

Intercultural Hands on Projects – Experiences in Architectural Education in Asian and European Context

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Abstract. The duties of German architects include the indepth design process as well as a thorough quality supervision during the construction process with the goal of the “build success“. They are reflected in the “Hands on Projects” organized by German Universities. The best results and broadest findings come out of international and interdisciplinary cooperation and projects with participants coming from the diverse cultural background and even integrating refugees into these projects.

Students get in touch with different philosophies, attitudes, values, and approaches. They learn about intercultural communication and develop unique solutions. Different social and cultural background leads to different behavior. Not being aware of the cultural differences may lead to misunderstanding and irritation. Analysing the cause of these misunderstandings and getting knowledge about the cultural influence on architectural planning, communication and problem solving is one of the mayors tasks of these intercultural and interdisciplinary projects.

Two case studies from Thailand and Germany published in this paper show different experiences with intercultural and interdisciplinary “Hands on Projects”.

Keywords: German architecture, architectural education, Hands on Projects, intercultural communication, international cooperation, interdisciplinary cooperation.

Intercultural Hands on Projects

In global comparison German Architecture has an image of high quality combined with care and preservation of the architectural culture and heritage. The complexity of the German architectural duties from design to detail design and working drawings and the depth of quality supervision especially on site go beyond similar duties of architects in many countries of Asia or in other continents. The German „Werkvertragsrecht“ in the Bürgerliches Gesetzbuch (Palandt 2017), Law of Contract for the Final Result, obligates architects in Germany not just to plan but successfully conclude their work, e.g. an approved building application or a completed useable building as ordered. Buildings are seen as long term investments that demand highest quality in design and build result. The long term effects of urban design and architecture are recognized by most people as an important factor for the social and cultural well-being of the society.

All this leads to a reputation of realistic, reliable and well-engineered architecture.

Today numerous regions of the world experience a growth in economy combined with a booming building sector. This creation of value within the real estate field must be seen alongside with its possible negative consequences in the matters of ecology, social life and

culture. This in turn leads to an increasing responsibility of architects towards sustainability.

The duties of German architects including the in depth design process and quality supervision during the construction process with the goal of the „build success“ are reflected in the “Hands on Projects” organized by German Universities. They focus on all fields of sustainability: ecology, economy and socio- cultural sustainability. Nevertheless the best results and broadest findings come out of international and interdisciplinary cooperation and of projects with participants coming from diverse cultural background and even integrating refugees into these projects.

Students get in touch with different philosophies, attitudes, values and approaches. They learn about intercultural communication and develop unique solutions. On the one side German students tend to be straight forward and project related in their initial approach. Their communication is “Low Context”. Asian students on the other hand use a different more indirect approach to communication and problem solving. Very often these different behaviours lead to misunderstanding and irritation. Analysing the cause of these misunderstandings and getting knowledge about the cultural influence on planning, communication and problem solving is one of the mayor tasks of these intercultural and interdisciplinary projects. In most of the cases at the end of this learning process all project

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partners are able to collectively solve misunderstandings and project problems. In the wake of the “Hand on Projects” technological skills as well as intercultural understanding and “soft skills” are developed. The cooperation on site leads to deeper understanding between the international participants and very often to long lasting friendships.

Hands On Project Case Studies

Hands On Project Case Study 1 Sustainable “Sala” Pavilions for the Water Village Amphawa, Samut Songkhram Province, Thailand

Introduction

As part of the sustainable development process for the Thai village of Amphawa, located at the river Mae Klong the Chulalongkorn University of Bangkok, the Tianjin University and the Technical University of Berlin designed and built two Sala pavilions meant as gathering places for the villagers.

Sala pavilions are defined by open structures combined with large overhanging roofs for sun or rain protection. This type of building is traditionally Thai and can be found all over Thailand, as “Salawats” in temple compounds, on the country side as “Sala Asai” for travelers, along roads as “Sala Rim Thanon” or like the one in Amphawa at a river’s bench or at channels as “Sala Thanam”.

There are numerous functions for Salas, as the Thai society is oriented on community and confraternity. At this the Salas serve as meeting point for the neighborhood or families and as recreation spots outside the individual home. Additionally they are used as quays for the river traffic.

This open shady space is perfectly adjusted to the local climate and works without energy consuming air conditioning through its design for transverse ventilation. Therefore the typology of the Thai Salas is exemplary for a sustainable and ecological architectural concept.

Recycling used building materials, in our case old wooden beams, can help to downsize the ongoing deforestation of the last primeval forests in South East Asia. Compared to the recycling methods we know from Europe, where wood is shredded, glue added as a composite material and finally formed into chipboards, the recycling of old wooden beams in whole has a long tradition in Thailand. The traditional Thai timber house consisted of prefabricated structures easily to be dismantled and reconstructed at a new location without greater efforts. Groups of various neutral modules could be assembled around a central patio and contained a potential for flexibility and adaption if needed.

Unfortunately the majority of these buildings have vanished over the last decades due to the dramatic upheaval in economy and changes in the Thai society. The future viability of traditional Thai living clusters is

more and more questioned, however it is of major importance to fight the loss of traditional building types, as they are unique and an intelligent way to sustainability, as the “Thailand Cultural Environment Project” gives proof.

Nevertheless it is necessary to not only preserve the existing architecture but find future oriented ways for development. The Thai – Chinese- German Sala designs attended to this task in their different approaches.

There are different methods of recycling visible in the two Sala designs built. The Thai design work focusses on the usage of old pillars, beams, rafters, stringers and laths in their former function creating a complete new design out of recycled components. The German Sala design goes beyond this stage and combines slim profiles to replace the hard to get larger and therefore expensive massive wood profiles. With this new method of joining parts it is possible to build in larger measurements than those of the former building that serves as material source.

This class is part of the curriculum of the Master program at the Technical University of Berlin within a series of design and practice projects of “Studierende bauen im Ausland / Students built Abroad”. The contents include urban planning, architectural design and a complete detailing for the building process, which needs an international project management to be organized and scheduled. With the final building activities this class conveys holistic knowledge of the designing and building procedures.

The persons of charge were Prof. Dr. Zhang Yukun in cooperation with Prof. Dr. Paolo Genovese for Tianjin University, Prof. Dr. Budit Chulasai and Prof. Dr. Siriwan Silapacharanan cooperating with Terdsak Tachikatkachorn for Chulalongkorn University of Bangkok and for the Technical University of Berlin Dr.-Ing. Marcus Hackel and Prof. Rainer Mertes in cooperation with Prof. Dr. Klaus Rückert.

The project itself focused on two major topics, each with a number of goals to be achieved.

Project Topics

Project Topic No.1 : Conveyance of Profession-Specific Knowledge

1. Experience the problems and specific needs of intercultural communication, development of problem solving approaches with the goal to understand the mechanism of optimized international project communication, analysis of the existing social and urban structures
2. Urban and architectural design within extra-European context
3. Learning of building methods under the aspects of self-help, sustainability and financial feasibility
4. Implementation within multinational teams
5. Comparative studies of German, Thai and Chinese design concepts, working methods, presentation

techniques, group behavior, dispute resolution policies and courses of negotiation

6. Preparation of all participants for future international projects
7. Conveyance of knowledge in international project management
8. Detail planning and contemplation during the realization process

Project Topic No 2: Encounter with Foreign Students and Scientists

The planning process took place simultaneously at all three Faculties of Architecture in Berlin, Tianjin and Bangkok. Meetings were held with representatives of the Amphawa government and villagers to learn about their points of view and expectations. Finally the participating locals voted for one Thai and one German design to be built at two allocated lots at the river promenade.

Following phase 1 and 2 the students travelled to Bangkok and Amphawa to exchange their experiences in analyzing techniques and design approaches. During this visit the two designs were built by the participating students of all three universities. Besides the practical work the students learned about different working methods, communication and mentality of their Thai, Chinese and German project partners and the impact of these on the project result all along.

Project Phases

Project Phase No 1 Analysis and Preliminary Design

The first step was to draw up regional surveys of the geographic, social, cultural and economic structures as well as the technical and constructive analysis of the existing building stock. This knowledge was used to create urban planning concepts and architectural designs concurrently at Berlin, Tianjin and Bangkok.

A workshop with all participating professors and students of the three universities was held in Berlin to analyze the results and choose the most suitable designs to be continued working on during a joint Summer School. Here the approaches and results got evaluated again and principles for further processing rephrased together.

The revised preliminary designs were presented by the Thai students to the Amphawa public to choose by a questionnaire.

Project Phase No 2 Design Selection, Working Drawings, Logistics

Based on the results of the questionnaires one Thai and one German design were selected to be detailed and afterwards built. These design works needed to be optimized in concept and economy, the supporting framework and all details had to be updated ready for

building. At the same time the logistics, schedules and building management had to be conceptualized.

Project Phase No 3 Building Process

During two months of presence at Amphawa village the students of the three participating universities built the structures of the two chosen designs. Within this realization process experiences were gathered, shared and exchanged regarding the goals of project topic No.1 in the aspects of building practice, sustainability, expenses and savings, and most of all the subjects of characteristic mentality, communication forms and methodology of Thai, Chinese and German partners including their effects on the final results.

Project Phase No 4 Evaluation

In the aftermath about one year after the realization process a review visit to Amphawa was held to validate the use, the users and the frequencies of use of the two Salas. The survey showed a use of 24/7, every day at every possible time. Locals as much as visitors from e.g. Bangkok went there for recreation, fishing or dining. Even the most popular daily soap of Thai TV chose the German Sala as a location for one of its episodes.

Further inquiries with the Mayor of Amphawa and the building department gave a positive feedback on the two projects. The intended function as a gathering place was achieved.

The pavilions got an inspection to look for possible damages or traces of deterioration and the building department agreed on regular check-ups especially on the stiffening bracings and eventually necessary repairs for the years to come to guarantee the durability of the structures.

An evaluation among students of the PR of China about the differences of teaching and designing concepts in Germany and Asia resulted in the following summarized insight:

Final Thoughts

“In retrospect, the whole course of the cooperation project, it’s worth thinking about the collision on the ideas and difference behavior between the Chinese and Germans. In the design phase, Chinese students paid more attention to the idea or concept, to the form, and to the excellent drawings but lack technique and details, while German students did more work on material and conformation. They are more rational and used to calculation, but lack a little creativity in the design. In the construction phase, Germans showed to be more experienced. One of the reasons maybe due to the German architecture education system dating back to Bauhaus which lays more importance on technique while aesthetics is at higher position in Chinese traditional architecture education. Through this self-construction practice, from sawing one piece of wood to hammering a nail, we have redefined architecture design for ourselves. Maybe we can’t deny the difference between design

and construction, but how wide the difference will be is in our architects control. Without going through the whole constructing process by yourself, you can not realize the difference, not to mention control. Attention to construction, please. It's the high time." (Chen Yu, Fu Lei, Hao Guanmin, Liu Yujie, Yang Shen, Zhou Ting in Mertes, Hackel 2008)

Hands On Project Case Study 2 **Studierendengärten Wismar / Student Gardens Wismar**

Hochschulgarten „Hinter dem Mühlenteich“/ University Garden "Behind Mühlenteich"

Since 2012, a university garden has been developed and run by the Wismar University in the allotment colony "Hinter dem Mühlenteich", which incorporated different objectives in teaching. The annual changing and accompanying themes included

1. Design of landscape gardens and their inclusion in urban development
2. History of allotment culture in Germany
3. International principles of garden design
4. Constructions and buildings for temporary uses and living in the garden
5. Ecological building methods, recycling and upcycling
6. Possibilities of ecological gardening
7. Self-sufficiency as alternative forms of life

Furthermore there is always the intention that students in the architecture program get a relation to agriculturally usable ground and nature, which will be converted by their future professional activities, often irretrievably.

The university garden has been subjected to enormous changes during the years, as such a kind of allotment generally determines changes.

After an initial use for the cultivation and harvesting of fruits and vegetables, students wished to design and build a garden house by themselves. A one-year design and building class was initiated, including the selection of preferred variants, the working and detail drawings and finally the building process.

All this was only possible to be realized through sponsoring. There had been a number of tasks, which the participants had to pursue autonomously and self-organized. Thus was the demolition of an old garden shed, including the orderly disposal or sorting of the material for recycling and the organization of materials for the new building – from sand to wood, cement, metal parts made in an apprentice workshop, alternative sealing materials made of recycled material for the roof etc. This was made possible by a lot of communication and support by friends, garden neighbors, and local companies. The construction work could not be completed in one semester, but a constant change and further development took place fostered by the students

who continued to work in this project during the following year.

With the refugee flows in 2015, an urgent worldwide topic was added. Thru this garden project we have been able to bring refugees in contact with the German culture and language, to learn from each other and from different cultural values as well as to experience ways of cooperation in a student project. Thus, the university garden lead to international exchange, involving students from different countries, study courses and refugees. The continuing enormous interest of the following semesters in this project led to two additional gardens taken in use with different key aspects put in.

The first garden, which has been pursued for a number of years now, was prior subject for further building activities, including materials and techniques from other countries such as mudbrick building. The change and further development of the garden house design according to the ideas of the new users was a good experience in dealing with existing substance. Additionally the cultivation of vegetables as well as the signposting of the various plants in German, English and Arabic as well as the joint processing of the products in a self-made clay oven promoted the joint experience in the project.

Communication and cooperation with the members of the garden association became an important aspect in this project, too. For this purpose students from Canada, who were not able to speak German fluently, participated in a work assignment of the garden association, which was unusual for the other gardeners. The young men helped with the maintenance of the premises and thereby promoted the acceptance of the project. The unusual, but now daily presence of many foreigners in the colony became a matter of course to the members of the garden association.

Fellow students as well as guests are invited to garden festivals and the annual exhibition at the end of each summer semester. At these events the results of the semester are presented and visitors may savor international dishes made from the fruits of the garden. The collective practical work and the experience of the directly visible results, which can also be consumed confirmed the success of the project and will form the base for the years to come.

Garden at Filmbüro (film office) Mecklenburg-West Pomerania in Wismar

In 2016, the Filmbüro M-V in Wismar provided an approx. 80 sq. m. of unused space for the garden project on its site in the immediate vicinity of the campus. Eleven students (including two refugees who were interested in studying and were enrolled as a guest auditor) from five nations and three different courses (architecture, interior design and business) developed a garden concept and realized it in the 1st year. Besides, the students contributed their own different experiences and ideas. Due to the different cultural origins, the students have been able to fall back on very different previous knowledge: Thus, Yazan, a guest student who

came as a refugee from Syria to Germany in 2015, and Waleed, an architecture student from Cairo/Egypt, had never seen an earthworm before. Also the cultivation of a compost was for many student's new territory as well as the winning of seed. Salim, a 15-year-old refugee from Afghanistan, was glad when he heard that zucchini was growing here in Germany and that he was able to find a little piece of native country here in the garden. This was also an important aspect of the project – the discussion about different garden concepts and the awareness of the origin of fruit and vegetables, which we regard here as self-evident and local in Germany, although their origin is in quite different countries.

Students get seeds and plants, as well as building materials, through donations by DIY stores, garden centers and plant flea markets. The donation collection has given the international students an enormous self-confidence as they are often hindered by missing of language skills. Within a semester the participants grow on fruits and vegetables, put on a bar-footpath filled with materials from the garden (clay, pine cones, pebbles and bark) and built a terrace and seating furniture's as well as two large patches and a bar. As a material served, primarily, recycling materials and discarded palettes. In particular, the different approach of the single students should be emphasized here: While the architecture students planned everything in detail, the students from business directly worked on the jointly developed ideas after a short discussion, because a lot of improvisation and spontaneity was necessary by realization. The communication between each other worked astonishingly well despite some language barriers – while the one during the seminar expanded their knowledge of English by not so common vocabulary, the international students learned amazingly fast and well German.

The first harvest was donated to the "Mittagstisch für Leib und Seele" (lunch for the destitute) of St. Nikolai church in Wismar. None of the students had heard of the Church's offer so far, and this action was something special for all. Together with volunteers, they cooked in the small kitchen of the church, prepared the dining room and give the food to destitute. Yazan and Feras were very grateful to be able to make a contribution for the society as well. So they were able to give back some of the support they have received since 2015. Also for Mohammad, a student from Iran, was this kind of help and support of the volunteers and the church quite a new experience. Thus it was possible to make a social contribution even beyond "gardening".

The project goes on – in the 2nd year, the existing concept, the community gardening was continued and extended: Smaller repairs were made, a bird pot of concrete was poured and an herbal spiral was laid. Also common activities with the Filmbüro M-V took place. The joint launch in the garden season was held together with the film studio, interested guests and many children. Thematic film events, barbecues and much more have been performed. The publicly accessible garden and the cooperation with the filmbüro offer a whole series of common activities and a cultural cinematic supplement to the garden work.

The students show a growing awareness and a growing interest in the cultivation of local fruit and vegetables and the re-use of materials. Also the possibility to have the opportunity to implement and realize own ideas is also important and a challenge for many students. Therefore, the Hands On Garden projects offer students a great opportunity to get together outside of the lecture hall, learn from others due practical works, learn about different approaches and cultural influences, and deal with different ecological, social and cultural aspects.

Final Thoughts: Quotes from Students

"... The garden house was an interesting cultural experience to participate in. there's a lot of history rooted in the formation of these communities and it allowed me to gain a greater understanding of their purpose and origin." Spencer Chrisholm, Master architecture, 2nd semester.

"This elective has helped me to gain fresh insights in teamwork and coordination. I find the program to be very practical. Not only has it helped me to develop skills in gardening, but also to connect with people from different cultures and backgrounds. Through this program, I realized that Germans are actually friendly people once you get to know them. It has helped to debunk the myth that Germans are cold people. Aside from that, the sense of achievement is indescribable when you see your hard labour come to fruition. Although the wedding process may be annoying, to see plants grow from small seeds to lush bushes is truly a rewarding experience." Yu Jin Lim, Master architecture, 2nd semester.

"... Another aspect I liked was the social coexistence. You always felt that you were creating something together." Gina Weser, Master Interior Design, 2nd semester.

"Through this project, the participants have gained a deeper understanding of the importance of sustainable gardening and the aspects of maintaining such a garden. This project focused on the value of the community interactions. "Gardeners need community". As well as trend and influences, educational and accessibility issues were examined for opportunities in self-sufficiency gardening. The sheer volume of gardener exchange was apparent throughout this project. Community members could receive a large amount of information and practical knowledge by being involved in the discussed activities. On the other hand, the benefits for refugees are summarized in socializing with the students, learning languages and being integrated in different cultures." Mouaz Alghandour, Master architecture, 2nd semester.

Conclusions

In summary, the findings for future sustainable student projects in the intercultural and interdisciplinary context can be defined as follows:

1. Sustainable student “Hands on Projects” must reconcile economic, environmental, social and cultural requirements.
2. The fundamentals are the well-balanced analysis and management of economic efficiency, ecological, social and cultural aspects - considering all stakeholders and the whole lifecycle of buildings.
3. Sustainable architecture learns from history and takes into account the responsibility for future generations.
4. Hands On and Self-experience in practice should be enabled by new teaching methods.
5. Intercultural projects in architectural education include "hard skills aspects" such as analysis methodology, design methodology, technology, construction management, cost and time management as well as “soft skills aspects” such as communication, consensus and conflict resolution, design approaches and culture, tradition and change and stakeholder participation.
6. Traditional ways of design, decision-making and communication must be questioned from all sides.



Fig. 1. German Sala Amphawa.



Fig. 2. Thai Sala Amphawa.



Fig. 3. Hochschulgarten, Hinter dem Mühlenteich“, Wismar.



Fig. 4. Garden at Filmbüro, Wismar.

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