facilitate the training imparted by the municipality, and then an intern from the Institute of Political Science actively collaborated to help Estación Central to become the first Chilean municipality to obtain the Migrant Seal, a recognition given by the Ministry of the Interior for the development of programs that promote the participation of foreign communities.

CHALLENGES

Puentes UC has come to be seen as an effective model to connect the university and public institutions at the municipal level. However, it is constantly being improved in order to increase its impact. This section describes the main challenges currently being addressed.

- a. **Long-term projects:** The great majority of projects developed by Puentes UC respond to specific requests from public institutions and must be completed within one academic semester, with the result that their impact is generally limited and short term. To increase the impact of its contribution at the local scale, the university has carried out, from 2016, strategic projects in every municipality working with Puentes UC. These projects are more complex in nature, and require the harnessing of diverse academic resources through 2–4 academic semesters in order to carry out the complete or near-complete cycle of the project. This way, a project can include the diagnosis of a problem, the assessment of alternative solutions, the development of the preliminary project, its social and economic assessment, and the development of the elements of the final project.
- b. **Interdisciplinary nature:** The development of interdisciplinary projects is difficult to realise through undergraduate courses. The diverse curricular requirements and timeframes of the different academic departments makes it nearly impossible for two or more courses from different academic departments to work together on the same initiative. However, in the case of internships, it is feasible to achieve an interdisciplinary experience. As of 2016, Puentes UC is promoting interdisciplinary internships, in which two or more students from different academic departments work together at the same time on the same project. This new method will require ongoing assessment in order to guarantee that not only is it a joint work experience, but also that an interdisciplinary team is formed to address a common challenge.
- c. **Motivational campaign:** University students are receiving an increasing and varied number of offers for how they might realise their academic projects. Every year, more and more NGOs, companies and public institutions seek to engage students in academic projects that work to their own benefit. This is why there is an ongoing need for Puentes UC to redesign its means of communication and strategies for attracting students and encouraging them to apply for the projects offered by Puentes UC. Communication with students has become a key element for the success of the program.

d. Impact assessment: Puentes UC carries out an ongoing assessment of its projects through surveys of participating students and municipal staff. These surveys show a high degree of satisfaction with the program, but do not allow for an evaluation of the impact of the completed projects. The evaluation of municipal officials shows that 80 per cent of the projects developed by Puentes UC are useful for its management, and that the remaining 20 per cent correspond to poor-quality outcomes or to projects that should not have been requested by the municipality. It is a permanent challenge to adjust expectations among students and staff at the beginning of the project, and to agree on terms and conditions that can be developed by students and also be useful for the municipality. Since 2015, Puentes UC has been using the Research Excellence Framework methodology to document the impact of the most successful Puentes UC projects (REF impact 2014).

CONCLUSION

Connecting with and contributing to society has become part of the Catholic University's mission and is materialised through a great diversity of initiatives. However, the Puentes UC model shows that this linkage cannot be based only on will and contact, but requires management of that linkage. Many universities are linked with municipalities and public institutions so that their students can develop projects for public purposes; however, the Puentes UC model shows the multiple benefits that can be achieved by establishing ongoing collaborative agreements, which are managed by a professional team, and which seek to ensure that students, teachers and public institutions all benefit from working together.

The success of Puentes UC is due to the creation of public value for both parties: the university and the municipality. Puentes UC has been part of the creation of lasting and long-term partnerships and innovations in methodology, and has permanently improved the impact of developed projects. The process for connecting and building relationships developed by Puentes UC maximises the benefits generated by collaboration between universities and municipalities, adequately identifying opportunities for collaboration, properly channelling the academic resources available within the university, and generating horizontal knowledge exchange and effective contexts for shared work among students, teachers and officials. It would not be possible for a university to achieve the level of collaboration or the number of students, teachers and officials involved in these projects without the existence of a managed program such as Puentes UC.

In 15 years, Puentes UC has carried out 3087 projects in association with 25 public institutions, involving 19,735 students and 1296 academics. Even though this program is already well established at the university and at the municipal level, it is still a 'linking' model in permanent development whereby constant improvement is being sought. New requests from municipalities, curricular changes in academic departments, and evolution in the

interests and expectations of students require the program to be in an ongoing state of redesign, in order to satisfy the expectations of the university and the institutions with which it has signed agreements. The next five years will be essential in overcoming the most important challenges that Puentes UC faces in order to increase its impact on public policy at a local level.

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