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Training Centre for
ICT for Development
(UN-APCICT)

Engaged Learning Guidebook for Students

Using ICTs for Community Development



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Engaged Learning Guidebook for Students: Using ICTs for Community Development

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ASIAN AND PACIFIC TRAINING CENTRE FOR INFORMATION AND
COMMUNICATION TECHNOLOGY FOR DEVELOPMENT

Engaged Learning Guidebook for Students: Using ICT for Community Development

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About Engaged Learning Guidebook for Students: Using ICT for Community Development

Engaged Learning is a pedagogical strategy that links classroom learning with community development practices within a credit-based university curriculum. For students who are learning about the field of information and communication technology for development (ICTD), engaged learning can be an effective approach to provide them with practical experiences in helping local communities through ICT-based innovation.

To advocate the engaged learning across the Asia-Pacific region, APCICT has prepared two set of publications: the "Engaged Learning Toolkit for Faculty: Using ICT for Community Development" and the "Engaged Learning Guidebook for Students: Using ICT for Community Development", in collaboration with Cornell University. The Toolkit and Guidebook provide practical guidance for faculty members, students, communities and other stakeholders on planning, implementing and evaluating the ICTD-based engaged learning courses.

The Engaged Learning initiative is a part of APCICT's "Turning Today's Youth into Tomorrow's Leaders" Programme. Launched in 2012, the programme intends to create a cadre of future leaders equipped with knowledge and skills needed for utilizing ICT innovation for sustainable development. Under this programme, APCICT provides "Primer Series on ICTD for Youth (Primer Series)", a comprehensive ICTD curriculum that serves as practical and valuable learning resources for colleges and universities in Asia and the Pacific. The Primer Series are increasingly being integrated in academic curricula, helping to expand the coverage of ICTD in university education in the region.

APCICT hopes that, through the Engaged Learning Toolkit and Guidebook, faculty members and students can enhance their ICTD education and make positive changes within their communities while contributing to sustainable development in the Asia-Pacific region.

ABOUT APCICT

Established in June 2006 as a regional institute of the United Nations Economic and Social Commission for Asia and the Pacific (UN-ESCAP), APCICT has a principal mission of building the human and institutional capacities on utilizing ICT for sustainable development. The Centre develops and implements ICT capacity development programmes and services for government leaders, civil servants, students, educators and women entrepreneurs in Asia and the Pacific. Its core activities surround three pillars: training, research/knowledge sharing and advisory services. As a regional hub on ICT capacity development, the Centre also provides a platform for regional and multi-stakeholder dialogues, networking and cooperation on ICTD capacity building in the Asia-Pacific region.

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Section 1

Using the Engaged Learning Guidebook

1.1. Contents of the guidebook

This guidebook is intended to support a credit-bearing university course that includes—or is dedicated to—information and communication technology for development (ICTD). You and your fellow students have the potential to positively affect lives of people and communities who can benefit from information and communication technologies (ICTs) applied to development programmes. You can do this well by linking the engaged learning process with ICTs and to issues such as agriculture, health, education, governance and the welfare of vulnerable people. Many of these issues appear directly and indirectly in the newly declared Sustainable Development Goals (SDGs) that appear in Appendix A of this guidebook. We will address these SDGs later.

What are the advantages to you of being involved in this engaged learning with ICT innovation in your university course? Evidence suggests that students who do engaged learning have higher retention rates, improved writing skills and expanded critical thinking capacity. These can lead to good academic standing, opportunity to explore new professional career paths, and the chance to gain self-confidence and civic experience. Civic experience refers to making a conscious and significant contribution to society.

This guidebook is designed to:

- Help prepare you for a civic engagement in the community (pre-engagement)
- Provide guidance for interacting with people in a community (engagement)

- Help you carry out activities that will increase the value of the practical experience you gain in the community (post–engagement)



Process of Engaged Learning Programme

The guidebook will lead you through the steps of the engaged learning process. It will cover pre–engagement, engagement and post–engagement. The tools in the guidebook for doing all of this include:

- **Background pieces** on engaged learning, ICTD, reflection and other topics such as the SDGs and community learning centres. For some students these items may be a review or reminder; for others it may be an introduction to one or several of them. The sections are clearly labeled so you can skip some if you have already learned about these.

- **Case studies** that provide reality to your classroom experience. Some of these are in the main text; others are listed in Appendix B.1. For example, in Appendix B.1 there is a list of 26 case studies found in APCICT's Primer 1: An Introduction to ICT for Development that cover a wide range of applications, including agriculture, health, government, education, gender and others.¹ APCICT refers to the Asian and Pacific Training Centre for Information and Communication Technology for Development.
- **Guidelines for reflection and reflection exercises** throughout the text invite you to think deeply about ICTD issues and your field experience, and connect these thoughts and perceptions to your classroom-generated knowledge. There are also examples of reflection papers in Appendix D written by students who have participated in engaged learning. Reflection is central to all engaged learning programmes. You must take time to reflect critically—orally and in written form—on your experiences through your personal journal, through research assignments and group discussions. There will be guides for some of these later.
- **References** in Appendix B that expand on topics in the guidebook, including additional discussions of engaged learning and ICTD.
- How to obtain student guidebooks from other universities that provide information on topics such as students' responsibilities in community engagement and administrative matters that may be unique to each of those universities but these may be helpful to you in thinking about details that are not directly ICTD-related and are not covered in this guidebook.

1.2. Students making a difference in ICTD

Before we get into the engaged learning process, we look at several examples of where students have become involved with ICTD beyond the classroom. There is evidence that university students like you can, in fact, be effective agents of ICT in development. There is also evidence that students in an engaged learning experience have real community

¹ Go to <http://www.unapcict.org/pr> to access APCICT's Primer Series on ICTD for Youth.

impact, and this can result in your own deeper, more varied forms of learning. You are among those pioneering in the innovation that connects university studies in ICTD with an engaged learning academic approach. Initiatives in Hong Kong are helping develop the scenario. A case study below from Hong Kong Polytechnic University shows students involved in ICTD and engaged learning.

[Case Study 1]

ICTD ENGAGED LEARNING AT AN ASIAN UNIVERSITY

In 2013, approximately 100 Hong Kong Polytechnic University students participated in four ICT-related global engaged learning trips to Cambodia, Rwanda, Indonesia and Viet Nam. Themed "Technology without Boundary", students taught local primary school children and orphans in Cambodia and Rwanda how to use software for digital storytelling, animation programming and for making robotic cars. The university students also set up computer labs and an intranet system in a non-governmental organization (NGO), and provided training for its staff to make use of social media for publicity purposes. Some students developed solar panels to provide electric power to facilitate children's learning at night time. In addition, a team of students conducted a survey in slum villages of Cambodia, and the data collected were expected to be used by an NGO for identifying the needs of the villagers.

In Indonesia, the university students joined with the local community in a 25-day project organized by Duta Wacana Christian University of Indonesia and Hong Kong Polytechnic University to draw up strategies for developing the potentials of a village. By using global positioning system (GPS) technology and satellite images, students and the local villagers gained greater understanding of the local resources and their community's needs. Making use of spatial information analysis, students came up with solutions to address the problems faced by the local community, thereby encouraging sustainable rural development.

What do you see as the challenges in doing this kind of engagement in a community? The Hong Kong Polytechnic University case study involves international or cross–borders projects. In this guidebook, we simplify the community development process by focusing on doing engaged learning in your own country, thus reducing some of the issues related to language, expenses, travel and intercultural relations. However, you may see intercultural challenges even in your own country including those associated with gender, minorities, the urban–rural divide, and between peoples with different educational and economic statuses.

In this next case study, we visit a community telecentre where a university student helped make a great difference in the life of a woman entrepreneur. This is the story of Mrs. Saiyud in Thailand.²

² This story is based on a situation reported by Worrawan Kalyanamitra in "ICT Telecentre: New model of social development in Thailand", Graduated Volunteer Institute Journal, Thammasat University, January–June 2012. Available from https://www.academia.edu/2005130/ICT_Telecentre_new_model_of_social_development_for_rural_communities_in_Thailand.

[Case Study 2] THE STORY OF MRS. SAIYUD

How the engaged learning programme helped her establish an e-commerce business

Mrs. Saiyud, a home-based woman entrepreneur, makes doormats. She was invited to visit a local community telecentre where a university student was providing a workshop and individual guidance on how to use a computer and the Internet for e-commerce. Although she did not know anything about computers and the Internet and, in her opinion, those things were for young people, Mrs. Saiyud decided to accept the invitation. After attending the class, she understood the fundamentals of these ICTs. The student trainer also introduced her to e-commerce and showed her how to post information and images of her products to a website. She learned well and expanded her business using a website to gain sales from beyond her community. Consequently a number of customers contacted her for purchasing her doormats. The big turning point came when Tesco Lotus, a big Thai hypermarket chain, contacted her in order to negotiate a long-term contract for purchasing the mats.

How a field experience benefits students

Reflection Task 1



You can do this task yourself or it may be assigned by your instructor. Think about what benefits accrued to the university student in Case Study 2. How was the student's learning made richer by his engaging in the community telecentre than it might have been only by studying in a classroom? You can record your thoughts in a journal—a tool we will introduce soon. (See Section 2.2.)

Section 2

Elements of Engaged Learning

2.1. The tools for engaged learning

We have mentioned several tools for doing engaged learning. The most important is the engaged learning process itself. It includes a structured plan of pre-engagement, engagement and post-engagement. In addition, there are community research and reflection. Very important are reflection tools. A journal is one of those important reflection tools. We will identify more later in this guidebook.

You may already have an understanding of engaged learning (or service learning as it is sometimes called). So here we will only cover the main ideas. Your professor can guide you to additional resources if you want to get deeper into the subject. Appendix B.6 will also help.

Engaged learning is a teaching and learning strategy that integrates meaningful community engagement with classroom instruction and reflection. These enrich your learning experience, teach civic responsibility and strengthen communities. It is done through a credit-bearing university course. University courses that have ICTD as a significant component can provide a valuable and practical dimension to a student's educational experience by applying the engaged learning strategy to the course. Students apply their ICTD classroom learning to needs existing in the community—most often these are needs identified by the community itself. Reflection by students about that experience is vital to the learning process. And it is important that not only do students benefit from engaged learning and ICTD, but that communities also benefit.

2.1.1. The benefits of engaged learning

Why do engaged learning? Case studies and the literature surrounding engaged learning testify to a variety of benefits to you, the faculty conducting the engaged learning, the university and communities. We concentrate here on benefits to the community and to students.

► For community members

- Students introduce members of the community to ICTs and social media as ways of gaining information, non–formal education, lifelong learning and useful skills.
- Students collaborate with schools in the community to expand the schools' learning resources.
- Students work with other local organizations to upgrade their information and communication systems, and help these organizations become a vital part of the digital world.
- Students help citizens increase their capability to communicate with others.

► For students

- You can gain a richer ICTD learning experience and a step toward a postgraduate career.
- You can gain experience and confidence in applying your learning to situations and communities outside the classroom.
- You can gain a sharper sense of civic involvement.

2.1.2. The principles of engaged learning

Engaged learning is used in a wide variety of disciplines in universities around the world—ranging from computer science to health courses. Before exploring the application of engaged learning to ICTD, we review some of the key ideas in the engaged learning approach that serve as guidelines in developing ICTD learning activities for both students and communities. These guidelines come from the work of others who have had substantial experience with engaged learning. You can read about this accumulated wisdom in more detail in publications available through the Internet. In Appendix B you will find some references.

Box 1.

Ten things to keep in mind when practising engaged learning

1. Engaged learning involves a partnership between the university and a community organization.
2. An engaged learning course provides benefits for both the students and the community partner.
3. Engaged learning responds to needs as defined by the community.
4. Engaged learning is, or is linked with, a credit-bearing course.
5. In engaged learning, students learn academic content and develop stronger civic consciousness.
6. An engaged learning course often has three phases: pre-engagement, engagement and post-engagement.
7. Reflection is a major part of the learning process and takes place throughout the course.
8. Engaged learning is often a group activity usually involving students in teams.
9. The length of engagement with the community is variable, but some engagements can be accomplished in as short a period as one week in the field.³
10. Engaged learning can be built so that the outcomes are sustainable over multiple years.

³ G. Ngai and S.C.F. Chan, "How much impact can be made in a week? Designing effective international engaged-learning projects for computing", Proceedings of the 46th ACM Technical Symposium on Computer Science Education.

2.1.3. The challenges in engaged learning

The challenge to you is that an engaged learning course can be quite different from the ordinary course. In an ordinary course, you may have lectures and labs each week, several examinations during the course, then a final examination, and perhaps a final paper. In engaged learning, there are other ingredients for your professor to weigh in awarding you a grade. He/she will explain these to you. Your professor plays a different role; he/she does not try to fill your mind with knowledge. It is a cooperative venture involving a faculty member, you and a community—where all are teachers and learners.

For the community, a challenge may lie in the possibility of introducing different responsibilities in the community because of who the teachers and learners are (all of you are both). There is also the necessity of obtaining ICT resources such as computers and connectivity, and the need to maintain and sustain ICTD-related changes and equipment brought about by the community's engagement with you and with others in the university. Another issue might be the change of roles of people in the community. Can you suggest what some of these might be?

It is important to remember that reflection is a major part of the engaged learning process. That is the next tool we explore.

2.2. Reflection as an engaged learning tool

The main goal for reflection is to challenge and guide you in: (1) examining critical issues related to your engaged learning ICTD project, (2) connecting the engaged experience to coursework, (3) enhancing the development of civic skills and values, and (4) finding personal relevance in your coursework. Reflection broadens your classroom and reading activities into what we sometimes call "the real world". Reflection can help you understand how to apply course knowledge to your ICTD projects, and how to assimilate and link the engaged learning experience back to coursework. By incorporating such reflection, you can get a deeper understanding of course materials. Another goal of reflection is the development or refinement of critical thinking skills such as being able to identify issues, being receptive to new or different ideas, and foreseeing the consequences of your action.

2.2.1. When should reflection occur?

Your professor will provide numerous opportunities for reflection before, during and after your engagement experience. The role of reflection varies according to the stage of the project. Reflection before the project starts can be used to prepare you for your field activities. Reflection during the preparation for the field experience can help you attach concepts and theories to the tasks planned for the project. During the engagement phase, your professor will probably encourage you to do some intellectual exploring and learning independently while he/she provides feedback and support as needed to enhance your learning. Reflection during this time can reinforce the connection of course content with the engagement field experience and with a community organization.

Reflection after the engagement experience has ended can help you evaluate the meaning of the experience, crystallize your emotional responses to the experience, think about the integration of knowledge and new information, begin to explore further applications/extensions of the experience, and consider the relevance of the engagement to your career. Because reflection begins early in the engaged learning process, here are some tools suggested by Hong Kong Polytechnic University that you can begin to become familiar with and start reflecting now.

Box 2. Examples of reflection tools and how to use them

Case studies	Reading case studies about what to expect from other engaged projects may help you plan for the field activity. There are many in this guidebook, and sources for others can be found in Appendix B.
Journals	Record thoughts, observations, feelings, activities and questions in a journal throughout the project. The most common form of journals are free-form journals. The journal should be started early in the project and you should make frequent entries. We will provide some models for these later in the guidebook.
Structured journals	More structured journals may be introduced by your instructor to direct your attention to important issues/questions and to connect the engaged learning experience to classroom-based learning. A structured journal provides prompts to guide the reflective process. Some parts of the journal may focus on affective dimensions while others relate to problem-solving activities.
Team journal	You will probably be working within a team. Here, a team journal can promote interaction between team members on project related issues, and introduce you and other students to different perspectives on the project. Students can take turns recording shared and individual experiences, reactions and observations, and respond to each other's entries.
Critical incidents journal	Record a critical incident for each week of the engaged learning project. The critical incident refers to events in which a decision was made, a conflict occurred, a problem resolved. The critical incident journal provides a systematic way for students to communicate problems and challenges involved in working with the community and with their teams, and can help in dealing with the affective dimensions of the engaged learning experience.
Portfolios	Select and organize evidence related to accomplishments and specific learning outcomes in a portfolio. Portfolios can include drafts of documents, analysis of problems/issues, project activities/plans, annotated bibliography.
Papers	Write an integrative paper on the engaged project. Journals and other products can serve as the building blocks for developing the final paper.
Discussions	Engage in formal/informal discussions with teammates, other volunteers and staff to learn different perspectives and to challenge students to think critically about the project.
Presentations	Present your engaged learning experiences and discuss them in terms of the concepts/theories discussed in your class.
Interviews	Your instructor and other stakeholders may wish to interview you and others in the project on the field experiences and the learning and accomplishments that occurred in these experiences. You may be able to volunteer such an interview for a radio or television station.

In this guidebook, we suggest some reflection activities. You saw the first one as "Reflection Task 1". For a video about the reflections and evaluations of their field experience by three university students during their engaged learning in an NGO in Ho Man Tin see <http://www.youtube.com/watch?v=sRuNgYoD87c>. In this 10-minute video, students share their feelings before and after their engaged learning activities. In Appendix D, there are examples of reflection papers written by students as part of an engaged learning experience. It might provide you with some ideas for your own reflection papers in this course. And you can read a detailed discussion of reflection in the Campus Compact reference in Appendix B.6.

Now we can try another reflection activity. Below is Case Study 3, the story of Luva and her use of ICTs for a successful enterprise in agriculture. There is no evidence of student involvement in this case study, but as you read it, imagine yourself working with low income women in a situation where access to ICTs might improve their standing.

[Case Study 3] THE STORY OF LUVA

How ICTD training helped a young woman entrepreneur from rural India⁴

There is a local community education centre in India that specializes in ICT training, teaching aspiring women entrepreneurs how to use ICTs. One of its collaborating organizations is a local non-profit training organization, the Self-Employed Women's Association (SEWA). SEWA has trained over five thousand women workers and micro-entrepreneurs from rural areas in core computer skills to help them find jobs, become self-reliant, and overcome traditional gender-associated constraints. SEWA's ICT training has benefited the lives of many women and girls, including Varshaben Luva, who comes from the rural village of Kalol in western India.

Luva is one of a growing number of women in India breaking through traditional gender roles by starting her own business. After attending an ICT training session at SEWA, Luva was able to combine her new information technology skills with her background in agriculture to start her own text messaging business aimed at farmers in her geographic area. Luva now goes to SEWA on a daily basis to do online research on markets and on prices of commodities. Then she sends daily text messages about current market prices to those farmers who pay her 50 rupees (approximately USD 1) a month.

Because of Luva's new text messaging business, farmers can now decide whether it is worth transporting their crops—mostly cotton and corn—to a market that day or to wait and deliver them at another time. With 80 or more clients in the Mehsana District of Gujarat State, Luva's business continues to thrive. The case demonstrates that ICT education can make a significant impact on rural women and girls like Luva, who can use their new ICT skills not only to make a living for themselves, but also to have a larger impact in their communities. In Luva's case, there was not an obvious need for her ICT market information business, but apparently her workshop training inspired the innovation.

⁴ Based on <http://life-global.org/en/LIFE-IN-ACTION/Success-Stories/Luva-provides-market-analyses-for-farmers-in-rural-India>.

This case illustrates the opportunities and challenges for university students to make more visible to those in a community like Luva's the potential and power of ICTD. We will return to this case study later.

Reflection

Task 2



Preparing for ICTD action in the field

Think about how students might contribute to ICTD learning environments like that illustrated by Luva's story. What would you need to do to be ready for such an interaction? Do you see a gender issue in your own communities? You can begin tracking your thoughts, perceptions, questions and experiences in a journal.

To summarize, reflecting before you go into the field can prepare you for the engaged learning experience. Reflection during the community engagement urges you to absorb and relate the observations and the actions of the field activities to the classroom work. Reflection after the engagement experience has ended can help you identify the learning benefits of the experience and integrate them into your knowledge inventory. Then you can begin to think about later opportunities to use the knowledge gained through both the classroom and the community engagement.

2.3. Engaged learning student handbooks from other universities

The emphasis in this guidebook is on the application of engaged learning in the context of ICTD academic programmes, as a full course in ICTD or as part of a course in a relevant discipline. However, you may find it useful to examine guidebooks from other universities that are more generic in content. They deal with issues such as travel, health, expenses, supervision and behaviour in the community. While much of this is relevant to specific universities, some of their content may inspire questions and issues that might apply to your situation. Many of these are on the web, and in Appendix D you will find how to access several.

Section 3

Preparation for Starting ICTD Engaged Learning

The ICTD-based engaged learning programme in which you are involved has emerged out of a series of movements in the past few decades. In particular, the last two decades have witnessed the growth of two important movements related to international development. The first has been the increasing realization that higher education institutions could have a greater positive impact on society by addressing more directly the realities of the world around them. Universities need to be more relevant to the communities and the world around them. Engaged learning has been one strategy.

The second movement is the aggressive application of ICTs to accelerate development. While "development" covers a wide range of topics, in this guidebook it refers to issues related to the improvement of life among vulnerable people in underserved communities. This is what we call community development. The United Nations defines community development as "a process where community members come together to take collective action and generate solutions to common problems."⁵

3.1. The engaged learning movement

How did engaged learning begin? Although some institutions of higher education contribute well to science, the arts and technology, there is a growing recognition that they should be more

⁵ See <https://unterm.un.org/UNTERM/search?urlQuery=community+development+> and <http://www.peernetbc.com/what-is-community-development>.

in touch with the cities, rural areas and communities where millions struggle for healthier, safer, more economically productive and happier lives. While many universities have collaborated in internships, volunteerism and compulsory service arrangements, this is a new response: universities are adopting engaged learning as an innovative approach to education in the classroom and in the community. This helps universities to become more relevant to society. Evidence of the value of this learning approach for Asian countries was the creation of the Service Learning Asian Network (SLAN).⁶

3.2. The ICTD movement

The second movement has been the extraordinary emergence of new ways to communicate, made possible by discoveries and inventions in ICTs. These have been well explored in Chapter 2 of APCICT's Primer 1: An Introduction to ICT for Development.⁷ (See especially Section 2.4: Attributes of ICTs). It is important to check out this publication and review the attributes of the different ICTs.

As you saw in Case Study 3, ICTs have brought us to a world where a rural woman in India can use a computer and a mobile phone each day to collect information on the prices being paid for crops in the surrounding markets—and provide this information to other farmers. She has become a successful entrepreneur. Look beyond Luva at what else is happening around us. We have a communication environment of approximately three billion Internet users and a world where 65 million or more "tweets" travel through space every day (or 750 tweets per second). The use of recent ICTs, especially social media, has changed the ways that people keep in touch with each other and the world. Your engaged learning experience in this course can help you lead people and organizations to use these technologies for various applications for community development, while strengthening your own understanding of the value and constructive use of ICTs.

⁶ For details about SLAN see <http://www.ln.edu.hk/osl/slan/>.

⁷ This is one of a series by the Asian and Pacific Training Centre for Information and Communication Technology for Development available without charge at <http://www.unapcict.org/pr>. Others in the series that can be part of this exploration include one on project management (Primer 2), one on disaster risk management (Primer 3), and one on climate change (Primer 4).

You may already be aware of the evolution of ICTs in development. You can get a good account of this from the APCICT's Primer 1. If you have not already been assigned this in class, read Chapter 1 (Understanding Development) and Chapter 2 (Information and Communication Technologies for Development). Following are some key points and some other reading opportunities that are all available free on the Internet.

Since the early 1990s, there has been widespread recognition of the increasing importance of ICTs in the everyday lives of people across the world. A major push toward recognizing the great potential of these ICT initiatives came from the eight major industrial nations (the G-8) who asserted in the year 2000 that ICTs can be among the most potent forces in shaping the 21st century. The G-8 noted that the revolutionary impact of ICTs affects the way people live, learn and work, and the way governments interact with civil society. This made ICTs a significant international priority.

Then later, a further impetus was the two-phase *World Summit on the Information Society* (WSIS) in Geneva in December 2003 and in Tunis in November 2005. These meetings prompted many international organizations to come forward with ideas, plans and programmes for using ICTs to meet the Millennium Development Goals (MDG) that preceded today's Sustainable Development Goals (SDGs). Note especially the stocktaking process organized by the International Telecommunication Union.⁸ *WSIS Stocktaking* was launched in October 2004 and continues until today. Recently, 17 organizations were awarded prizes in recognition of their outstanding contribution towards strengthening the implementation of the initiative called *Outcomes of the World Summit on the Information Society*. Those outcomes are related specifically to the communication challenges you are exploring in this course.

The importance of ICTs in development was further revealed in publications available on the Internet free to all. Note, for example, two major publications from the World Bank—*Maximizing Mobiles*⁹ and *ICT in Agriculture: Connecting Smallholders to Knowledge*,

⁸ International Telecommunication Union, *WSIS stocktaking: Success stories 2014* (Geneva, 2014). Available from http://www.itu.int/pub/S-POL-WSIS.SUCC_STORIES-2014/en. See also David J. Grimshaw and Shalini Kala (eds.), *Strengthening Rural Livelihoods: The impact of information and communication technologies in Asia* (Ontario, International Development Research Centre, 2012). Available from <http://hdl.handle.net/10625/45947>.

⁹ World Bank, *Information and communication technologies for development 2012: Maximizing mobiles* (Washington, D.C., 2012). Available from <http://www.e-agriculture.org/news/world-bank-ic4d-report-2012-maximizing-mobile>.

Networks and Institutions.¹⁰ These provide valuable applications and case studies about ICTD that can be shared and discussed among members of your class. The second reference just mentioned is a 400–page source book aimed at helping practitioners and policymakers take maximum advantage of ICTs' potential for improving agricultural productivity and smallholders' income.

Another valuable resource is a publication of the United Nations Educational, Scientific and Cultural Organization (UNESCO) entitled, *Harnessing the Potential of ICTs*¹¹ published in 2016. It provides case studies in Asia and the Pacific as well as some from Africa, the Arab States, Latin America and the Caribbean, Europe and North America. These cases describe literacy and numeracy programmes using radio, television, mobile phones, tablets and computers. These materials provide good resources for students focusing on the uses of ICT in various development contexts.

The APCICT's Primer 1 can be useful in finding other relevant case studies. In Appendix B.1 of this guidebook, you will find a list of 26 case studies from APCICT's Primer 1 that are suitable for close examination and discussion. In your classroom instruction, you may also discover interesting case studies from your country.

Reflection Task 3



Applying ICTD case studies in your country

Select and summarize an ICTD case from these resources and suggest why and how (or why not) this particular case or application is relevant to the country it aims to help. Does it relate to you, your studies and communities in your country?

¹⁰ World Bank, *ICT in Agriculture Sourcebook: Connecting Smallholders to Knowledge, Networks and Institutions*, Report 64605, 2011. Available from <http://www.ictinagriculture.org/content/ict-agriculture-sourcebook>.

¹¹ Available from <http://unesdoc.unesco.org/images/0024/002439/243981E.pdf>.

What is the role of the ICTD specialist and future leaders like you? More than 160 countries and territories have developed strategies to promote the use of ICTD. Check to see if your country has one. Providing a successful ICT intervention requires skillful communication planners and strategists. Note also that the Action Plan of the WSIS called for creating a critical mass of skilled ICT professionals and experts dedicated to development-related issues and institutions.¹² Do you see yourself among them? It may be something to reflect on.

The MDGs that were effective from 2001 to 2015 stimulated widespread interest in the roles that ICTs could play in reaching the development goals. Also, national governments and international agencies seem very likely to employ ICTs for reaching the newly declared SDGs aimed at the year 2030. This will give you opportunities in the future to apply the learning you accumulate in this class as one of those ICT professionals who will be so much in demand. The next two Reflection Tasks give you a good start in this direction. Do them now and keep them in mind because you will return to them later in this guidebook.

Reflection Task 4



Applying ICTD to the SDGs

Go to Appendix A and study the SDGs. Pick one of these and imagine how communication and ICTs might be employed to help achieve the goal. Suggestion: Look particularly at Goals 2, 3 and 4. You can develop your own scenario.

¹² Item C4e of the Action Plan says: "Governments, in cooperation with other stakeholders, should create programmes for capacity building with an emphasis on creating a critical mass of qualified and skilled ICT professionals and experts." The whole Plan of Action is available from <http://www.itu.int/wsis/docs/geneva/official/poa.html>.

Reflection Task 5



You, ICTD and the SDGs – Part 1

Referring to Reflection Task 4, what roles in this might you play in the future? What additional training and skills might you need? If you have started a journal, write how you see the future for yourself as a communication specialist in a development programme.

There is an underlying theme in this Section 3. It is that preparation for a place in this exciting new world of ICTD and SDGs demands that students like you go beyond the university classroom and connect your communication and ICT skills to the realities of life in communities outside the university. The situation presented in Thailand beginning in Box 5 is a good representative case.

3.3. Identifying community partners

There are various models of engaged learning. The approach to engaged learning in your course involves working with a community as a primary partner for an engaged learning partnership. Your university will have arranged for such a partnership before or during the preparation for the engagement process. One of the good examples of partner organizations is community learning organizations or community learning centres (CLCs) supported by a programme of UNESCO called APPEAL,¹³

These CLCs are very much development-oriented: providing the surrounding communities with opportunities in non-formal and lifelong education, and support in small-scale enterprise such as e-commerce. For example, CLC programmes in Nepal target out-of-school children, youth and adults from marginalized rural and urban communities. Through various government processes and international funding, Nepal established more than 800 CLCs and has the ambitious goal of establishing one in every village. As in the situations in other countries, nearly all CLCs in Nepal were established and are being managed by local people. Some CLCs have already joined the digital world by incorporating ICTs in their services and programmes. According to UNESCO, most CLCs in Uzbekistan offer programmes in ICT skills. These range from basic ICT uses, to advanced website development, according to the needs of the local community. The photo in Case Study 4 from Thailand shows a CLC that has incorporated ICTs in their services and programmes.

By 2016, there were approximately 170,000 CLCs in the Asia-Pacific region, some established by governments, some by NGOs, and most operated by local communities. These CLCs—with their commitment to non-formal education, lifelong learning, and development—are potentially useful partners for a university's engaged learning programme. Now we visit the CLC in Thailand and an ICTD challenge for you.

¹³ The Asia and Pacific Programme of Education for All (APPEAL) is a regional programme designed to promote literacy, early childhood care and lifelong learning. See <http://www.unescobkk.org/education/appeal/>.

[Case Study 4] THE STORY OF A COMMUNITY IN THAILAND What can we do for this CLC in north–east Thailand?

Below is a photo of a home in north–east Thailand. The private house hosts a women's weaving group and they use the place as a CLC. Note that it has a computer and screen. The owner of the house believes in lifelong learning (a priority of the national government) and he goes to other CLCs to expand the 8th grade formal education he obtained as a youth. One of the needs he expressed was for the community to preserve its Isan culture that he believes is disappearing.

How might a group of students approach this situation in the context of engaged learning? What do you assume about the community such as its citizens' skills and their resources? What other community organizations might join university students in an ICTD–engaged learning project?



Reflection

Task 6



Exploring communication needs of a CLC

Consider further the scenario of a CLC for a possible ICTD intervention. After you read Case Study 4 consider what skills you would need to undertake an activity that would answer the need indicated, and how you would feel about working in this kind of environment. Is it intimidating? Challenging? Comfortable? Inspiring?

Other community organizations that have very strong possibilities as engaged learning partners are telecentres. These are similar to cybercafés. But telecentres are development-oriented organizations run by a local government or private sector bodies. They provide communities with access to ICT resources, and they help people in the community use those resources constructively to meet their development needs. If you want to explore these, there are associations of telecentres throughout Asia and the Pacific, including in the following countries: Afghanistan, Bangladesh, Bhutan, Cambodia, Fiji, India, Maldives, Pakistan, Philippines, Republic of Korea, Sri Lanka and Thailand. Contacts for them are listed at: <http://www.telecentre.org/networks/asia-pacific-telecentre-network/>.

To summarize, existing community centres (with various titles) provide a good starting place for identifying partners for universities that choose to adopt an engaged learning strategy in an ICTD-related course or academic programme. The reasons for starting with these as potential partners include the following:

- There are many in rural areas where the development needs are greatest
- They deal with a variety of development issues such as those emphasized by the SDGs
- Many are in areas where they can support food production
- Many are often linked to government policies supporting development

It is important to remember that your interaction with a community should result in benefits for you as a student and learner—but it should also result in benefits for the community.

3.3.1. Understanding a community partnership

It is important for you and the other students to know as much as possible about the community where the ICTD engagement will take place. This is an issue whether it is a first time involvement or a repeated engagement—recognizing that conditions, including technologies, may change even after short periods of time. The class should know about the community's perceptions of its own needs, the opinions of local experts such as health specialists and local government officials on communication needs of the locals, and what pre-conditions exist related to these opinions. What are the symptoms and what are the causes of the conditions? You and the class can construct a word-picture of the community by using conventional research into documents, inviting guest speakers, making exploratory visits to the community, and interviewing or talking with the local people.

The class needs to have this background in order to draft an ICTD community engagement plan. If it is not convenient for a student team to visit the community to collect development and communication data, members of the class can be sensitized to a community's availability and uses of ICTs by going out into a nearby community to interview 20–30 people about their communication behaviour and their perceptions of their own and the community's needs. What media and ICTs do they use, for what and how much?

Some of our ICTs pre-date the digital era. Radio is an example of a medium that has been used for decades, and projects still find it valuable today. In Case Study 5, we see students actively involved in a radio broadcasting project in Kyrgyzstan.

[Case Study 5] RADIO FOR DEVELOPMENT IN RURAL KYRGYZSTAN What students can do in communication for agricultural development

This case study comes from Besh–Tash, a remote place in Kyrgyzstan¹⁴. It shows a very simple application of an older ICT—radio—to assist a local agricultural enterprise. The person with the recorder is from Radiomost, the first radio service of its kind in Central Asia. Radiomost is located in Talas, a relatively remote mountain valley in north–west Kyrgyzstan.

The station has been broadcasting since July 2007. Most of the staff are students who are given wide latitude in making decisions about producing development–related radio programmes for the community.



¹⁴ Photos from UNESCO Photobook and Radiomost.

Students supporting community radio for development

Reflection

Task 7



In some countries, there is an effort to connect community radio with community telecentres. What might you and a student team do to help a radio station support a development goal? How might a CLC or telecentre collaborate with a radio station to promote such a goal? Who would determine the goal? What steps might be taken to make this happen?

3.4. Identifying the communication situation

In much of the excitement about the potential of ICTs in development, it is the communication technology that often drives the project. This is where we advise caution. Before going into the field, you need to understand the development and communication context in which ICTs operate. The World Bank has this concern. Note, for example, the World Bank's approach to ICTD in an agricultural programme:

It is important to begin any ICT-in-agriculture intervention by focusing on the need that the intervention is [proposed] to address—not the need for ICT—but the need for better and more timely market information, better access to financial services, timely and appropriate crop and disease management advice.¹⁵

Go to APCICT's Primer 2: Project Management and ICTD,¹⁶ and study Annex 2 to explore this issue. The Annex lays out "A Communication Framework for ICTD Projects".

¹⁵ World Bank, ICT in Agriculture Sourcebook: Connecting Smallholders to Knowledge, Networks and Institutions, Report 64605, 2011. Available from <http://www.ictinagriculture.org/content/ict-agriculture-sourcebook>.

¹⁶ Available from <http://www.unapcict.org/pr>.

It emphasizes the need to understand the context within which an ICTD project is undertaken. It provides a brief guide for doing research about communication, the community, and the people's use of communication media. The Annex may be useful to you in understanding and managing the various elements that go into communication planning and the development of the strategies within which ICTD projects operate. Your professor can guide you on how much of this research can be undertaken by the class. Annex 2 can also be used as a guide for drafting the community ICTD engaged learning plan of action.

3.4.1. Preliminary project planning

You and the class need to explore:

- What ICTs can do to benefit the partner community
- What is within the students' capacity to deliver the ICTD benefit(s)
- How it can be done within the time and resource constraints dictated by the engaged learning arrangements

Teams can be organized to plan different ICTD community activities and present their plans to the class before going to the field.

After assessing the practicality of these proposed engagements, your professor or someone else in the university will negotiate with the partner organization(s) about details of the plan to decide which details are feasible—and make appropriate arrangements both within the university and with the community for implementing the plan(s). This includes budgeting, accommodations, travel and the arrangements for ongoing supervision of the field activities.

It is important at this stage that all partners agree on the objectives of the engaged learning ICTD activities, including understanding the objectives of the people in the community. All partners need to realize that communication itself cannot improve yields

of rice, improve the health or nutritional status of individuals, or build schools. Communication can affect knowledge, beliefs, perspectives, motivation, attitudes, skills, understanding, and, to some extent, behaviour change. Students who participate in engaged learning inevitably discover that the development issues they encounter are multi-disciplinary, not communication alone. And not ICT alone.

In the engaged learning preparation by your class, your instructor will probably stress that it is important to establish and agree on learning objectives for the field project. As emphasized earlier, those objectives should support the development-related objectives proposed by the community partner. Some experts in this field suggest the following characteristics of good learning objectives. They should be specific, measureable/observable, and attainable for the students and the community in a specific time schedule. They should be relevant to both the students and the community interests, and they should be targeted to the learner and to the desired level of learning. And remember, for this engagement activity those objectives should relate to what communication can do and that usually relates to influencing knowledge, information, motivation, attitudes and skills.

Another way of capturing this idea is to identify learning outcomes. See Box 3 for examples of engaged learning outcomes.

Box 3. Engaged learning outcomes

1. Apply the knowledge and skills acquired to deal with complex issues in the engagement setting
2. Reflect on the roles and responsibilities both as a professional in a chosen discipline and as a responsible citizen
3. Demonstrate empathy for people in need and a strong sense of civic responsibility
4. Demonstrate an understanding of the linkage between the academic content of the subject and the needs of society¹⁷

You might consider using a chart like the following to capture your record of these proposed outcomes during pre-engagement. It is adapted from one by Cornell University's Engaged Learning and Research Program and the Center for Teaching Excellence.

¹⁷ The list is based on S.C.F. Chan and G. Ngai, Service Learning as a Core Academic Component in Undergraduate Programs – A Brief Introduction to the Hong Kong Polytechnic University Model. Paper presented at the USR–SL 2014 International Conference, Hong Kong, 2014.

Box 4. Table to plan what we will do and assess what we did

Project Title : _____

Description : _____

	GOALS/ OUTCOMES	MEASURES	METHODS	RESULTS
	<i>What do we want to achieve?</i>	<i>How will we know we achieved it?</i>	<i>What will we do to achieve it?</i>	<i>What will we do with the results of our work and our assessment?</i>
For students:				
For community partners:				

Section 4

Three Phases of ICTD Engaged Learning

4.1. Phase 1: Pre-engagement

We move now to some guidelines for each of the phases of engaged learning: pre-engagement, engagement and post-engagement. As we explore this topic, we will draw on the experience of an engaged learning project at Mahasarakham University in North-East Thailand for concrete examples. We highlight the visits to the Mahasarakham University project by putting the texts for each of the engaged learning phases in Boxes 5, 7, 10 and 11. Each visit will introduce the relevant engaged learning phase.



Box 5. Pre-engagement at Mahasarakham University

Students in the engaged learning project used an early draft copy of this guidebook to learn the basics of the engaged learning process. Students and lecturers from the Faculty of Informatics at Mahasarakham University were partners with local governments and the community. The university discovered



that Ku San Tarat village, located in north-east Thailand, contains many antiques that represent Khmer art. The village and local government want to preserve these. Through interviews, focus groups and site visits, the university team and the community recognized the need to develop a database for collecting and organizing a collection for a local museum that would attract tourists to the area. In addition, the project team, consisting of about 100 students and 10 university lecturers, needed to learn from the Faculty of Cultural Science details about Khmer art. These activities were a major part of the pre-engagement phase of this project. We continue this report in Box 7.

Following are some ingredients of the pre-engagement phase. First, it is useful for you to become more conscious or aware of the role of ICTs in your own life. We call it "sensitizing". Reflection Task 8 will help you gain this awareness.

Gaining sensitivity to the personal role of ICTs

Reflection Task 8



To become more aware of the role ICTs can play in your daily life, examine your own ICT behaviour (including attention to more conventional radio and television broadcasting), and register in your journal (or in a short paper for the course) an account of how you have used these media during the past seven days. What would have been the situation if you did not have the media?

At this point, you know about the community partner in the partnership relation; you are aware of various applications of ICTD; and you know the principles of engaged learning. Your professor will probably divide the class into teams. Each class team will prepare a report and make an ICTD plan of action for helping meet a communication-related need in the community. The plan of action must be within the limits of the engaged learning course's time-frame and within the students' and university resources. The plan of action might include, for example, drafting and practising ways of interacting and helping people in the community. For example, this might be a lesson plan for teaching about website design in a CLC, telecentre, school or NGO. This is also an important opportunity to build teamwork with other students in your class.

What are some of the ICT services you might be prepared to offer? Box 5 contains a list of possibilities. Each item could be approached as a workshop in a community centre, school or local library. Also, some activities could provide an opportunity to do individual mentoring, or as technical assistance to adult members of the community. In other words, students could provide skills training. You could provide assistance to those who need or can benefit from them; for example, you could work with a youth group as an adviser to help the group produce a video that captures an oral history of the community.

Box 6. Examples of potential ICTD activities in a CLC

1. Basic computer operations and navigation for lifelong learning
2. Web page construction and management
3. Writing documents with a computer including building blogs.
4. Storytelling using computers and photography
5. Using e-mail
6. Searching on the Internet
7. Using ICTs to support farmers' needs for information about crops, prices and weather
8. Using ICTs to support community health programmes, for example, using the Internet to connect patients in remote villages with doctors
9. Using ICTs for record keeping and business management
10. Designing web pages for e-commerce or government records
11. Using ICTs for capturing and archiving oral history and local culture
12. Conducting workshops related to cases similar to those in the APCICT's Primer 1
13. Conducting community surveys, for example, to inventory ICTs available, or to identify community needs that might be addressed with ICTs
14. Orient various community groups about social media

Reflection

Task 9



Acquiring ICTD Skills

Identify the steps and ICT skills and resources necessary to undertake two of the activities in Box 6. Besides the technical skills, what other skills might you need to have to be successful at these?

The next case study suggests how complex an ICTD project can be. Note the variety of persons who play roles in this mobile-assisted health (or m-health) activity. Can you suggest some of them? The case comes from The Communication Initiative Network,¹⁸ an online website that provides an excellent resource for contemporary case studies related to communication and a wide range of development-related issues.

¹⁸ See <http://www.comminit.com/>

[Case Study 6]**THE COMPLEXITY OF A SOCIAL MEDIA PROJECT IN M-HEALTH**

Some ICTD projects such as those listed in Box 6 appear quite simple. However, the potential complexity of an ICTD community project is illustrated by the mCenas! project in Mozambique. There the Pathfinder International organization implemented the mCenas! ("Mobile Scenes") project, an interactive two-way short message service (SMS) system, accessible at no cost to clients. The goal of mCenas! was to reduce the barriers youth face in starting or continuing to use contraception by increasing their knowledge of and dispelling common myths about contraceptive methods.

In addition to communication about sexual and reproductive health through SMS text messages on mobile phones, youth could access a menu-based message system on their phone and call a Ministry of Health-supported hotline, where live operators were poised to answer their questions.

The "Mobilize and Monitor" phase began with sending three messages a week for two months using one story for readers with children and one for readers without children. In the third month, contraceptive information was sent three times a week. The mCenas! site and mobile app, which offered a contraceptive method information menu and a list of frequently asked questions were continually available.

The project also included training of 20 peer educators from two youth community-based organizations on how to register to receive messages, as well as outreach activities held at secondary schools and in communities. The outreach activities included a door to door campaign, health fairs and community events. In order to enroll in mCenas!, the individuals needed to be between 15–24 years of age, have a cellphone of their own, and have minimum skills in using text SMS.

Think about the various people and media that are involved in this project. Identify the kinds of ICTs being employed, the skills needed by the people, both the individuals who are users and those who are providers. What are the challenges in mobilizing such an effort?

⟨Source: The Communication Initiative Network⟩

Reflection Task 10



The role for social media

Promote a group discussion about social media. What is the status of social media in communities like the ones with which you are familiar? What technical, human and training resources are necessary to make constructive use of these?

4.2. Phase 2: Engagement in the field

Before discussing engagement, we return to the Maharakham University antique and museum project in Thailand.

Box 7. Engagement at Maharakham University

The students organized into teams. For example, one team of 10 students designed and developed the website, others collected specimens, another team took pictures and videos, a team worked on data entry, and others collected background information for documentation. An important part of the interaction with the community was teaching local students and other members of the community ICTs skills so that they could pass these skills on to others.



The engagement phase of engaged learning may take place between semesters or during a shorter break in the academic schedule. You and others on your student team need to remember before you go into the field that the reflection process is an ongoing part of the engaged learning course. A useful way of carrying this out is for you to write periodically in your journal about your feelings and your experiences. What is going well? What are the challenges and the problems? What do I like? What should I know more about causes and symptoms of the community's needs I am addressing? You should draft a journal writing plan similar to one developed by the staff of the Hong Kong Polytechnic Service Learning Office. Their model appears in Box 8. Note that it covers all three phases of the engaged learning process. Sharing journal entries with your instructor may be a good way to keep in contact.

Box 8. Three rounds of reflective journal assignments

<p>1st Reflective Journal</p>	<p>At this point, you have finished your first session. Please take a moment to think about what happened, and answer the following questions. No need to make it too long, we're only expecting about a page's worth!</p> <p>What did you see or encounter (about the clients, about the engagement, about yourself) that you did not expect?</p> <p>Did your plans work? If not, what would you change, and how do you need to adjust your plans?</p>
<p>2nd Reflective Journal</p>	<p>You are halfway through your engagement now. Reflect on your performance during the first half of the engagement and answer the following questions (about 1–2 pages or 400–600 words):</p> <p>Are there any things that you are particularly proud of? In the second half, is there something that you would do differently? Was there something that took you by surprise (concerning the recipients) during the engagement? For example, was there something that you expected they would know, that they did not? Or something that you thought they wouldn't know, but they actually did?</p>
<p>3rd Reflective Journal</p>	<p>You are done now. Reflect back on your engagement, and answer the following questions (1–2 pages or 400–600 words):</p> <ol style="list-style-type: none"> 1. Among the things that you have done, what do you think you have done particularly well? Why? 2. What was the biggest challenge to your team? What was your biggest personal challenge? 3. What was the biggest surprise to you personally? As in: did you discover anything about yourself (your skills, your abilities, that surprised you?

Once in the field, students need to confirm with the appropriate participants of the community partnership details of the engaged learning activities agreed upon in pre-engagement negotiations. This includes accessibility if necessary to ICT facilities, and availability/schedules of those who are involved in the field activities. In Box 9, we provide some guidelines for successful community engagement. The following is adapted from a list in the Berea College's Student Service Learning Handbook (See Appendix D. 1).

Box 9. Twenty guidelines for successful community engagement

1. All partners – faculty, students and community partners – are considered teachers and learners. Open yourself to learning from the community and the organization with which you are working.
2. Be careful that you do not assume that you know how to solve perceived "problems". Often problems are more complex than they initially appear.
3. You may come from a very different community than the one you work with during your project. Be open to seeing things in new way. Seek out other people's viewpoints and ask questions.
4. Make an effort to identify community strengths, as well as community needs.
5. Work to understand the relevance of your engaged learning project to your learning goals or course objectives. Establish a positive working relationship.
6. Discuss the community partner's expectations and determine what you need to know to do what is expected of you.
7. Be aware that non-academic settings do not work by the academic calendar.
8. Understand that your community partner has other responsibilities and priorities in addition to the project on which you are working together.
9. Remember that your community partner might have limits on the time they can spend on your engagement project.
10. Strive to be non-critical and non-judgmental. Approach challenges and detours in your engaged learning project as opportunities to learn and grow.
11. Realize that you may not already know how to do what is expected of you. Be prepared to learn from your community partner.

12. Maintain regular contact with your community partner and your professor regarding your engaged learning project. Develop a plan for checking in regularly with your fellow group members, your community partner and your professor throughout the semester. Your professor might have a specific plan for communication that s/he would like for you to follow.
13. If you become concerned about any aspect of your project, let your community partner and your professor know of your concerns.
14. Maintain a positive and enthusiastic attitude, and keep things in perspective.
15. Think about the purpose of your engaged learning project and work to generate an outcome that will contribute to the work of your community partner organization.
16. Set goals that are realistic and address the needs of the organization.
17. Ask questions and listen to what is being said. The people who work and live within the community can help you to become a more effective participant.
18. Keep appointments and commitments that you set with your community partner, and let your community partner know when you are not able to be present.
19. Be accountable to other members of your group. Make sure that you are carrying your share of the responsibilities.
20. Recognize your limits. If you are given something that you think you cannot handle, make sure you discuss the situation with your community partner and your professor.

The Berea College Student Handbook also suggests questions that can guide your thinking about your experiences. Following, in Reflection Task 11, is an adaptation of its list.

Reflection Task 11



Reflections in the field

1. Describe what you did.
2. What did you see or observe at your community partner site?
3. How did you feel about the experience?
4. What connections do you find between the experience and your course readings or lectures?
5. What new ideas or insights did you gain?
6. What skills can you use or strengthen through working with your community partner?
7. What will you apply from this experience in your future work?

You should document your activities in the field using audio recordings, video and photographs. Investigate with university officials any regulations that might apply to taking and using images. Box 12 is a photograph taken of a student in the field that could later be used in an exhibit on her campus. Try to capture images, interviews and activities.

4.3. Phase 3: Post-engagement

We make a final visit to Mahasarakham University in Thailand to see some of its post-engagement activity.

Box 10. Post-engagement at Mahasarakham University: Student reflection and community contacts

Mahasarakham University students reflected on the engagement with the community and the impact on them and their learning. Much of this was done in classroom sessions at the university. However reflection also took place in informal situations such as the night-time session in the photo below, and in the field with local people where they discussed the results and plans for the future. Among the items in the students' reflection were: self-learning outside the classroom, needing to use our knowledge to help develop the community, learning to solve problems by myself, learning collaborative work, knowing the meaning of the words "volunteer" and "friendship", needing to design good [ICT] activities for juniors of Computer Science, learning the local lifestyle that is very different from my lifestyle. Post-engagement among students, instructors and the community identified future projects for the university-community partnership.



Box 11. Reflection of a lecturer at Mahasarakham University

This project is very beneficial for the students. Their experiences can be applied to various subjects such as their senior project, web programming and database management system. From this project, I discovered the hidden abilities of the students that were never shown before in the class. Moreover, the students gained the benefit of applying technology to real-life issues. I summarize their abilities as follows:

- The students are able to plan the task.
- The students are able to collect and select relevant data.
- The students are able to question and make summarizations for solving the problem.
- The students are able to communicate with the partners.
- The students are able to work together.
- The students are able to apply their knowledge in system analysis, database management system and web development to create a product.

Thus, this project has become a model that I can use in my classes.

Post-engagement is a time for more active assessment and reflection concerning the engaged learning experience. These should be actions by the community, the students and the faculty involved. Assessment and post-engagement reflections will usually be carried out in the semester or a period following the engagement. These post-engagement activities should be designed to assess outcomes related to your university course, and also to assess what some call "a culture of civic engagement and social responsibility"¹⁹. These post-engagement activities should be driven, in part, by the objectives and outcomes laid out in the pre-engagement phase of the engaged learning process. Some of these outcomes can be measured statistically and others may be more qualitative in nature. Your professor and a representative of the partner community probably will take leadership in arranging this, but you need to be aware of how it is done, and how you might be involved.

¹⁹ S.C.F. Chan and G. Ngai, Service Learning as a Core Academic Component in Undergraduate Programs – A Brief Introduction to the Hong Kong Polytechnic University Model, Paper presented at the USR–SL 2014 International Conference, Hong Kong, 2014.

Box 12. Photography as a documentation tool in the field

Below is a photo taken of Cornell University student, Hope Craig, doing community engagement research on infant feeding as part of the Nilgiris Field Learning Center in India. This photo helped inform others about her work.



There are various options for post-engagement activities, and your instructor may assign or suggest ones that are most feasible and fit the nature and objectives of your engaged learning and ICTD course, the culture of your university, and the culture of the local community.

Revisiting Reflection Task 2

Reflection Task 12



Through much of the three-phase engagement process, you have now acquired new skills and understanding. At this point how would you respond to the Reflection Task 2 related to Luva's agribusiness ICTD work (Case Study 3)? Task 2 asks you what you would need to know or do to be ready for such an interaction. Do you have a different answer now? If so, what caused the difference? To what extent is Luva's situation more than an ICTD issue? Is there a gender issue involved?

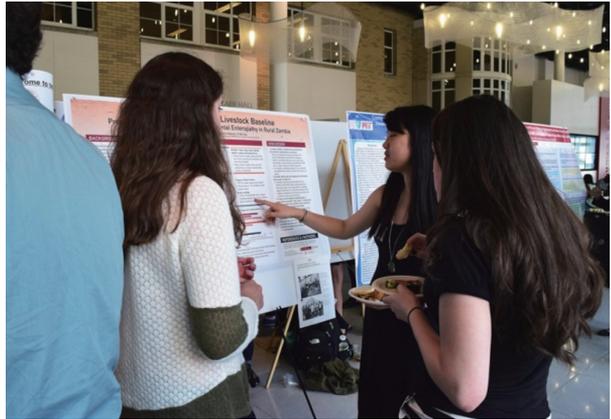
Following are suggestions for post-engagement activities and for strengthening the learning process.

4.3.1. Post-engagement activities for the partner community

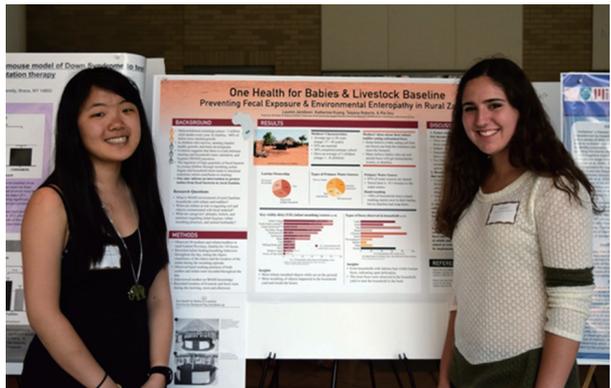
It is possible that you will be able to meet with your professor, other key engaged learning staff members, and representatives of the community partnership to discuss systematically the engagement process. How did the ICTD project benefit people in the community? Did any of the ICTD activities continue after you and your team left, and what is necessary to sustain them? What were the benefits? What were the challenges? What were the problems? How congenial were the student-community interactions? What ICTD projects could be done in the future by university students? There should be a written summary of this faculty-community discussion.

4.3.2. Post-engagement activities in the university community

There are various ways to strengthen the learning from a community engagement. These ways include: debriefings in which a group of students are guided by faculty members or project supervisors to share their personal observations and share the results of their actions with members of the community. Another is to make public presentations in which students summarize their ideas, experiences and their perceptions of what was accomplished in the field; and this might include recommendations for future action on the part of the community and/or the students. Such presentations might include pictorial exhibits of field activities such as the one shown in the pictures here by students at Cornell



A team of Cornell University students reporting at a public exhibition about an engaged learning health project.



University in the USA. In addition to celebrating the completion of a project and sharing findings with community stakeholders, you can coordinate with your professor and university officials, and with the partnership community in publicizing accomplishments and human interest stories through newspaper articles, newsletters, websites, blogs and public events. Consider the possibility of radio and television interviews and panel discussions. Consider how social media might be used. These can raise awareness about development issues and the value of engaged learning programmes to students, faculty, your university and the community partners.

4.3.3. Post–engagement activities for your reflection

Following are some other ways that students can reflect on their ICTD engaged learning:

1. Work with your professor to organize students to take the following survey. The survey has a list of statements that will prompt you to think about your experiences both in the classroom and in the field. This can trigger classroom discussions and help students write final papers for this part of the coursework. Here are suggestions for the survey items:

Box 13. Sample student survey

					
	1	2	3	4	5
	Very little		Moderate		Very much
ICTD Engagement Student Survey Items	1	2	3	4	5
I learned about ICTD from the field experience.					
The field experience helped me understand life in a community.					
The field work provided a practical dimension to ICTD.					
Combining classroom work with field work is helpful.					
The community benefits from our engaged learning project.					
The field experience influenced me to look at other ways that ICTs can contribute to development.					
I have increased my own ICT skills as a result of the engaged learning experience.					
The engaged learning will have lasting impact.					
The community engagement has helped me become more aware of real–world problems.					

2. Working with other students, compile the results of the survey and report them at a class session. Invite discussion of the results.
3. Your professor may assign students individually or in teams to write a final paper on "ICTD: The promises and challenges" – based on class lectures and discussions, reading assignments, and the engaged learning ICTD community engagement experience.
4. The following assignment can sharpen your civic awareness. This is a follow-up to Reflection Tasks 4 and 5.

You, ICTD and the SDGs – Part 2

Here is a combination of Reflection Tasks 4 and 5. They suggested that you go to Appendix A and study the SDGs and pick one of these and write about how communication and ICTs might be employed to help achieve the goal. You can develop your own scenario. What role in this might you play in the future? What additional training and skills might you need? If you have started a journal, write how you see the future for yourself as communication specialist in a development programme.

Reflection Task 13



For this Task 13, revisit the comments (or journal entries) you made related to Reflection Tasks 4 and 5. Now that you have been involved in a practical engagement experience in a community, how would you answer the questions posed there?

Use the following points for your answers and a related discussion:

1. How might communication play a role in achieving the SDG you selected?
2. How has this course helped identify specific ICTD-related actions that might be undertaken by a community?
3. What more preparation might a student need to play a significant role in a community or agency to foster development related to agriculture, education, commerce, government or gender equality?

Appendices

A. Sustainable Development Goals for 2030

Following is the excerpt from the United Nation's The Road to Dignity by 2030: Ending poverty, transforming all lives and protecting the planet,²⁰ published in December 2014:

1. The year 2015 offers a unique opportunity for global leaders and people to end poverty and to transform the world to better meet human needs and the necessities of economic transformation, while protecting our environment, ensuring peace and realizing human rights.

2. We are at a historic crossroads, and the direction we take will determine whether we will succeed or fail in fulfilling our promises. With our globalized economy and sophisticated technology, we can decide to end the age old ills of extreme poverty and hunger. Or we can continue to degrade our planet and allow intolerable qualities to sow bitterness and despair. Our ambition is to achieve sustainable development for all.

3. Young people will be the torchbearers of the next sustainable development agenda through 2030. We must ensure that this transition, while protecting the planet, leaves no one behind. We have a shared responsibility to embark on a path to inclusive and shared prosperity in a peaceful and resilient world, where human rights and the rule of law are upheld (*italics added*).

The following is the 17 SDGs effective from January 2016 until 2030:²¹

²⁰ http://www.un.org/disabilities/documents/reports/SG_Synthesis_Report_Road_to_Dignity_by_2030.pdf.

²¹ For more information on the SDGs see <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

1. End poverty in all its forms everywhere
2. End hunger, achieve food security and improved nutrition, and promote sustainable agriculture
3. Ensure healthy lives and promote well-being for all at all ages
4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
5. Achieve gender equality, and empower all women and girls
6. Ensure availability and sustainable management of water and sanitation for all
7. Ensure access to affordable, reliable, sustainable and modern energy for all
8. Promote sustained, inclusive and sustainable economic growth, full and productive employment, and decent work for all
9. Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation
10. Reduce inequality within and among countries
11. Make cities and human settlements inclusive, safe, resilient and sustainable
12. Ensure sustainable consumption and production patterns
13. Take urgent action to combat climate change and its impacts
14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development
15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation, and halt biodiversity loss
16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
17. Strengthen the means of implementation and revitalize the global partnership for sustainable development



B. Further Readings and Resources

B.1. APCICT's Primer Series

The APCICT's Primer Series is a valuable resource for information on ICTs in a variety of situations. If you have not already been introduced to APCICT, here is an introduction.

Recognizing the potential of students and youth to contribute to national and regional development efforts, APCICT has initiated the "Turning Today's Youth into Tomorrow's Leaders" programme. This umbrella programme seeks to impart key knowledge of ICTD to students and youth. As a part of this programme, APCICT has developed a project that aims to create a cadre of future leaders equipped with the capacity to use ICTs for achieving development goals. This is proposed to be accomplished through enhanced coverage of ICTD in undergraduate and graduate programmes at universities in the Asia–Pacific region. Under this project the 'Primer Series on ICTD for Youth' (Primer Series) was created. See <http://www.unapcict.org/pr>.

Following is a list of case studies available in APCICT's Primer 1: An Introduction to ICT for Development—and the page number where each can be found.

- Case 1. Bhutan and Gross National Happiness (Bhutan) – 32
- Case 2. Connecting Nangi (Nepal) – 51
- Case 3. Reuters Market Light, India – 82
- Case 4. The Mahatma Gandhi National Rural Employment Guarantee Act, India – 84
- Case 5. The Ningxia ICT Project China, 2007–2008 – 85
- Case 6. Knowledge networking for rural development in the Asia–Pacific region – 86
- Case 7. eSkwela, Philippines – 91
- Case 8. ICT in education initiative in rural schools in Mongolia – 92
- Case 9. University of the South Pacific and USPNNet – 93
- Case 10. Teacher education in Thailand – 96
- Case 11. The Info Lady in Bangladesh – 100
- Case 12. Salaam Wanita (Malaysia) – 101
- Case 13. Telemedicine in Afghanistan – 104
- Case 14. Health Inter–Network Access to Research Initiative (WHO–Geneva) – 106
- Case 15. Tikiwiki (Pacific Islands) – 113

- Case 16. The Tsunami Early Warning System (South-east Asian countries – 118)
- Case 17. Mongolian Tax Authority – 128
- Case 18. Statewide Attention on Grievances by Application of Technology (SWAGAT), Gujarat, India – 129
- Case 19. centerNet (China, Japan, the Republic of Korea and Taiwan) – 138
- Case 20. The National Data Bank Project: An expensive lesson for Bangladesh – 146
- Case 21. Multimedia centres for farmers and health workers in Ghana – 157
- Case 22. The Philippine e-Procurement System – 167
- Case 23. An irrigation and communication technology network in Peru – 170
- Case 24. The Partnership Health of ICT Projects in Developing Countries – 172
- Case 25. MMS and the women in Theni: Creating local content for local use (India) – 179
- Case 26. Evaluating the Ningxia ICT Project in China – 203

B.2. Drumbeat

Drumbeat is an online collection of ICT articles, frequently updated, that can stir your imagination about using ICTs for development. Here is an example of a case from Drumbeat:

This Sesame Workshop initiative consists of a multimedia intervention to promote positive health behaviours in children ages three to seven years and their caregivers in Bangladesh, India and Nigeria—with a focus on some of the economically poorest and most vulnerable communities. Launched in October 2012 and running until October 2015, the project provides messaging around sanitation and hygiene in areas such as latrine use, hand washing, and methods of storing and handling water. The campaign aims to reduce the number of children under the age of five who contract preventable and treatable diseases by providing access to meaningful sanitation and hygiene education.

You can access a sample of Drumbeat at <http://www.comminit.com/global/newsletters/287>.

B.3. A. Sey, C. Coward, F. Bar, G. Sciadas, C. Rothchild & L. Koepke, Connecting people for development: Why public access to ICTs matters (Seattle, Technology & Social Change Group, University of Washington Information School, 2013)

Available from <https://dlib.lib.washington.edu/dspace/handle/1773/22753>.

Here is a description of the publication:

Libraries, telecentres and cybercafés play a critical role in extending the benefits of ICTs to a diverse range of people worldwide. However, their ability to contribute to development agendas has come into question in recent times. The Global Impact Study was designed to address this debate by generating evidence about the scale, character and impacts of public access to ICTs in eight countries: Bangladesh, Botswana, Brazil, Chile, Ghana, Lithuania, the Philippines and South Africa. This report summarizes the study's key findings, situating public access in the context of national development, discussing some disputed issues, and providing recommendations for policymakers, public access practitioners and researchers. The results show that a central impact of public access is the promotion of digital inclusion through technology access, information access and development of ICT skills. Both users and non-users report positive impacts in various social and economic areas of their lives.

B.4. ICT for Development, Contributing to the Millennium Development Goals: Lessons Learned from Seventeen infoDev Projects

Available from <http://www.infodev.org/articles/ict-development-contributing-millennium-development-goals>.

Although this paper by infoDev, a multi-donor programme in the World Bank Group, is dated 2003, the lessons learned can still be applied today.

For example, one of the projects mentioned in the paper is B2Bpricenow.com, an e-commerce site for farmers in the Philippines. As mentioned in the paper:

B2Bpricenow.com provides a free electronic bulletin board and marketplace designed to bring relevant market information directly to farmers, primarily through their cooperatives. As an electronic bulletin board, the website enables users to gain greater negotiating leverage from awareness of prevailing market prices for their products. As an electronic marketplace, the website aims to minimize intermediation (middlemen's fees), thereby enabling farmers to reap the gains of lower costs and broader market reach... The main challenge was locating funds to cover education and technology costs. However, Unisys and infoDev eventually provided these funds. The main technical challenge has been poor-quality or non-existent telephone connections...electricity connection rates are also fairly expensive in the Philippines... While [the project] has focused on the Internet, it has become obvious that mobile phones offer a greater opportunity for relevant and useable service... Another major challenge is to ensure that cooperative members who attend the trainings keep up their skills.. It is better to invite younger members from the cooperatives, as they are more inclined to continue to use the computer than older members.

B.5. David J. Grimshaw and Shalini Kala (eds.), *Strengthening Rural Livelihoods: The impact of information and communication technologies in Asia* (Ontario, International Development Research Centre, 2012)

Available from <http://hdl.handle.net/10625/45947>.

Here is a description of the publication:

Enthusiasm amongst international development agencies about harnessing the potential of ICTs for development has waned as observers have recently questioned the impact and sustainability of such interventions. By presenting the findings of research specifically designed to measure impact on

livelihoods, this publication offers new evidence for the development benefits of ICTs. The book presents an overview of six research projects within the Knowledge Networking for Rural Development in Asia Pacific (ENRAP) research programme. It asks if ICTs enabled farmers to sell beyond local markets and at better prices, and whether there have been social gains in linking geographically disparate households and social networks. Using a control trial approach in four out of the six project case studies, and critically assessing the pros and cons of this methodology including the ethical implications, the authors have provided significant new insights into how to overcome the challenges of mainstreaming ICTs into rural livelihoods and more effectively measuring its effects.

B.6. Campus Compact

If you want additional information about engaged learning, go to the website Campus Compact that has a useful set of resources: <http://www.compact.org/resources-for-faculty/>. For example, there are course syllabi at <http://www.compact.org/category/syllabi/>. You can also read more about reflection in Campus Compact article Frequently Asked Questions: Reflection at <http://www.compact.org/disciplines/reflection/faq/structured.html>.

C. Sample Engaged Learning University Student Guidebooks

Student guidebooks from Asia and America suggest various issues that you may wish to address outside of the ICTD specialization. Most guidebooks are not discipline-related but they deal with administrative details and issues related to interpersonal relations and personal responsibilities. Some provide approaches to working with a community partner in engaged learning. Main topics are listed for each of the recommended guidebook so you can decide which guidebook might meet your needs.

C.1. The Berea College (USA) Faculty Service Learning Handbook, 28 pages

Available from <https://www.berea.edu/celts/service-learning/resources/>.

The book provides convenient lists of steps and issues related to engaged learning (or service-learning) in a user-friendly format.

- What is service learning?
- How to develop a service learning course
- Service learning resources
- Service learning project agreement
- Learning about and interacting with a community partner
- Community partner service learning project evaluation form

C.2. Hong Kong Polytechnic University Service Learning Handbook, 42 pages

Available from <http://sl.polyu.edu.hk/>.

This publication serves the interests of both faculty and students.

- Definition of service learning at PolyU
- Roles and responsibilities of different parties
- Practical skills for service learning projects
- Building partnership with collaborating agency
- Major steps for designing a service learning project
- Conducting different types of service projects
- Different types of reflective activities
- Assessing students learning outcomes
- Pre and post surveys for generic competencies
- Ethical concerns
- Principles governing student behaviour

C.3. University of Cincinnati Service Learning Student Handbook, 18 pages

Available from <http://www.uc.edu/sl>.

Again, a brief look at some of the important issues related to engaged learning including forms that can be used for student contracts and a service learning plan.

- Service learning essential elements
- Learner outcomes
- Learning and procedural suggestions
- Rights and responsibilities

D. Students' Reflections in Engaged Learning Development Projects

Reflection is such an important part of the engaged learning process that we have included two reflection papers.

D.1. Reflection dealing with ICT-related engaged learning in Cambodia – by Hui Wai Wai, a student at Hong Kong Polytechnic University



Hong Kong Polytechnic University Cambodia Service Learning Trip 2014

"Kingdom of Wonder" is a title that Cambodia well deserves—it is best known for the formidable cultural heritage, Angkor Wat, built in the early 12th century by the Khmer King Suryavarman II. Sometimes referred to as the 8th wonder of the world, the temple complex is a pride of Cambodians, and it has become a ubiquitous symbol that appears on national flags, currencies and even products.

For me, the wonder of the country does not just stop here. The brutal history of the land has rendered it unproductive for the past decades since the early 19th

century. French colonization is followed by influence of the Cold War in the late 1950s, and later the Khmer Rouge took power in 1975 and killed roughly 1.7 million people to eliminate intellectuals and opponents. The country is politically unstable since then even after the regime lost power, and economic development is stalled for all these years. It is a wonder that the country can bounce back and appear lively and adorable in front of our eyes. As of 2011, poverty rate of the country has been reduced from 53.2% in 2004 to 20.5% (Sobrado et al., 2014), which is an encouraging signal, but there is still room for reduction. According to The World Bank (2014), the tremendous reduction in statistics is due to the poor's conditions being raised up to just above the poverty line, but still vulnerable. It is the reason our university is bringing us to serve the place using our advantages in technological knowledge.

In the following paragraphs, I would reflect on the social impact our service team has made to Cambodia, and the personal impact brought to me by the project. I would also analyze the service learning programme from an academic perspective.

The Social Impact of Our Service

The objective of our service is to introduce to local people the application of technology in an educational context, and to bridge the digital gap between Cambodia and other developed countries step by step. It is hoped that with some donated hardware and basic knowledge, the local people can have their livings improved by making good use of them. For our team A1, the service is divided into two parts, one conducted in Emmanuel Community Primary School, and another in Khmougn Primary School.

Emmanuel Community Primary School

Emmanuel Community Primary School was where the first day of our service took place. On that day, a 3-hour science game fair was held by our COMP2S01 students, with each team holding one station and students rotating every one hour.

The aim was to give the children a glimpse of how science knowledge can be applied in our daily life. Our team prepared materials for them to build a parachute and asked them to design their own, applying the knowledge about gravity and air resistance. Knowledge-wise, we were fortunate to have a teacher who stayed in our class and translated the principles of gravity and air resistance to them. For primary school students, this concept was not easy, but they managed to pick plastic bags over papers for the roof of the parachute, which showed they have assimilated at least a part of the things we taught, like plastic bags face greater air resistance than papers.

The second time we visited Emmanuel's was a public holiday for the Queen's birthday. Our group designed a lesson on human biology, going through our body from the eyes to other internal organs. The lesson content is greatly related to ourselves, and I believe this knowledge is important to have as a human being. We helped to supplement what the local schools might not teach. In the latter part of the lesson, we did some informal psychology tests with them to allow them to express themselves via drawing. The post-test analysis was to explain to them what their choices or drawings represent. No matter the tests are scientific or not, it served as a chance for them to reflect on the interpretation and thus to explore their inner self.

Khmougn Primary School

At Khmougn Primary School in Sen Sok, our team served a class of grade 3 students and taught them mathematics. Our planned goal was to introduce to them division and fraction.

Our time spent on teaching them was limited, and we did not expect them to learn a lot in just a few days. However, it was a chance for them to learn from a teaching approach different from the traditional Cambodian style. Learning takes many forms, and the conventional large class blackboard teaching approach has several shortcomings. In their community, the children come from various family backgrounds, and do not have the same resources to learn, which results in a large discrepancy in their levels and ability. The conventional approach does not take care of the extreme cases. There was one girl in my class who has to take care of her grandmother, and sometimes has to leave the class early because of this. She could not even count to seven, so it is a pain for her to learn with other kids. Our small class teaching can accommodate her needs in a better way.

Our team was also asked to hold a special class showing students portable "microscopes" set up with iPads and a set of magnifying lenses. Before the class, they had no concept of cells and only a few know what microscopic organisms like bacteria are. The magnification used was only 60X, but it was enough to achieve the aim of opening their eyes to the microscopic world and arousing their interest in exploring the world they are living in.

From the evaluation form we collected for our teaching ... almost all students agree or strongly agree with the positive statements. According to the evaluation, they were interested in our course, thought it was useful, were positive towards mobile devices and technology, and appreciated our efforts. The positive feedback encourages us to continue our small but meaningful actions to contribute to the betterment of their community, but does not limit what we can do.

The Impact on Teachers and Translators

The impact was not only intended to be imposed on students, but also on teachers and translators. During the science game fair, we noticed that the teacher was very interested in our lesson content. He asked us if it could really descend slowly. Our HRDI teammates were also interested in our human

biology lesson. By helping us translate the content, they also learnt. A more important impact is, as said in the last paragraph, we introduced to them a new method of teaching. A flipped classroom approach was employed, in that students undergo a self-learning process with the tablets and videos we provided first, and teachers act only as assistants for their learning. Under this approach, students are more proactive in their pursuit of knowledge, and teachers can better target at what they fail to understand. Instead of lecturing, we focused on their queries and clear their misconceptions. We also demonstrated the use of multimedia and technology to aid teaching. As many of the HRDI students have expressed their wish to become a teacher, we hope that what they saw during the service would become useful.

The Impact on Culture

Apart from learning, we hope to have an impact on their values by opening their eyes to other cultures. A characteristic I observed in Cambodians is that they are submissive and are less receptive to new ideas. For instance, when the children were requested to design their own parachutes, most of them just copied our protocol instead of making use of all the materials provided. They did not like the idea of committing mistakes, and refrain from making wild guesses to our questions in class. Also, during the microscope lesson, when they were asked to predict what the magnified object would look like, they drew the object directly instead of trying to imagine the views under the lens. Being influenced by the western culture, our teaching approach encourages learning with fun, hoping to stimulate their interest to learn and explore themselves. The response was satisfactory, especially in the human biology class, where students started to be enthusiastic in learning and in answering my questions, and at the end, they even raised extra questions, which showed they had been thinking and digesting...

Personal Dimension

Quoting the wisdom of Buddhism, "Every experience holds within it a blessing of some kind. The goal is to find it." We come to serve others in this journey, but at the same time, we are learning from others and achieving personal growth. The previous section focused on the social impact we brought to our service clients, but in this section, the impact on myself will be discussed.

Friendship

When we encounter another culture, there is always something we can learn. The good-natured personality of Cambodians makes me see the world differently. From the HRDI students we worked with, I saw pure souls, passion, friendliness and trust in mankind. By saying this, I do not mean Hong Kong people lack these elements, but many times these qualities are being overwhelmed by materialism, which is common in developed cities. That is why one of the most valuable gifts I take home with me is the friendship among us. My Cambodian friend Rado once told me what a good friend is like. He said a good friend lead you to a road that is safe to walk, and as the rain has turned the road muddy, he literally led us on the path and told us it was safe to follow him. His sincerity has touched me. Rado also had my love for fruits in mind and often picked some from trees for me to try. On the last day of our tour, the HRDI students took us around the riverside and to the National Museum, and were not tired of telling us about their history and religion. When we said goodbye at night, our female translators could not stop crying, making us cry together too. Before our departure, they called us many times just to say they missed us. A girl who lived in the same village house with me told me that she could not bear to look at our photos, because when she did, she could not control her tears. I am moved by how sincere they are. I am always a protective person, because in Hong Kong, not all the people you meet are trustworthy. I am so used to controlling and hiding my emotions that it takes a long time for me to really devote myself to a friend, because when I do, I am very devoted and am prone to disappoint. But in front of our new friends, I need not be cautious. From them, I learnt to break the walls around me and let others get into my world.

Teamwork

The cooperation with my teammates has also helped me become a better team player. On our arrival at the school, we were informed that there were not enough classrooms, so team A1 and A2 had to merge and teach two classes in one classroom. Even though we share the same syllabus, there were many concerns regarding the arrangement, such as which team's flow to follow and the reallocation of roles. I have quite some experience of working with others, but it is not common to start working straight away without planning together. Immediate consensus, trust and flexibility are much needed at that time.

We went through a hectic morning. The first problem was the insufficient workbooks from our merged team. Each of our team had only printed 20 for a class, but the merged class was double the size, so they had to share. Next, we did a pre-test on subtraction according to another team's lesson plan, and unexpectedly found that many of them did not have a solid foundation of it. Their levels varied greatly, with the main problem being not knowing how to borrow digits. As our lesson objective was to teach them division, we had to abandon the idea and enhance their former knowledge first. However, we did not prepare enough subtraction exercises for this purpose, and we had to ask students to divide into six groups and have group leaders from the team to make up questions for them on the spot.

The unexpected change in arrangement and overestimation of their mathematics foundation had caused us some confusion, so we had a debriefing right after the morning session to smoothen things out. We decided to use the pre-test to differentiate students stronger and weaker at mathematics, so at least within the same subclass, the progress could be synchronized. It was not an easy decision because of the possible labeling effect, but it was outweighed by the benefit of being able to better address students' needs. Also, we looked at each other's version of workbooks and decided that one was more suitable for stronger students and another for weaker ones, we distributed the workbooks accordingly so each one would have a workbook that matched with their level. I felt relieved that everyone was

helpful, and the two teams continuously shared materials and contributed together to arrive at an optimal solution and shared materials.

Respect

However, at this point, teamwork was not full-fledged. Our heated discussion had excluded the HRDI teammates because we wanted to make decisions quick within the limited time, and they expressed their wish to join us. They were the ones who communicate directly with students without language and cultural barriers, and we should have respected their valuable opinion, so we apologized for our unintended disrespectfulness and for any hard feelings caused. Under cultural influence, we often have an array of perspectives when making decision, and the concerted effort had pushed our work upwards to a different level.

Our professors always emphasize the importance of respect when we get along with people from different cultures, because it is easier said than done. There was a day when we could not decide whether to teach Mathematics or microscope, because we would love to finish our lesson on division, but microscopes were new to them and could help them see the world beyond their naked eyes.

The whole team proposed many different combinations of lesson plans, including half a lesson for each kind. From my personal viewpoint, it is not really important what topic we cover in the lessons, because what is important is not the concrete knowledge we give them in just two to three hours' time, but rather the motivation to learn we help to initiate. Therefore, the decision made was not the most crucial part. Seeing our Hong Kong and HRDI teammates so actively involved in critical thinking and in the exchange of ideas was already the most rewarding part. In the end, all of us respected each other and come up with an intermediate and the most suitable lesson plan.

Critical Thinking

Another incident that is worth noting was a boy lost his school fee of USD 5. He panicked and cried so badly that my instant reaction was to help him with this amount that was affordable to me. It was even crueler when the teacher informed him that the school's policy was to not be accountable for any property loss. One of my teammates actually witnessed a girl who took the money, but we could do nothing to prove it, which made us feel more helpless and responsible for this. It was fortunate that we have experienced teaching assistants by our side who led us to think more deeply on the issue before we act. At a debriefing, we analyzed the situation thoroughly again and agreed that the boy was responsible for his own property, and our immediate help would only be harmful as he would not learn his lesson. But at the same time, the money could be substantial to him and his family, so we came up at the conclusion that we should help the boy a few days later after the issue had been discussed in school and in his family, and after the boy had learnt his lesson...

Global Knowledge

The trip has also sparked my interest in the history of the country. On the first day we visited the Learning Village, where we learnt the traditions of Cambodians. ...Our professors took us to the concentration camp and the Killing Fields, which caused me to lose faith in humanity. As with many other massacres in history, the plot was behind an infectious ambition to assume power and to satisfy their desire to watch men being tortured. It spread first by concurrence, then by fear to object. From the exhibition at the concentration camp, I read that many Khmer Rouge soldiers actually had no choice but to follow orders, or else their own lives would be sacrificed. I was reminded of a quote from a German anti-Nazi Martin Niemöller:

*First they came for the Socialists, and I did not speak out—
Because I was not a Socialist.
Then they came for the Trade Unionists, and I did not speak out—
Because I was not a Trade Unionist.*

*Then they came for the Jews, and I did not speak out—
Because I was not a Jew.
Then they came for me—and there was no one left to speak for me.*

Although I am not a politically active person, this little history knowledge I have has always reminded me to stay alert to what is happening in our city, and would try hard to contribute my minor effort in maintaining the democracy of our city.

The visit to the slum was also a unique experience to me. Despite the ever-increasing rich and poor gap in Hong Kong, the poor still enjoys basic welfare like medical aids. But those living under poverty in Cambodia are facing a much harsher condition. They live next to a large landfill and the place is of poor hygiene. Dermatology diseases are common from what we observed, and insects are everywhere. We often ask ourselves why they do not move back to the villages where they can lead a more peaceful life and can sustain themselves, but our professors told us that it is a multi-factor decision that relates not only to a hope to lead a better life in the city, but also about their family dignity, education opportunities for their kids and many other factors.

From an Academic Perspective

One of our HRDI coworkers threw an embarrassing question at my teammate—why are all the Hong Kong students he meets so smart? I believe all of us are too humble, or to put it more exact, ashamed to take this compliment, because deep down we know it is not true that we are smarter. It is the environment that makes the difference. It is the resources that make the difference. It is the digital divide that makes the difference.

Born in a piece of fertile land, we are lucky to have the opportunity to become well-educated. In our era, we enjoyed 9 years of free education. It even goes up to 12 years nowadays. If we want to learn outside of the classroom, we have the whole Internet to surf through. No censorship from the government. And not 56K dial-

up Internet speed, too. It is therefore natural that we learn anytime, anywhere about things we are interested in, and can be as knowledgeable as the Internet allows. All we need is curiosity and a thirst for knowledge. If we really want to see the world better, many of us can afford air tickets to explore other countries, like how we did in this trip. The world is literally at our fingertips.

It is a different story for the Cambodians. Their country is a rapidly developing one, but even so, the per capita gross domestic income is USD2,000 in 2011 (Sobrado et al., 2014), comparing to Hong Kong's figure of more than USD36,000 in 2012 (GovHK, 2013). The discrepancy is self-explanatory—the resource levels of the two places are different.

The HRDI students we worked with are the well-educated few in the country. They live in the big city in Phnom Penh, they know English, they have decent part-time jobs and they have a good career prospect in front of them. All of them own mobile phones, and some even have tablets that enable them to flood their social websites with photos like we do. But that is all. Smart phones are out of the question, and many of them expressed their admiration for the Apple iPhones many of us owned. Whenever we took out the electronic gadgets we brought for the school, the first question we receive was the price of it. These high-tech products are not necessities to our daily life, and some of them did not even exist until a few years ago. However, when one has access to all these and the other not, the difference is made. Those who do not still work in their usual ways, but those who have the access jump to another level of speed and width, creating many other opportunities with less time needed.

Nevertheless, the ownership of high technology products is just a start. Without the technical know-how and without proper maintenance, the products will just turn obsolete under their eyes. At Emmanuel Community Primary School, our professors showed us the desktop computers there donated by others. The hardware was filled with dust and some even had spider webs. It took computing students a few hours to clear them up as a maintenance step, during which they could have done more constructive work instead of cleaning and dusting. Therefore, second order changes

that are long-term affordable and sustainable solutions are as important as first order changes, which only provide people with the tools and basic trainings.

The difference does not just hamper the self-learning process, but also affects the country at a community level. In a region that is better connected with networks, the coherence of the society tends to be stronger, and the yearning for democracy tends to be higher. The recent Arab Spring in the Middle East is propelled by the Internet force, as stakeholders can openly discuss their views with fewer obstructions and form bonds in the Internet world. It is unlike China and North Korea, where information are censored and blocked from the public, so people have nowhere to vent their anger, and the country is not progressing well in terms of political development and human rights. I talked to an HRDI student about politics in Cambodia, and found that he is also an active protester against the current government. He reads news and gathered information from the Internet, forming his own opinion and voicing out his views, fighting for a better tomorrow by taking to the street. I believe one day the government will hear him, and this is the difference a digital world can make.

Last Words

The trip had not been one of the most comfortable ones I had in the past years. Contingencies, unfamiliar beds, scorching hot suns and gastroenteritis had exhausted my energy, but my mind feels nourished. I am grateful for the opportunity, because without the guidance of a professional and empathetic team, the trip would just be yet another sightseeing trip. In this place, I laughed whole-heartedly with some children, commenced long-lasting friendships and made someone cried at our departure, built good team spirit and opened my eyes to the world I knew nothing about.

Words are not enough to express the complicated feelings I had in those memorable twelve days. May the Latin motto "Omnia Omnibus" of my secondary school, meaning "all things to all men", inspire us all as servants, and motivate us to serve those who need us.

D.2. Reflections of Myeong–deux Kim, a student at Seoul Women's University, Republic of Korea

Date: 8 October 2014

Things done today

- I checked what children did and what was difficult to do according to their own wish–lists.
- I showed them "Tree Robo", a silent movie with a message that nature always tries to give us another opportunity again.

Reflection (what I learned or felt)

By chance I noticed IPTV is available in this centre so I could give classes using IPTV. I made contact with an official in the centre to get the picture of conditions and surroundings, and the official said it would take some time to install a set–top box. As I attended an IPTV workshop, I approached the situation in another way; I connected a tablet PC to the Internet. Although I couldn't use IPTV's contents, but fortunately, I could show children various contents in this way. When I prepared video clips, it was difficult to know how to connect the subject "motivation for study" to clips. Also choosing appropriate clips among thousands of contents and showing the clips I picked to show the children required responsibility and had to be examined if they were educational enough. When I was considering what to show the children, I remembered they told me they preferred animation. However I hesitated because it really attracts children, but it can be also just attraction and no more. Children might not find any connection between animation and motivation for studying or making their life better. And I thought the original purpose of IPTV's utilization to children is for minimizing the information gap in youth. So I selected a domestic movie to avoid cultural misunderstanding and misconception. The movie was touching and won the prize in animation techniques, and it was a silent movie without the voice of a dubbing artist or subtitles. I searched the "Tree Robo" video clip on Youtube and tried it, but in trials two clips were seen in one scene. I retried and considered quitting on

it because of the technical problems. Fortunately when I went to the centre and tried, it was shown as it is; one clip in one scene, not two clips in one scene. So I could watch it. While using the video clip, the children's attention increased more than I expected and efficiency of the class increased.

Expectation

- I want to apply more suitable contents to the classes.
- Using IPTV was much better, and I want to prepare my class with better contents in quality and in depth.
- As the set-top box is ready, I will prepare clips.

Feedback/Comments

It's really good to see your attitude to make an observation on children every time. Hope you will not be afraid of trying new things. It will be better if you imagine children's reactions in activities and check whether it will be well proceeded as you intended along with clarifying the subject of activities.

Date: 16 October 2014

Things done today and goals of today's class

- For forming relationship, let them recognize concept of relationship.
- Through IPTV video, they had time to talk to each other about what to do in trustful relationship.
- With post-it activity, they had a grasp of their own relationship net.
- Integrating all IPTV's video clips for today, they got to know the concept of relationship.
- I checked whether they're performing well with their own wish-lists.
- We watched the story of a hedgehog and had time to think about relationships and how to keep them well. And we went on to the next activity. I let each child write down names that s/he thinks s/he is related with on post-it, and we watched "For the birds" made by Pixar animation. Then s/he arranged the names on post-it in the shape of a snail. Each child could grasp the relationships between others and him/her more objectively and tangibly. And they spoke of their own yardsticks of arranging the names. Soon after we watched an in-trend popular music video. We shared ideas of relationships in which we were eager to possess someone, and it turns out to be mistaken and unhealthy.

Reflection

- I arranged a chain of all the video clips and activities into an integrated subject. They were surprised, because they thought and did the activities separately. For this I realized that when I show clips to children, using the power of integrating and connecting can amaze them and send the exact message I intended to give.
- Overall I'm satisfied and my heart is very full.
- As I heard of setting an IPTV set-top box in the centre, we decided to see video clips on Mondays for 30 minutes. At first it was difficult to adapt, but soon I got used to it. Also I make efforts to select clips for a more meaningful class. The more effort I make, the better the children's reactions are. And also I can get as much as I do my best.

Notes

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