# Improving human development through design education: the Osasco Design Studio (SP, Brazil) 2006-2009

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## Abstract

The Research and Documentation Centre in Technology, Architecture and Town in Developing Countries (CRD-PVS) at Politecnico di Torino promotes research addressing habitat improvement under conditions that can be regarded as borderline in terms of climate or social emergence. It coordinates the post-graduate course in Habitat, Technology and Development, which trains architects and engineers to be capable of working with an integrated approach to design in different cultural, political and economic settings and identifying all available resources. Starting in academic year 2006/07, thanks to a framework agreement with the Municipality of Osasco (San Paolo, Brazil), the CRD-PVS organizes design workshops as part of the post-graduate course.
Assisted and coordinated by Politecnico di Torino faculty members and staff from the Municipality of Osasco, students set up projects for the upgrading of the Morro de Socò favela (new housing, regeneration of public spaces, waste collection systems, replanting, and facilities for cultural and community services) over a period of one year followed by a one month placement in the Osasco housing and urban development unit - SEHDU. Each project developed considers forms of self-construction and participation by the area's local residents and it concludes with a submission to SEHDU, to be implemented within its slum upgrading ongoing strategy.
The goal of the Design Studio is to develop processes, knowledge and skills that will enable future professionals to contribute to well-designed and well-planned equitable, sustainable and socially inclusive cities that support human development.

*Keywords:* design studio, urban regeneration, slum upgrading, low-cost housing, higher education.

## Introduction

For well known historical reasons, control over international cooperation between nations, once in the hands of central and federal governments, passed to municipalities and regions towards the end of the 70s as a result of decentralization policies (Maricato 2000). Starting in the late 90s, as part of the decentralized cooperation efforts fielded by Italy and Brazil, a large number of programs involving both research and professional training were activated by local, municipal and university groups.

One of the most significant examples is the cooperation between the Politecnico di Torino Research and Documentation Centre in Technology, Architecture and Town in Developing Countries (CRD-PVS), and the municipalities of Santo André and Osasco in the São Paulo metropolitan area.

The CRD-PVS's activity in this area began with a trilateral study of the *Cortiços*, or tenements, in the city of São Paulo carried out by the Politecnico, the University of São Paulo School of Architecture and Urban Studies (FAU-USP) and the Istanbul University School of Architecture in 1995-1999, which was followed by a

workshop that involved students in upgrading these slum areas. Between 2002 and 2005, Politecnico di Torino and the Municipality of Santo André, São Paulo, joined their forces to improve the region's *favelas*.

This innovative experience proved to be of enormous interest from the academic standpoint as well as important for the Prefecture for a number of reasons:

- The research conducted for under-graduate and post-graduate theses was carried out directly in the *favela*, and focused on topics that are vital to the Prefecture's programs, making this a true field experience rather than a mere academic exercise.

- Through the 3 to 6 months duration of their on-site training, the students took part in the work group set up by SEHDU, attending meetings, contributing to plan the project, and participating in the day by day work. As a result, they had an opportunity to develop the skills they will need in their future profession while still students.

- The extensive exchange of knowledge and experience between the Italian trainees and the SEHDU staff members who were assigned to mentor them and supervise their projects proved to be valuable for all parties involved.

All activities were followed by faculty from the Politecnico di Torino, who traveled to Brazil for that purpose, as well as by professionals and staff from the Prefecture.

The same approach is now being applied in the city of Osasco, where periods of on-site training are offered for an average of 10/15 Italian graduate students per year. With exchanges of university faculty and Prefecture staff, this program promotes even more intense cooperation and dialog between the two institutions.

The Design Studio has been conceived to increase the design professions' capacity to work effectively within the urban poor contexts. In the last few years a huge discussion about the role of professionals in improving the lives of the urban poor has taken place (Vestbro 2008).

Considerations have been also reported into the 'UN Millennium Project's Task Force on Improving the Lives of Slum Dwellers' deliberations (Garau Sclar & Carolini 2005, p.160), Contributions made by planners and design professionals – at least according to the urban poor communities representatives perception - too often have been ''top–down'' and did little to contribute to equality, social inclusion and human development. In their experience and view, planners take decisions without understanding and sharing their needs on the daily life basis, and architects are too object oriented. On the other hand, grassroots organizations are demonstrating a capacity to effectively address their own developmental and environmental needs. Despite there was not a univocal view about the role of the urban professional within the UN Millennium Project's Task Force itself, the overall agreement was that new modes of professional practice were required if urban professionals were to contribute effectively to the implementation of the MDGs, particularly improving the lives of 100 million slum dwellers (UN-HABITAT 2006).

This form of integration between academia and the professional world has yielded a number of highly interesting results, as witnessed by the student projects produced during the Design Studio (De Filippi 2009, p.10). The Municipality has adopted the solutions thus developed and included them in its urban renewal and housing improvement projects.


**The case study: Osasco, San Paolo (Brazil)**

Osasco, with 750 thousand inhabitants on the outskirts of São Paulo, a megalopolis of 18 million people, is emblematic of how cooperation between the Municipality and the Politecnico di Torino CRD-PVS has made it possible to take action on two fundamental fronts: upgrading the city's largest *favela*, and renewing the urban center. The initiatives in the Morro de Socò *favela*, home and shelter to 10 thousand people, have concentrated on relocating inhabitants of the geologically unstable areas to new close settlements, and on creating infrastructures, in a process involving the entire community.

*Figure 1: Favela Morro de Socò, Osasco, San Paolo, Brazil*

**The methodology: Structure, organization and aims of the Design Studio**

The project proposed by the CRD-PVS looks at training students as an occasion for ideas to solidify in many respects. Essentially, the project follows the today widely applied "learning by doing" methodology used in all of the Politecnico di Torino's architectural design workshops and studios. By pushing this teaching model to the limits, surprising results are achieved.

In general, the Osasco Design Studio is organized into a sequence of successive stages: introductory lectures help students gain an understanding of the setting, concentrating attention on the morphological features of the settlement, the economic and social dynamics powering its generation, expansion and transformation (Durand-Lasserve 2006), the different variations on the norm (which exist even in a *favela* in the form of not written rules), and construction techniques and technologies. This first step has enormous methodological and cultural importance: in addition this stage aims to provide with the basic grounding that anyone who undertakes a project needs, it arms the students with critical and analytical tools that they have already mastered, but have never applied to such a context. Rarely, in fact, students believe possible to carry out a morphological analysis of a street lined almost entirely by temporary, illegally erected and unfinished dwellings. The de-familiarization that this generates produces a change of perspective that leads to creative processes.

The second stage, tailored on the number of students and their profiles, strives to identify project topics, the scale of the initiatives to be planned, and the crucial issues – real though still general – which emerge from what the students have learned in the first months of the course. These ideas are filtered and fleshed out on the basis of input from the *Secretaria da Habitação* - SEHDU. General ideas are developed in accordance with a unifying theme, while individual interests and abilities find an outlet in more specific project subtopics.

Once project topics addressing general issues have been identified, an intensive week-long workshop conducted in Italy at CRD-PVS, along with staff from SEHDU focuses on developing solutions for these issues: not infrequently, some of these topics will be abandoned, but the overarching goal is that they be strictly practicable. This passage is a crucial point in the training process. The encounter between students and staff from the Municipality often is a moment of initial crisis: the one who have first-hand experience in the area appraise student's work: ideas are put in order, cleaned up, abandoned. In the meantime tutors from both sides sit together to define the main aspects of the on-site training period.

By this time, the general issues that will be addressed by each upgrading project have been firmly established. However, given the speed with the local scene in Brazil changes and the timeframes SEHDU operates in its daily based activity, waiting until the last minute to pick the sites where the projects will be implemented has a number of advantages. It trains students to be flexible and to adapt quickly to different situations, a trait that is essential for anyone who intends to build up a career as design professional in settings with extremely scarce resources. It ensures more effective, fruitful collaboration with SEHDU, which can rely on student trainees essentially as temporary employees appointed to deal with problems which have recently come to the fore, and it pushes students to think of their own ideas and solutions in general terms, helping increase their ability to extract the universal meanings, principles, cultural invariants and values that in architecture are the backbone of research.

On-site training, which lasts from four to six weeks, is important to the students in many ways. Perhaps most importantly, it exposes them to a country whose culture is markedly different from their own: a valuable experience by any measure.

In addition to the cultural and human experience, participants are required to put their working time entirely at the disposal of the *Secretaria da Habitacao*, an aspect which at first glance may seem secondary, but which in reality dictates a high level of professionalism and involvement; nevertheless it prepares the trainees for actual employment situations with institutions, NGOs and other agencies.

The period of on-site training also allows individual participants to gauge the depth of their interest in this sector and their aptitude for it, often plotting their future career paths. But this period is also of more general importance as regards the methods of teaching architectural design and urban design.



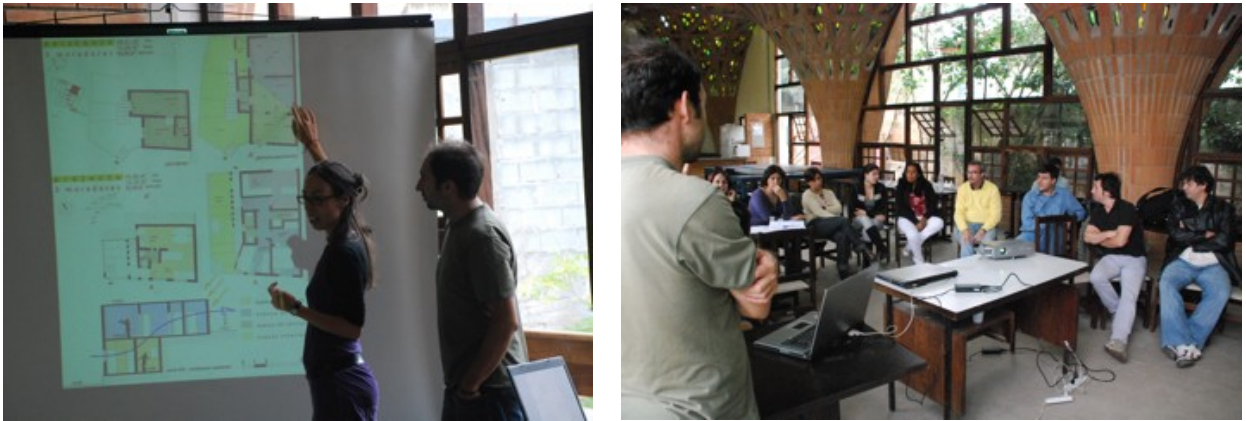*Figure 2-5: Students at work in Osasco, San Paolo, Brazil*

*Figure 4-5: Meeting with SEHDU and CRD-PVS staff in Osasco*

Such experiences requires from students to review their designs continuously and cyclically, looking at it from different perspectives: the designer perspective, who must have thoroughly analyzed the available resources, and requires to have an understanding of the context (and its culture), plus flexibility and an ability to adapt (Stohr & Sinclair 2006). Then, the engineering practice perspective has to be considered, constantly dealing with last minute kind of challenges, whose job is to transform the area, bringing it up to code without destroying its character. In addition, work in illegally constructed slums like this relies almost entirely on public resources, and thus sees the local government agency involved acting as an entrepreneur and investor.

Nevertheless another important factor is that - by contrast with what "normal" design scenarios often offer - the client in these situations does not hire the designer, and indeed is reluctant, mistrustful, and must be convinced by well-founded, serious arguments.

Clearly then, having to stretch scarce resources, to understand and to interpret contexts and settings, to be able to see the project from the standpoint of the local community (with an eye to the ethical and political considerations involved) and to establish a project's legitimacy on the basis of a real consensus, are aspects that go beyond the general training that students on their way to work in international cooperation projects normally receive.

On the other hand, the potential of small-scale interventions to regenerate the city in a sustainable way is extremely high. Jaime Lerner, urban planner and former mayor of Curitiba, in his book 'Urban Acupuncture' stressed the concept that efficient and affordable creativity starts when you cut a zero from your budget (Lerner 2007). There are plenty of grassroots projects which demonstrate this assumption. Institutions should seriously consider to include experiences of this type in the regular curricula, at any level and program in architecture, urban design and civil or construction engineering.

**Osasco Design Studio outcomes**

The activities, themes and projects that came out from the Osasco Design Studio sprung, as we have said, from the shared and crossed intentions and thoughts of the CRD-PVS and SEHDU, though their outcomes have at times differed widely over the years. We may also say that there has been a certain evolution in the system, which is to be naturally expected in the management of an architectural and urban design workshop.

The 2006-2007 edition has been responsible for carrying out a fact-finding survey on multiple levels, which enabled the site to be interpreted using the analytical tools mentioned above. A year earlier, however, a student in the Habitat, Technology and Development Course submitted a post-graduate thesis on the Morro de Socò in

Osasco, performing an initial urban analysis with a deep inspection that lay the foundations for further investigation. Using architecture's repertoire of tools, these two years of work provided a snapshot, almost an X-ray, of a place and a its community: an image that, as the course's most interesting achievement, was then shared with the community. Often, in fact, one of the most glaring shortcomings of these sites is their lack of self-awareness, a condition that is essential in initiating a sustainable and successful urban renewal process.
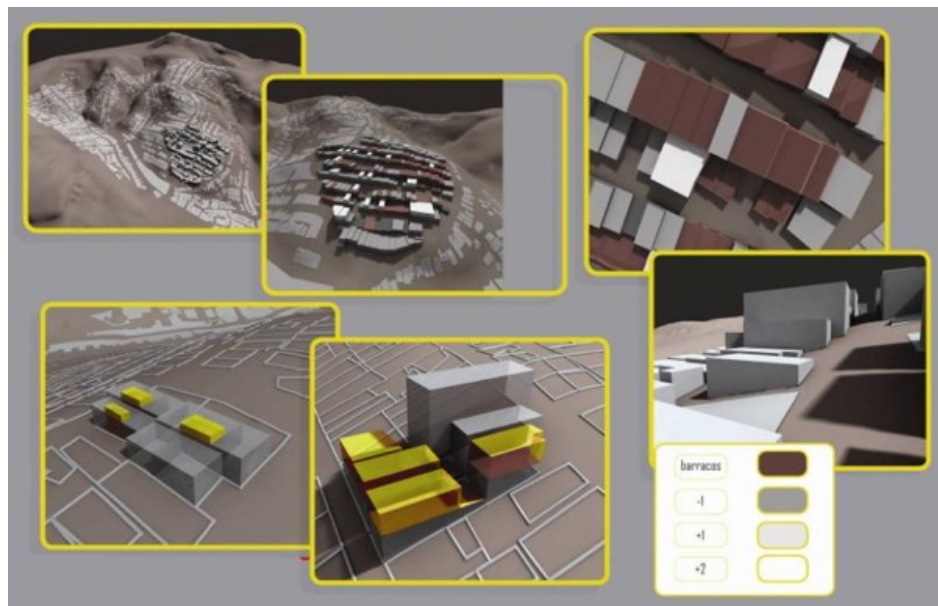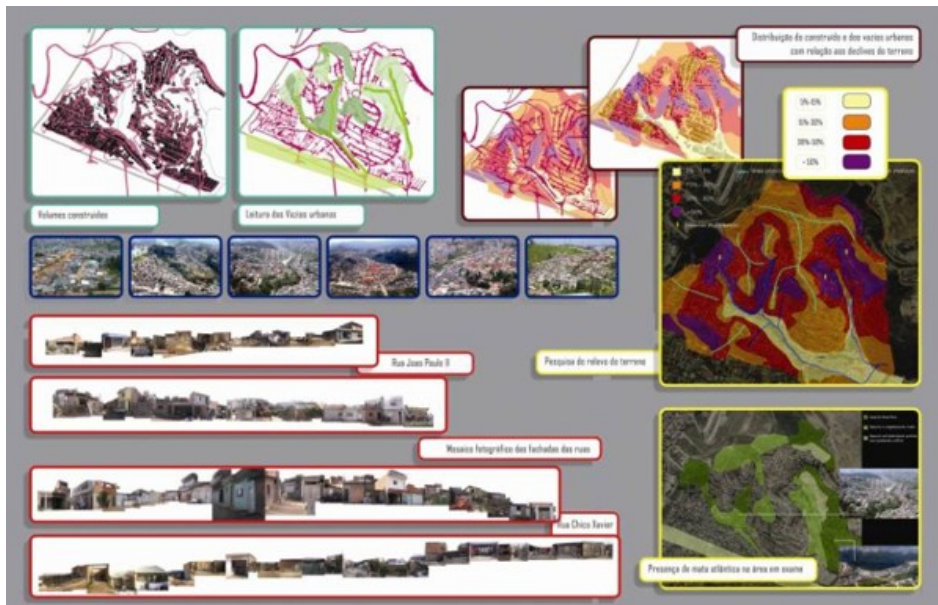




*Figure.6-7: Osasco Design Studio 2006/2007 - Use of analytical and critical conventional tools for the non conventional environment*

In 2007-2008, the course concentrated on an in-depth interpretation of analysis results, with a view to identifying a number of project topics belonging to different scales, but potentially interconnected. Divided essentially into urban, architectural and technological topics, the project proposals addressed important problems, which they attempted to observe on different scales and from the perspective of a variety of actors.

During the on-site training period – to the students' surprise – two common topics were identified which were apparently unconnected to the research conducted during the course, but which in reality called for the skills and the input of all three work groups.

The design of a five-family house and the construction of a long stairway linking two important points of the site that were previously separated by a steep slope was regarded as a major success by both the community and SEHDU.
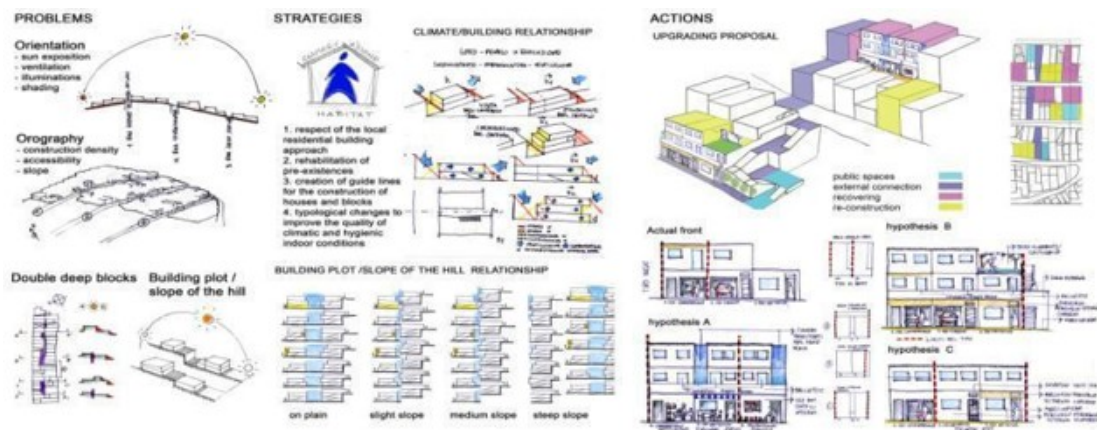


*Figure 8: Osasco Design Studio 2007/2008 - From place analysis to the list of  problems and possible strategies*



*Figure 9: Osasco Design Studio 2007/2008 - From subset of built environment issues to a real design scheme*

The students in the 2008-2009 edition of the workshop were tasked with developing designs that took the projects promoted by the previous year's students into consideration. This sparked an interesting line of thought, not only concerning the critical aspects of the earlier work, but also about the projects' mutual effects, repercussions and potential, introducing a series of variations and innovations on the technological level as well as in architectural and urban design.
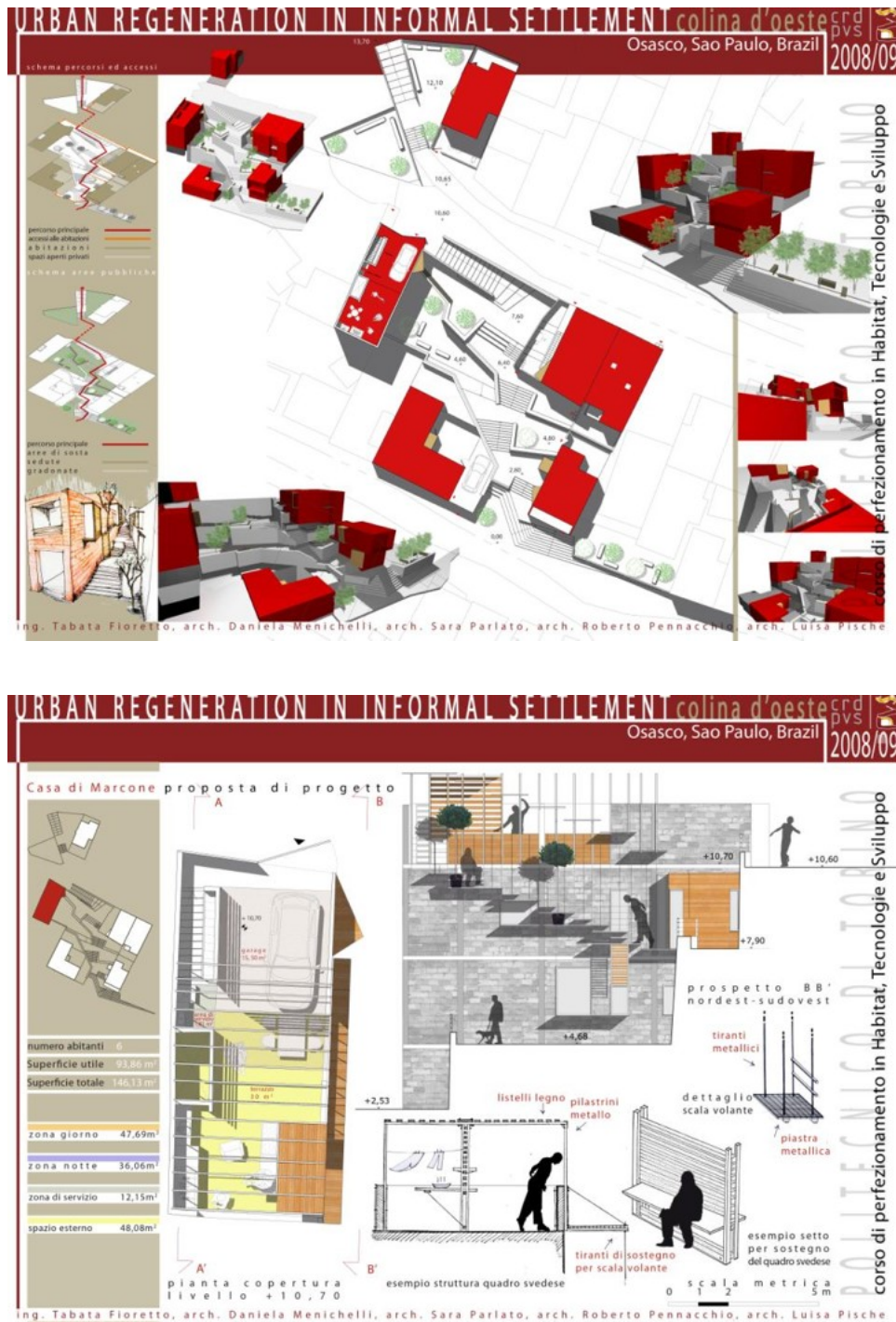


*Figure 10-11: Osasco Design Studio 2008/2009 - From case studies to the index of general solutions*

**Conclusion**

Over the last two decades the Politecnico di Torino CRD-PVS has shown a growing interest in studies, research and education in relation with low cost and self-built dwellings, slum upgrading and marginal settlements regeneration, particularly in developing and emerging countries. This interest has manifested itself in scientific publications about cultures and housing in extra European countries, as well as in teaching architecture.

In today scenario, where the new economic assets are imposing efforts for new global balances, it is particularly important to look at the architectural research and education considering everyone's right to a dwelling, services, and decent living conditions (UN-HABITAT 2003). Lot of work in terms of practical applications to the real world, and education of the young generation of professionals can still be pursuit: these aspects are still the ones that can really improve the built environment and the human condition.

The Osasco Design Studio has been clearly successful from the educational standpoint thanks to a number of factors: continuous dialog between the university and local government; the methodological approach which was partially cyclic, in the sense that each new student started the course afresh, from the beginning; but expressly designed to create continuity of knowledge within the work done in previous years; finally a firm conviction that individual abilities and aptitudes must be welcomed and encouraged, but shared as individuals tools to achieve a clear, common goal – the project.

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