DESIGNING A STUDENT GUIDEBOOK FOR UNIVERSITY ICTD SERVICE-LEARNING

Royal Colle

As the papers in these Proceedings suggest, service-learning – or engaged learning – has become a significant ingredient in university curricula around the globe. It is visible in universities from Hong Kong to North Carolina. In late 2014, Cornell University launched a 10-year US$150-million program with an over-arching goal of “supporting students in becoming engaged citizens of the world.” Parallel to this service-learning movement has been the effort to incorporate into university curricula courses in information and communication technology for development (ICTD). The potential importance and logic of involving university students in ICTD initiatives is almost intuitive because of their involvement all over the world with social media. It was put into words at a workshop on social media:

Youth are among the most active users of social media and using social media has definitely helped us connect with young people. The workshop was a great opportunity to enhance understanding on how social media can help promote their involvement in key development areas such as employment, environment, health, community development and leadership training.

University students are important in these issues because they are our future leaders, and because most have become sophisticated in using ICTs whether those media are computers, the Internet, mobiles, or cameras.

In this paper, we suggest the development of a student manual or guidebook for use in bringing these two movements together in the context of an engaged learning university course. This would be a guidebook aimed specifically at ICT that university staff put together to suit the priorities and circumstances relevant to the specific university. Here we suggest the kind of content that could be included, and some resources that could contribute to a university’s own version of an Engaged Learning ICTD Guidebook.

The Guidebook

The guidebook would bring together information on how universities, faculty and students can apply the learning process called engaged learning to studies especially related to information and communication technologies for development. Its introduction would explain that engaged learning “involves the integration of academic material, relevant service activities, and critical reflection, and is built on reciprocal partnerships that engage students, faculty/staff, and community members.
to achieve academic, civic, and personal learning objectives as well as to advance public purposes.\(^1\) Successfully done, this pedagogy will yield learning benefits and experience for them (the students) and benefits for the communities that become involved as partners. It is important to stress that the field work is course-related and that it carries academic credit.

We propose that the guidebook have three major sections that follow the typical pattern of an engaged learning program. These sections are the *pre-engagement* or preparation, the *engagement* in the community, and the *post-engagement*. In the following discussion we suggest the principal kinds of content that would be useful to students in undertaking service-learning related to ICTD.

### Pre-Engagement

There are several dimensions of pre-engagement preparation that can be addressed by a guidebook and university staff. These include:

**Administration and Orientation**

The guidebook should begin with an administrative section that clearly lays out the purpose, goals, and objectives of the ICTD service-learning programme noting (again) that the programme is intended to benefit both the students and the community. Thorough orientation is a critical part of an effective and successful service-learning programme. Given the brief duration of many programmes, a large part of the field experience depends heavily on the kind of preparation that takes place before the field experience begins.

The guidebook should indicate the students’ responsibilities in the program; the grading process; and management issues such as finances, travel arrangements, housing, insurance, resources, and health matters. It should also address standards of behaviour both within the student group and with those in the host community. These matters are distinctive in each university so they will not be discussed further here.

It is particularly important that students understand the meaning and practice of reflection, and how it will function in the service-learning process. The reflective component is central to all service-learning programs. Reflection is a multifaceted learning process that should be incorporated into course activities before, during and after the service-learning field activities. Students participating in service-learning should know about the structured opportunities provided in the course to reflect critically on their experiences orally and in written form through journals, research assignments and group dialogue. Individual and group reflection and dialogue facilitate intellectual, emotional and social processing of service-learning

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Designing a Student Guidebook for University ICTD Service-Learning

experiences. It is through reflection and dialogue that students develop a sense of social responsibility, advocacy, active citizenship, intellectual growth and critical thinking.

Not only is it important to highlight the significance of reflection to the learning process in service-learning as part of the pre-field orientation, it is important to model reflection practice by facilitating pre-departure reflection activities. Guidebook exercises can be specifically designed to surface participants’ assumptions that are focused on preparing for and grappling with the kinds of issues and problems that student will experience during their participation in a specific global service-learning context. Pre-departure reflection activities are meant to help students understand how context shapes the meaning they attribute to every aspect of their personal biography, their learning, and their behaviour. Pre-departure reflection activities might include: conducting a pre-departure interview, completing a pre-departure questionnaire, imagining the assumptions of others in the course, including those in the host culture, writing initial journal entries on fears, expectations, and knowledge of the host culture. The guidebook can introduce these activities.

Guidance on team-building projects especially where the field activity will include group collaboration is important. Guidebook material can be compiled that will support activities such as inviting community members with knowledge of the host community to speak to the group; inviting disciplinary experts, student alumni or community development and service learning practitioners; doing role plays about potential situations that might arise during the program; performing literature searches; conducting preliminary research, and conducting mock ICTD workshops.\(^2\)

**Partnerships**

This part of the guidebook should explain the roles that different participants play in the service-learning course. For example, who will be involved in the academic (classroom) first phase of the program, who will supervise the fieldwork phase, who will officially interact with the various partners in the field-work environment, and what will be the relations among all these participants. Students also need to become acquainted, even at a distance, with the community or agency that will be the partner in the engaged learning program. In this paper, for illustration purposes, we assume that the partner is a community learning center (CLC). This seems appropriate because there are some 170,000 community learning centers in Asia and the Pacific areas. These include a variety of local institutions that may be variously labelled as non-formal education centers, or literacy centers, or community multimedia centers. More specifically related to ICTs are public access centers such as libraries, telecenters, and cybercafés which enable people “to participate in the information

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\(^2\) A guidebook author may also find assistance on the web at Campus Compact, which includes program models, suggestions on dealing with reflection, publications and various other service-learning resources. See: [http://www.compact.org/initiatives/service-learning/](http://www.compact.org/initiatives/service-learning/).
society”. We emphasise community learning centers as prime candidates for partnerships with university ICTD service-learning academic programs for several reasons. These include:

- By their nature CLCs are aimed at development of the community, a priority usually embedded in university service-learning initiatives.
- Learning is a fundamental part of the goals of both CLCs and the service-learning pedagogy in the university.
- Each has institutional support insuring the possibility of a sustainable relationship of the partners.
- ICTs are significant tools related to both of their educational cultures.

The possibility of different kinds of partnerships can be explored using the various case studies in the APCICT Primer Series, for example: Primer 1: An Introduction to ICT for Development, Primer 2: Project Management and ICTD, Primer 3: ICT for Disaster Risk Management, and Primer 4: ICT, Climate Change, and Green Growth — all available free on the web. The guidebook can introduce the students to these APCICT resources.

**Awareness and Motivation**

The guidebook can help accomplish several additional goals. One is to introduce the idea of using ICTs in development if this had not been already introduced in the classroom lectures or reading assignments. Authors of the guidebook can present cases from their own country and supplement them with cases from easily accessible sources such as APCICT’s The Primer Series on ICTD for Youth. As explained on its webpage (http://www.unapcict.org/pr) “The Primer Series aims to serve as a tool to help educators fill the gap in ICTD coverage in universities. It is composed of multiple issues addressing a range of topics in ICTD. This series is intended for students from both technical and non-technical backgrounds, and is flexible enough for use in different national contexts.” The first primer mentioned above (An Introduction to ICT for Development) introduces basic concepts of ICTs and their role in meeting socio-economic development goals. It provides guidance related to ICTs and agriculture, poverty, education, gender, health, environment and government and other topics. It is available in English, Mongolian, Russian and Tajik languages, and it includes a variety of case studies that will help set the stage for a discussion of what university students can do in ICTD. It also provides

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4 A guidebook author may also find assistance on the web at Campus Compact, which includes program models, suggestions on dealing with reflection, publications and various other service-learning resources. See: http://www.compact.org/initiatives/service-learning/.

5 For a video about the reflections and evaluations of three students during their service learning in an NGO in Ho Man Tin from March to May 2013, see: http://www.youtube.com/watch?v=SuNgYOD87c. Within 10 minutes, students share their feelings before and after their service learning. We will discuss “reflection” later in more detail.
case studies from Afghanistan, Bangladesh, China, India, Mongolia, Thailand and elsewhere – particularly in Asia. It also provides a challenge for students to find cases from their own country, and to reflect on how each of them might use their skills in a development context. This challenge can be reinforced by the guidebook.

Additional reading demonstrating the application of ICTs to development issues can be easily found on the internet. Some recent ones include: ITU’s documentation of ICTD Success Stories (http://www.itu.int/ITU-D/ict_stories/themes/community.html), and two major works by the World Bank: ICT in Agriculture, Connecting Smallholders to Knowledge, Networks and Institutions, Report 64605 and Maximising Mobiles. Guidebook authors can direct students to these sources or incorporate some of their content into the guidebook (giving appropriate credit to the source.)

To move the classroom discussion directly into the subject of students playing a prominent role in an ICTD engaged learning discussion, the guidebook could include the following two stories.

In March 2012, the Pacific Media Assistance Program (PACMAS) held a workshop in Suva, Fiji, on communication for development (C4D) with 20 students from technical and vocational education institutions around the Pacific. The students produced radio and TV stories linked to the Millennium Development Goals (MDGs).

Participants in the in-person workshop (8 from the region and 12 from Fiji) discussed the meaning of C4D and explored the importance that research plays in developing content that is relevant to the audience. They also explored the MDGs and the role the media play in supporting the realisation of those goals. Specifically, on the first day, four guest speakers presented on different areas of C4D, including the MDGs, and production in community radio, television, and print. On the second day, students visited the office of the Bureau of Statistics. One of the senior statisticians there gave a presentation on the process and importance of conducting research, with a focus on use of quantitative and statistical information for reporting.

Participants were then grouped into teams and together compiled a short radio or television production. The participant on the team who produced the video explained: “Our group did a television story on a female taxi driver to promote MDG 3: Women’s Empowerment and Gender Equality. We believe this story can empower young females in their career path choices and contribute to achievement of MDG 2 — quality education for all children (including females!). The obvious point is that the number of female cab drivers in Fiji is disproportionately low. We wanted to find out why this is so and actually hear from a female cab driver share her experience and challenges working in a male-dominant sector.” Groups like that one went to different parts of Suva to interview ordinary people and seek out relevant information for their stories.

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6 See: www.ictinagriculture.org/.
PACMAS is a 10-year commitment by Australia’s AusAID to contribute to the development of media in the Pacific region. You can find out more about more about the creativeness and what these students produced by having students go to http://www.comminit.com/media-development/content/communication-development-c4d-workshop-pacific-media-assistance-program-pacmas.

The second story that could help students perceive a role for themselves in engaging with a community is that of Mrs. Saiyud in Thailand. Mrs Saiyud, a home-based woman entrepreneur, makes doormats. She is invited to visit a local community telecenter where a university student is 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 youngsters; Mrs. Saiyud decided to accept the invitation. After attending the class, she understood the fundamentals of these ICTs. The trainer introduced her to e-commerce and indicated how to post her products to the website. She learns well and expands 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 department store, contacted her in order to negotiate a long-term contract for purchasing her products.

Both of these stories in a guidebook could prompt students to think about how their skills could contribute to a community’s welfare. This could trigger students’ first act of reflection – or, as some say, “analysis” – which we know is a vital part of the engaged learning process.

The guidebook could illustrate further examples of how universities can reach out to communities to help them use ICTs constructively. For example, students at Hong Kong Polytechnic University have engaged in service-learning courses related to ICTs and development. PolyU started service-learning in the mid-1990s. It adopted a broad definition of service-learning that entails both activities that directly serve people in need (e.g. tutoring children in poverty, building bridges for remote villages, health education for under-developed communities), and civic engagement activities that indirectly serve the community or an underprivileged group (for example, field study on sustainable development, advocacy for social justice, etc).

In 2013, approximately 100 PolyU students participated in four overseas service-learning trips to Cambodia, Rwanda, Indonesia and Vietnam. Themed “Technology without boundary”, PolyU students taught local primary school children and orphans in Cambodia and Rwanda how to use software for digital storytelling, animation programming and making robotic cars. The PolyU students also set up computer labs and an intranet system in an 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,

Next is another case that the guidebook could use to prompt discussion and analysis.

Community Learning Centre in Thailand

Here is a community learning center in northeast Thailand. The private house hosts a women’s weaving group and they use the place as a community learning center. Note that it has a computer and screen. The owner of the house believes in life-long learning (a priority of the national government) and he goes to other learning centers 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 which he believes is disappearing. How might a group of students in this Service Learning course approach this situation in the context of service-learning?

![Photo by Faculty of Informatics, Maha Sarakham University](image)

To promote further discussion and reflection, the guidebook could list the following potential benefits to their (the students’) individual and academic experiences, and challenge students to suggest how this might happen.

1. Problem solving
2. Awareness of real world problems
3. Critical thinking and reflection skills
4. Applying academic knowledge
5. Increase intercultural competence and sensitivity
6. Influence their attitudes, values and beliefs
7. Engage in social and cultural learning
8. Experience personal growth and responsible behaviour
9. Understand origins and solutions to complex problems
10. Experience transformational learning
A guidebook activity:

Examine your own uses of information and communication devices during a period of one week. Keep a record in a journal. Think about how and why you used them, what you accomplished by using them, what would have been the consequences if you had not used them, and what kinds of communication were involved.

Understanding the Larger Communication Context

It is important for everyone involved to recognise that ICTD projects inevitably are part of a larger communication intervention and that intervention influences and determines the characteristics and direction of the ICTD component. In discussing ICTs in agriculture, a 2012 World Bank publication put it this way:

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….

Thus it is important to go outside of the ICTD project itself to recognise the priorities that drive the project. In the pre-engagement section of a guidebook, it is important to raise questions about what comes before an organisation begins its communication — and specifically its ICTD activities – before introducing computers, web pages, the internet, and mobiles. The guidebook can provide students with a framework for outlining and clarifying the context for an ICTD initiative. We have provided a detailed description of this process in Annex 2 of APCICT’s Primer 2: Project Management and ICTD.10

For now, we note the major elements that go into such a framework and urge that the framework for the university’s ICTD project be incorporated into the guidebook.

This part of the Pre-engagement section should start by emphasising that ICTD and other communication initiatives deal with promoting or reinforcing changes in people’s knowledge, skills, motivation and behaviour: Whether the development issue is m-Health, disaster preparedness, e-Government, or climate change, the direct ICTD intervention is aimed at affecting a mental process.11 And, either explicitly or implicitly, there is a communication strategy involved in some form. Here is what the university’s service-learning guidebook can emphasise:

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10 The lead author of the main text is Maria Juanita R. Macapagal from the Philippines. For my Annex 2, see pages 218-235 of Primer 2 at http://unapcict.org/pr. A more detailed resource that is freely available to adapt into your own version of a guidebook is my Advocacy and Interventions, available at http://ecommons.library.cornell.edu/handle/1813/7749.

11 An exception might be when people are communicating with machines, or machines are communicating with machines.
The communication strategy: A communication strategy usually has its roots in a policy or goal. A policy is a political statement that says, often in many words, that there is a problem or an opportunity and the organisation (a government, NGO or other enterprise) wants to do something about it. The Millennium Declaration that resulted in the Millennium Development Goals (MDG) is an example of a policy advanced by an international group. Thus, the first Goal is “to eradicate extreme poverty and hunger” with a 2015 target of cutting in half the proportion of people living on less than a dollar a day and those who suffer from hunger sets the stage for commitments to action. Specifically what is going to be done may be left to technical specialists, managers, or administrators in various countries or locales. Students can be directed to go on the web and see many references to the need for a communication component in each of the eight MDGs.

Doing some research: Using the web, people around you, and your own analytical abilities as resources, list the ways in which communication is important in achieving one of the MDGs. A background paper written in 2010 by Professor Clement Dzidonu, President, Accra Institute of Technology (AIT) could be helpful. Go to: [http://unpan1.un.org/intradoc/groups/public/documents/UN- DPADM/UNPAN039075.pdf](http://unpan1.un.org/intradoc/groups/public/documents/UN-DPADM/UNPAN039075.pdf)

The communication plan: The guidebook should help students understand that an organised communication intervention requires a communication plan. The plan should include at least the following components: (1) mobilising communication resources – which may include facilities such as recording facilities and ICTs, or personnel such as outreach workers or webmasters, or access to broadband; (2) a management system indicating who is responsible for what parts of the communication intervention and for liaison with other programs in the overall project; (3) a research plan that includes situation analysis, evaluation and specific studies – such as whether a community telecenter can be a viable and effective microenterprise in a community; and (4) the communication strategy or blueprint-for-action itself. Three main strategy components that guide the action part of a communication program are the (1) populations (or stakeholders) to be reached, (2) the channels to be used, and (3) the content that will shape the messages.

Steps in developing a communication strategy: Research, planning and evaluation provide a framework for laying out a communication strategy. These trigger other steps in the process, including developing communication materials, pre-testing messages, and implementing the initiative. However, the communication strategy includes specific attention to (1) specifying objectives, (2) selection of channels to be used, (3) identification of stakeholders, (4) deciding on communication content to be developed into messages, and (5) determining evaluation methods to be used.

You should remember that while development programs tend to be characterised by an-organisation-doing-something-to-people (such as changing or reinforcing their knowledge, beliefs, attitude, skills, and behaviours), the most effective strategies
will be those that build into them opportunities for participation by various stakeholders. In much of the communication intervention process, citizens can be effectively involved in research, in defining issues, in decision-making related to setting objectives, in choosing media and content, in production of messages, and in evaluation.

Now, here are some steps that the guidebook can identify and provide how-to-do-it directions.

**Step 1 – Undertake situation analysis:** A communication strategy emerges from a series of important steps. First is a *situation analysis*. Neither the faculty nor students can be certain of what they will encounter in the service activity associated with the service-learning course. However, reference books, interviews, and interaction with persons knowledgeable about the host community can begin to answer some important questions that will make entry into the community less intimidating. This information-gathering activity is important for shaping the communication plans and strategy, but it is often also necessary for coordinating with the parallel strategies planned for other sectors, such as those dealing with the development of resources such as schools or health centers. The guidebook can provide some of the following kinds of information but also direct students to contribute data.

- Demographic information, including population size, geographic distribution, age distribution
- Psychographic information, including values, lifestyles, and dominant beliefs
- Historical legacies, including important relevant forces that have shaped communities and the people’s current practices related to development problems
- Economic realities, including the class structure, how people earn money, patterns of poverty
- Political realities, including formal and informal leaders, the structure of the political system
- The social structure, including patterns of settlement, ethnic structure, community organisations, cultural diversity, family patterns, and social networks.
- Communication patterns, including the prevalence and uses of social media, mobiles, the mass media and indigenous channels of communication, credibility of information sources and channels, accessibility of local development-related agencies (health, education, agriculture, resources management) and stakeholders to communication media facilities and organisations
- Beliefs and perceptions related to community issues and conditions and the organisations associated with them; how people presently deal with development situations an intervention intends to improve; people’s view of the intervention(s), and of innovations in general; people’s perceptions of the change agent (such as community health workers) or government officials
- The knowledge, attitudes, and practices related to local institutions.
- The goals and methods of development interventions, including their real and perceived benefits, limitations, undesired consequences, costs, and limitations and constraints to adopting different behaviours (such as using a CLC).
This kind of community analysis could be a major research activity requiring many months, perhaps even years. Some anthropologists have spent large parts of their lifetimes learning about communities. However, techniques have been developed for doing “rapid rural appraisals” that yield the kind of information needed in a much shorter time.

**Step 2 – Clarify communication objectives:** The second important step relates to understanding the objectives of the people in the community. Communication itself cannot improve yields of rice nor improve the nutritional status of individuals, nor build schools, nor market weaving products. Communication *can* affect knowledge, beliefs, perspectives, motivation, attitudes, skills, understanding, and, to some extent, behaviour. Students who participate in service-learning inevitably discover that the issues they encounter are multi-disciplinary, not communication alone, and that an important part of the learning process takes place beyond the classroom — in the field where you discover what ICTs by themselves can and cannot do.

**Step 3 – Identify stakeholders:** One of the important decisions to be made relates to target groups or “stakeholders.” By stakeholders, we refer to groups or categories of persons who have a significant relation to the project or activity being planned. Stakeholders may be those whose knowledge, skills, or behaviour you are trying to change, or other persons who can facilitate or obstruct the changes.

It is important to include bureaucracies among the stakeholders. An ICTD-related intervention may need to deal with bureaucratic structures as variables to be modified and managed in support of particular kinds of policy outcomes such as poverty alleviation.

A strategy may also need to consider reaching other groups. There are those who control and influence the behaviour of those you are working with directly: religious leaders, mothers-in-law, local opinion leaders, and information “gatekeepers.” These may be important in supporting or endorsing a proposed change or providing access to vital resources, or they may need to be neutralised if they are perceived to be opposed to a campaign or product. For example, at the policy level, a ministry of agriculture may decide that an extension system needs to be modernised by using more information technology and by involving farmers in decision-making concerning priorities in agricultural research. While ICTs such as mobiles may focus most heavily on communication to and from farmers, the extension staff of

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**A classroom discussion-reflection.** Consider an intervention related to Millennium Goal 5—Improve maternal healths (Reduce the number of women dying in childbirth). In a community where you are going to do service-learning, you discover that a community health official wishes to increase the number of women attending prenatal clinics. Identify possible roles for communication and who might be important stakeholders.
the ministry itself may need to be oriented, persuaded, or trained to deal with new forms of communication such as ICTs and new interpersonal communication methods such as listening to people and considering their perceptions.12

Step 4 – Select ICTs: This part of the guidebook can expand the students’ perceptions about how ICTs can be used to improve the lives of communities. The UN’s APCICT initiative aimed at government leaders and future leaders dramatises the extraordinary opportunities new information and communication technologies provide those seeking innovative ways to enhance activities ranging from banking to reaching the Millennium Development Goals. In a 2012 publication, the World Bank emphasised the impact of mobile technology:

Mobiles are arguably the most ubiquitous modern technology: in some developing countries, more people have access to a mobile phone than to a bank account, electricity or even clean water. Mobile communications now offer major opportunities to advance human development – from providing basic access to education or health information to making cash payments to stimulating citizen involvement in democratic processes.13

Note how the eChoupal has transformed the lives of many India farmers, putting them directly in touch with market information, training and other information. A computer is placed in a farmer’s home and other farmers can have access to it and a world of information. ‘e-Choupal’ has already become the largest initiative among all Internet-based interventions in rural India. ‘e-Choupal’ services today reach out to more than four million farmers growing a range of crops - soybean, coffee, wheat, rice, pulses, and shrimp — in over 40,000 villages through 6500 farmer’s home kiosks across ten states. You can see about this in a video on the web at: http://www.youtube.com/watch?v=Fx4gukMYTGA

Classroom collaboration. Work with a group of others in the course and individually go out into the community around you to interview people about their communication behaviour. Each of you should interview five persons. What media and ICTs do they use and for what and how much? Meet with your group and share your findings. Prepare a profile of communication media use among those surveyed and what your group perceives the profile they might encounter in the service-learning community.

Step 5 – Decisions about content in an ICTD initiative: Some reminders about decision-making related to content and communicating with people who live in poverty come from Javed S. Ahmad, a health communication consultant.14 In most instances, he says, communicators are attempting to change poor people’s knowledge, attitudes and behaviour concerning ideas and practices that are

12 This issue has been well documented in case studies across the world presented in Saravanan, R. (2010). ICTs for Agricultural Extension, Global Experiments, Innovations and Experiences, New India Publishing Agency, New Delhi.
14 Contributed to Drumbeat, The Communication Initiative, October 27, 2006
not part of their felt needs. Project managers sometimes just assume that the ideas being promoted are inherently good so poor people must buy them—for example, promoting the idea of using vaccinations against childhood diseases. Ahmad notes that communicating new ideas to bring change which involves new concepts, new vocabulary, new metaphors, etc. that have no parallel among the poor target audience’s cognitive experience is probably the reason that change agents talk more of the prescribed solutions (e.g., use condoms) rather than try to explain to them the complicated HIV/AIDS transmission process. This results in a lack of intelligent response from the target audience. People who are poor are not necessarily less intelligent than those who are not poor. However, they may lack ambition, motivation, resources and abilities needed for effective communication, for example literacy, access to ICTs, and ability to comprehend new knowledge. For instance, messages delivered through mass media that are not accessible to the poor are obviously [wasted]. To get poor people’s attention, health promoting messages must contain items (words, images, sounds) that pertain to poor people’s immediate needs and wants. Hence it is necessary to learn about their needs and wants before designing messages aimed at them, and to change needs into felt needs. Most important issue is trustworthiness of the message sources. Poor people are most likely to find recognisable local sources more credible and trustworthy than distant sources which are not familiar to them.

To summarise this point, the ICTD student must go beyond the computers, the twitters, the Internet, and the mobiles in dealing with development. This part of the guidebook should provide the intellectual tools to enable them to crystallise the overall context.

A classroom activity that could be rehearsed for the field: Service-learning courses may attract students from a variety of disciplines. It is important for those going into the field to understand how ICTs can be used in various situations. Teams of three persons in the class should prepare a 15-20 minute workshop session explaining to the class some aspect of ICTD that might be relevant to a group of women, youth, or government officials in a community. Topics might be: how ICTs can help in a community’s awareness and preparation for potential disaster; the uses of ICT for a healthy family; using ICTs for capturing local history. This exercise at the university can (1) build teamwork among the students; and (2) be adaptable for working with different groups in a community learning center. In addition to helping students who come into the course from other disciplines, this exercise might be a useful beginning for doing workshops for people in the community.

Engagement in the Field

If the university faculty members know specifically what kinds of services are going to be provided by the students (for example, workshops on searching
the Internet), suggestions for methods for doing this could be included in this engagement section of the guidebook.

While field activity may sometimes be well planned ahead of the time when students arrive in the field, the guidebook should prepare students to seek out information from partners and the field environment. In the guidebook, this can be headed “Field Research.” For example, going back to our assumption that a partner might be a community learning center (CLC), an early step in the field work could be filling in gaps in the pre-engagement research. The guidebook can provide sample questions that could be used in a community survey to be done in collaboration with the partner organisation such as a CLC. The survey would be helpful in creating a profile of communication resources in the community. While some results might contribute to the immediate service-learning projects, some might not be available early enough to shape the current field work. However, the data could be useful to the community after the engaged service-learning period is over. Questions for the survey might include some of the following:

- **From the stakeholders’ perspectives:**
  What media/channels/ICTs are physically accessible?
  What is the cost to the stakeholder of accessing the channel? This may be cost in time (“opportunity costs”) and energy as well as cost in money.
  What channels are convenient to the stakeholder?
  What channels are currently used by the stakeholder and for what?
  What channels are most preferred by the stakeholder?
  What channels are most trusted by the stakeholder?

- **For an organisation/government office planning a communication/ICTD activity:**
  What channels are available in the community?
  Which channels can the organisation afford? Some channels might be available and affordable, but not accessible. For example, some television broadcast services may not allow discussion or advertisements related to family planning.
  What channels are most appropriate to particular stakeholder groups or individuals?
  What channels are most appropriate for particular communication objectives?
  What channels can the organiser afford?
  What channels have the most cost-effective and cost-benefit advantages?
  What has been the experience with the use of various channels for other interventions?
  What new channels might be introduced into the community? (Some communities may never have had experience with iPods as a communication tool, or the Internet, or with m-Health — but these and other technologies could be introduced into the community. Availability of communication channels in a community also may change rapidly as new technologies become available.)
  What are the particular benefits of the different channels? For example, which provide speed, broad geographic coverage, and coverage of live action, localisation, and opportunity for local participation in a communication activity,
freedom from distortion, direct exchanges, or feedback?
What are the infrastructure needs associated with various ICT resources?

Another survey-type activity that can have more immediate impact on service-learning is to discover systematically what the information and communication needs of the community are. This includes, first, “felt needs” and second, the needs the students and their partners perceive in studying and observing conditions in the community.

The guidebook can raise issues for the students to consider while in the field (as a prompt for reflection or for carrying out an activity). For example, in regard to helping farmers adopt a new agricultural technology, it may be important for an agency to (1) make them aware of the technology, (2) increase their knowledge about the technology, (3) educate them about their own agricultural technologies, (4) motivate them to use the new technology, (5) train them to use it, and then (6) reinforce them after they have decided to adopt the technology. Some of these steps may be more effectively done with ICTs and others may be better done through interpersonal channels. The guidebook should challenge students to reflect on these issues and how they are related to a media and ICT strategy.

Here are some possible ICT projects that a guidebook could propose – and these could be explored with the service-learning partners in the host community or the staff of a CLC.
1. Basic computer operations for life-long learning, youth, women, etc.
2. Web page construction and management
3. Writing documents with a computer including building blogs.
4. Story-telling using computers and photography
5. Using email
6. Searching on the Internet
7. Creating a DVD series on new farming techniques
8. Using ICTs to support community health programs for example, using m-Health.
9. Using ICTs for record keeping and business management
10. Designing web pages for e-commerce or government records
11. Using ICTs for capturing oral history and local culture
12. Conducting workshops related to using the APCICT Primer Series

Post-Engagement

There are various ways that students can complete their service-learning experience back at their university. Here are several that are particularly associated with a guidebook.

Reporting and Recognition

It is important to plan formal ways to recognise and report accomplishments
related to service-learning engagements. In addition to celebrating the completion of a project and sharing findings with community stakeholders, publicising service work through newspaper articles, newsletters, websites and public events can raise awareness about development issues and the value of service-learning programs to students, faculty, the institution and community partners. The guidebook can provide space for students to report on their experiences with a local population, organisation, or government agency. The guidebook can also list places where these stories or reports can be made public (for example campus newspaper, local radio interview, campus exhibit), and provide suggestions on style and format for delivering their stories.

**Benefits to Students**

The guidebook might prompt reflection by listing the benefits that are often associated with service-learning courses, and have the student report on which of these applied in their experience in this course. The report could be in various forms: oral, written, or in a scaled format such as a scale from 5→1 (great benefit →low benefit).

Here is another list of benefits for this section of the guidebook – with additional explanation for each.

1. **Acquire knowledge.** Participants learn knowledge and skills related to the course content, as well as language skills and information about the local culture.

2. **Develop problem-solving/finding skills.** Service work requires that students apply their knowledge to real-life problems. As they work on service projects, students inevitably encounter obstacles and challenges that require thoughtful and creative solutions. In addition, they may have opportunities to identify and anticipate problems that must be addressed.

3. **Become aware of real-world problems and issues.** In service-learning, there are no right answers in the back of the book. Students gain an in-depth understanding of the complexity of real problems and the impact that these problems have on real people.

4. **Develop critical thinking and reflection skills.** In order to address real problems and engage in reflection, students learn to think critically about their assumptions about themselves and the causes and solutions to social problems and the implications of levels of development.

5. **Apply academic knowledge/skills.** Service-learning requires that students use their academic knowledge to address real-world problems in practical situations.

6. **Increase their intercultural competence and sensitivity.** Students learn to function in another environment, develop an understanding of another culture and often learn language skills. Students also develop an appreciation of perspectives and belief systems that are different from their own.

7. **Change their attitudes, values and beliefs.** Confronting the realities of daily life in another community encourages students to think critically about the dominant
values and assumptions that shape their lives and worldviews. Students often change their beliefs and values in order to integrate their service-learning experience into their lives more effectively when they return to their universities or home communities. Students also make significant lifestyle changes that fit a more socially responsible worldview.

8. Engage in social, emotional, moral, political, spiritual, cultural learning. Service-learning facilitates holistic learning that goes beyond cognitive development and knowledge acquisition.

9. Experience personal growth and socially responsible behaviour. Entering another culture and engaging in service work challenges students in myriad ways. Working through these challenges provides tremendous possibilities for self-awareness and personal growth. Service work also makes students accountable to the community and allows them to see the impact of their actions on others.

10. Understand origins and solutions of complex problems. In order to fully grasp and attempt to address community problems through service, students can develop an understanding of how and why the problems originated. They must also go beyond simplistic and abstract cause and effect ideas to understand the various historical, political, cultural and economic factors that shape community issues.

The guidebook can direct students on how to write a journal related to the course experience. One service-learning “toolkit” suggests that “Journals can be an effective way to develop self-understanding and connect the service experience to the course content. Journals can also be used during the semester to record information that is used in more formal reflective activities, such as a paper or class.”

Hong Kong Polytech University’s Service Learning Handbook identifies a variety of ways to strengthen the learning experience. These include: Debriefing in which a group of students are guided by faculty members or project supervisors to share their personal observations, or consequences of their actions; and Presentations in which students summarise their ideas, experiences, thoughts; their perceptions of what was accomplished in the field, and recommendations for future action on the part of the community and/o the students.

The guidebook can also provide directions for using the Internet for web pages or blogs that can be shared with significant others, including some appropriate for the host community. The guidebook can include a list of questions that will prompt students’ reflection and provide material for these outlets. Such a list might include:

Why are we doing this? What were the challenges? What did we accomplish? What were the benefits and for whom? What could have been done better? How does the field activity contribute to my education, to my understanding of how ICTs can contribute to society? How has the partner benefited?

15 Introduction to Service-Learning Toolkit. 2000. Campus Contact, Brown University, Providence, RI, USA.
A University ICTD Guidebook: A Work in Progress

There are various resources available in the public domain (especially via the Internet) to support service-learning courses. However, it will be constructive for universities dealing with ICTD to consider tailoring a manual or guidebook to the distinctive features, challenges, and opportunities associated with the ever-changing array of information and communication technologies. These differ from community to community and from nation to nation. There is no “one size fits all” guidebook to match this diversity. This paper is an attempt to steer universities with ICTD-related courses into a service-learning track, and to give them suggestions on building a guidebook that will be consistent with the unique culture of the university and partner organisations. This is a start. And it is a challenge to individual universities to take the next steps in creating an ICTD guidebook of their own – but to share their results with us all.