

## **Strengthening Collaboration in Making Universal Design for an Inclusive Society: Housing Improvement Projects for People with Disabilities in Phayao, Thailand.**

Over the last decade, the concept of universal design has been considerably employed by a wide range of organisations in order to help people of all ages and disabilities have a better quality of life. However, unless collaborations are achieved, just knowing the principle can be problematic, and is not enough for pushing concept into practice. Improvements made to eight houses in Dokamtai District, and two houses in Phukamyao District, Thailand provide examples of how participatory design and collaboration among different organisations can make principles of universal design work in real situations. This paper will discuss certain techniques used to strengthen collaboration aimed at putting universal design into practice. First is clear communication with a shared mission. Second is a mutual understanding of universal design. Third is learning by doing in real situations, particularly outside of classrooms, as this provides opportunities and direct experience for architecture students to work with communities. Fourth is utilising a participatory design which involves the right people. Fifth is open discussion about resource sharing. Finally is knowledge sharing which can encourage collaboration to occur, as seen in various forms of activities. Universities play an important role by cultivating public minded intellectuals and encouraging collaboration across organisations to make universal design achievable, consequently leading to better long term inclusive societies.

### **Why collaboration is needed to push universal design into practice**

Before discussing how to push universal design into practice it is important to discuss the concept of collaboration. Dillenbourg (1999:4) defined collaboration as "a situation in which two or more people learn or attempt to learn something together,"(cited in Lai, E. R., 2011: 4). Collaboration is the "mutual engagement of participants in a coordinated effort to solve a problem together"(Roschelle and Teasley, 1996, p.2 cited in Dillenbourg). The concept of collaboration can sometimes become complicated due to inconsistent language usage. Eppel (2008) pointed out that sometimes "...collaboration is used for partnership, alliance, strategic alliance, joint venture, consortium, coalition, and group are used interchangeably...Collaboration means to co-labour, to co-operate to achieve common goals, working across boundaries in multi-sector relationships" (Cited in Allen & Clarke Policy and Regulatory Specialist Limited, 2010: 8). However, Roberts et al. (2008) noted that collaboration can be simply defined as "...working together to achieve a common purpose (ibid: 8)

There are a few main reasons why collaboration is needed to improve housing conditions for people with disabilities in Phayao. First of all, disabled people require special spaces due to their vulnerability. However, it is unfortunate that these people are rural poor and cannot afford to improve their houses. Secondly, the individual local administration could not manage without any professional support due to their limited budget. Thirdly, collaboration from relevant organisations could reduce costs and improve efficiency to achieve provision. Finally, any concept and good project launched may not be implemented unless working together across boundaries is done locally.

## Development in Universal Design Education

Universal design has been imperative for making places friendly for all ages of people with different physical mobility. However, this concept remains new and has not been paid much attention in learning curriculum; particularly in the design field of study. However, the Faculty of Architecture at Naresuan University is concerned with this issue, and has therefore prepared and developed students and faculties in various ways. Firstly, universal design principles were integrated into relevant existing courses. Secondly, the faculty has purposed a new course on “Universal Design” or *Sathapattayakam Yang-r-torn* (in Thai) as defined by the Royal Institution on 16 December 2011. Importantly, the Faculty of Architecture at Naresuan University has signed the Memorandum of Understanding with the National Office for the Empowerment of Persons with Disability (NEP) on 12 September 2011 to ensure collaboration will be continued. Furthermore, another significant movement was an academic project between the faculty and the Institute of Health Promotion for People with Disability, which is the main focus of this article.



**Figure 1-2:** Naresuan University is one of the 11 institution partners of the NEP.

**Left:** The 3<sup>rd</sup> National Seminar on Persons with Disabilities, 12 September 2011, Bangkok.

**Right:** The 4<sup>th</sup> National Seminar on Persons with Disabilities, 22 August 2012, Bangkok.

There are certain factors which make collaboration occur and put universal design into practice, namely, clear communication with a shared mission; mutual understanding, learning by doing, participatory design, open discussion, and knowledge sharing and transfer.

### I: Clear Communication with a Shared Mission

Initially, an agreement was discussed between the Institute of Health Promotion for People with Disability and the Faculty of Architecture at Naresuan University to have a shared vision and mission together as partners in order to improve housing conditions for disabled people in selected areas. It is important to have clear communication with enough information, particularly at an initial stage, as communication allows each partner to have mutual understanding about how to be involved in the project. However, guidance was available if required. Clear communication allows all stakeholders to have enough information and to have an open voice in decision-making (Hosley et al, 2003, cited in Allen & Clarke Policy and Regulatory Specialist Limited, 2010: 16).

After an agreement between relevant organisations was made, the mutual understanding of universal design for architecture students to learn about how this concept contributes to other in design process. Importantly, clear communication with sufficient information is a powerful tool to increase students' awareness of their professional roles and how they can contribute and be involved with the project.

## II: Mutual Understanding of Universal Design

Endeavouring to educate architecture students to be more concerned about the rural poor people with disability is not easy, as this profession mainly serves the capital-based and the rich, rather than the voluntary-based poor. It is expected that having service mindedness can change this, especially to utilise universal design for handicapped. Collaboration between the Faculty of Architecture at Naresuan University and the Institute of Health Promotion for People with Disability has provided an opportunity for architecture scholars and architecture students to learn and practice designs for helping the disabled on a voluntary basis. There are ten people with disabilities who have been involved in this design project. Eight of their houses are in DokKam Tai District and the other two houses are in PhuKam Yao District in Phayao. Developing service mindedness for architecture students is a case in point which can dilute individualism and bring success to this project. There are two main approaches for achieving this. First is to orient students to universal design principles either inside or outside the classroom, such as through lecture and knowledge management. The second process is to give students direct experiences in learning by doing, such as by role play and participative professional learning from fieldwork. These will be presented respectively.

### Educating Students on Universal Design

Universal design consists of seven principles, namely, equitable use, flexibility in use, simple and intuitive use, perceptible information, tolerance for error, low physical effort, and size and space for approach and use (Centre for Universal Design of North Carolina State University, 1997). These concepts can be wrapped into four general principles, which are supportive, adaptable, accessible, and safe designs. To educate students on the concept of universal design, these principles have been integrated into the learning curriculum in relevant courses such as architectural, landscape and environmental design. Furthermore, the universal design concept is also presented in an academic seminar which allows all participants to learn and to share knowledge, particularly regarding disabled cases.



**Figure 3-5:** Educating architecture students on universal design on 13 December 2011 at the Main Conference Room in the SERT Building, Naresuan University



Learning by doing is a crucial process to increase mutual understanding between architecture students and relevant stakeholders. This approach is more dynamic than lecturing only as it can encourage increased student participation. Learning activities can be offered in various forms to present students with opportunities to learn outside of the classroom. Moreover, this process can provide opportunities for all stakeholders to meet and encourage their collaboration in real circumstances.



**Figure 6-7:**Architecture students participated in various learning activities on universal design.

### **Role plays**

Learning by doing can be performed in many ways; however, role plays were selected to allow architecture students to directly experience the feeling of being disabled. This active learning process allows project participants to better understand the behaviour of disabled people and their difficulty in mobility. At this stage, project participants' awareness of the design for all has been increased.



**Figure 8-11:** Learning by doing: Architecture students played role as a disabled people. Students allowed to use wheelchairs, walkers, etc. to access in and around the buildings.

### **Professional Learning in Fieldwork**

Fieldwork is a must do process for encouraging awareness of voluntary design for architecture students. It provides real experience in problem solving, which is a design survey carried out by the collaboration between the Faculty of Architecture at Naresuan University and the Institute of Health Promotion for People with Disability. The main purpose of this survey was to help the

local poor (which were selected by the Phayao Provincial Social Development and Human Security Office) allowing students to assess existing housing conditions and determine problems and limitations of access. Certain architecture students who already knew the concept of universal design participated in this fieldwork. Moreover, observation and in-depth interviews were included in this process, which allowed students to understand behaviours of disabled people and their difficulties in mobility. These processes also built up relationships between designers and disabled householders, as well as among local authorities and relevant bodies.



**Figure 12-14:** Architecture scholars and students visited rural poor disabled people in Phayao Province in order to make their houses more accessible.



**Figure 15-16:** Architecture students worked together as a team for over a month during the term break to improve ten pilot houses in DokKam Tay, and PhuKam Yao Districts.

Having visited the ten households in the study area, a small group of architecture students were supervised by architectural scholars to analyse special needs for individual cases. They worked together in the faculty for over a month to develop better accessibility housing designs. Interestingly, all architecture students who participated in the fieldwork and were involved with participatory design have recognised the importance of how their profession contributes to others. Some of them kept working on universal design for voluntary purposes with more sense of the purpose of collaborative design.



#### **IV: Participatory Design and Having the Right Person Involved**

Participatory design is a key factor for success and it provides opportunities for all stakeholders to share ideas and work together. More specifically, it ensures appropriate design improvements that meet the special needs for each individual with differing disabilities. This process allows architecture students to be open-minded and respectful to the suggestions of others. At this stage, relevant partners were invited to participate, namely, the Institute of Health Promotion for People with Disability, Phayao Provincial Social Development and Human Security Office, local administration offices in study areas, and people with disabilities and their family members.



**Figure 17-18:** The design of ten pilot houses were presented to the disabled and their families at the Sam Wai Centre, DokKam Tay District, Phayao Province.

After the construction designs of the ten houses were drafted, certain architecture students presented their designs to participants at the Sam Wai Centre, in DokKam Tay, Phayao province. Each house was presented for each disabled person's case. Learning lesson gained from the participatory design process revealed that there are certain criteria to be considered in the design project. Importantly, universal design is a key principle to meet individual and/or special needs. Secondly, local materials are preferable, which could be applied to the design due to limited budgets and in harmony with existing housing conditions. Thirdly, simple construction and local building techniques are recommended, as they can be easily applied. All feedback and comments have been taken into account to revise and develop the final designs and highlight more appropriate approaches.

#### **V: Open Discussion on Resources Sharing**

After the estimated costs were calculated for the participatory design was, the allocation of budget was discussed among the designer team, the Institute of Health Promotion for People with Disability, and the local authorities, in order to put the design project into practice. Open discussion is an opportunity which allows all stakeholders to have an open voice and be involved in mutual decision-making as noted by Hosley et al (2003, cited in Allen & Clarke Policy and Regulatory Specialist Limited, 2010: 16). This project found that open discussion is a crucial process. However, its contributions were not only budget achievement, which were mainly provided by the Phayao Provincial Social Development and Human Security Office and partially allocated by the Institute of Health Promotion for People with Disability, but collaboration was built up in the long term.



**Figure 19-20:** Collaboration among relevant organisations was obvious when an open discussion about budget allocation was made at Sam Wai Centre, DokKam Tay District, Phayao Province.

Additionally, other resource sharing is another positive outcome of collaboration. For example, commodes were allocated to all ten houses by the Faculty of Architecture of Naresuan University, and installed by building labours provided by the Local District Administration Offices. The willingness of disabled families to support their own projects as much as they could was another evident form of collaboration.



**Figure 21-22:** Collaboration among property developers to work with Faculty of Architecture  
**Left:** The director of 111 Consultant Company visited an exhibition held on 11 July 2012 at the Faculty of Architecture, Naresuan University.  
**Right:** An exhibition showing housing improvement projects for people with disabilities in Phayao, on 22 September 2012, at Amarin Lagoon Hotel, Phitsanulok, Thailand.

Moreover, collaboration can be developed with other parties. This project suggested that working with the private sector may be an option worthy of consideration. Property development enterprises could be involved to put plans into practice, as they could donate funding to support the project. To illustrate, academic agreement was a case in point when the improvement projects for disabled were displayed as part of a property training course. In this instance, a portion of the registration fees were donated to support the projects which can be seen in Figures 21 and 22.



## VI: Knowledge Sharing

Knowledge sharing can be implemented during various forms of activities to allow all stakeholders and other parties the opportunity to participate. As mentioned above, educating architecture students on universal design is of primary importance. Sharing knowledge allows for frequent communication to occur throughout the mission process. Exhibitions, seminars, presentations, and academic conferences are all examples of knowledge transfer. To learn and to share knowledge and experiences gained from different organisations provides opportunities for all to learn how to achieve collaboration and to avoid obstruction.



**Figure 23-24:** Exhibition and Seminars are illustrations of knowledge sharing and exchange  
**Left:** This exhibition was held in the new building of Faculty of Architecture and opened for all interested. **Right:** A seminar was organised by the Institute of Health Promotion for People with Disability at the Richmond Hotel, Nonthaburi. All pilot housing projects from Thailand for the disabled were displayed and discussed, and lesson were learned.



**Figure 25-26:** Exhibition and presentation are illustrations of knowledge sharing and exchange  
**Left:** Exhibition was displayed in the 4<sup>th</sup> National Seminar on Persons with Disabilities 2012 on 22 August, at Rama Garden, Bangkok, Thailand.  
**Right:** A presentation was made under the theme of "Disabilities Inclusive Development Challenges for ASEAN Community" in the same conference.



The lessons learned from this project revealed six main ways to strengthen collaboration: firstly, a clear delivery of all communication, secondly, a mutual understanding of universal design, thirdly, learning by doing in real situations, fourthly, utilising a participatory design, fifthly, open discussion with resource sharing, and finally, a knowledge sharing. Furthermore, this article suggested that Naresuan University has an important connected role in leading voluntary academic service for helping society in several ways: firstly, to encourage collaboration among scholars to work with relevant organisations, with a memorandum of understanding as a case in point, secondly, to create learning environments which promote knowledge sharing and management, and deliver academic service to communities beyond the campus, and finally, the development of learning curriculum which should integrate service mindedness in line with professional practice.

### **Contributions from collaboration for making universal design happen**

There are several benefits gained from working together during this project. First of all, better and mutual understanding on universal design was achievable for relevant stakeholders. Secondly, an enhancement of students' service mindedness was evident. All architecture students who participated in the fieldwork and were involved with the participatory design process have recognised how importantly their profession contributes to others wellbeing. Some of them remained willing to work for the disabled on voluntary basis. Thirdly, design plans implemented made housing conditions for disabled cases better and more comfortable. Fourthly, a sense of support to the community and public caring has been increased in both the university and in relevant parties. Eventually, promotion and support of public minded intellectuals has sustained collaboration between Naresuan University and relevant bodies, especially within the community for the foreseeable future.

### **Conclusions and Suggestions**

Making universal design more practical for better inclusion in society is desirable, and achieving this collaboration from relevant organisations should be further encouraged. This paper highlighted that collaboration is a key process to put universal design into practice. It presents experiences and approaches which were gained from the improvement housing project for people with disabilities in rural areas of Phayao as a case study to strengthen collaboration across relevant organisations by implementing clear communication, mutual understanding of universal design, learning by doing, participatory design process, open discussion with resource sharing, and knowledge sharing. Learning from the housing improvement project suggested that collaborative work may be a means to implement universal design in developing countries where the majority of the population is still poor and mainly lives in rural areas. The nurturing of professional volunteers has been a challenge to Thai universities, but it seems a likely way to develop intellectual resources in order to achieve better inclusive societies. However, this will never happen unless promotion and support from all bodies are achieved for the future.

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-Impacts of urbanisation on water-based settlements

-Street furniture and streetscapes