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Duncan-Howell, Jennifer A. and Lee, Kar-Tin (2008) Policy catch up: developing nations and developing ICT policy documents. In *Proceedings British Educational Research Association (BERA) Annual Conference 2008*, Herriot-Watt University, Edinburgh.

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Policy catch up: developing nations and developing ICT policy documents

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Abstract

The development of a national Information and Communication Technology (ICT) policy document is an intensive process. Ideally, when a country has prioritised the drafting of such a document, there is comprehensive development and consultation. The various stakeholders involved in this process are equally represented and time is available for conference and drafting. This process would be typical of many developed nations, who may now be progressing towards the fifth or sixth manifestation of their national ICT policy document. However, in developing nations there is a sense of urgency and perceived need to 'catch up' with the rest of the world. The process of drafting ICT policy documents for education is much shorter and more pressurised. Many of these developing nations look to the countries who are further down the path of policy development upon which to model their own document. This modelling offers both advantages and disadvantages. As much of the policy formulation work in developing countries is sponsored by external agencies, there is an additional pressure to be accountable and produce a document quickly. However, these processes may in fact be undermining the effectiveness of the document being drafted.

This paper will present the findings of an AusAid Public Sector Linkages Project that was aimed at building capacity for ICT strategic implementation for basic education in the Philippines. This project was undertaken by The Queensland University of Technology, Australia and the Philippine Department of Education. The goal was to produce an *ICT for Education Policy* document that would assist the Philippines in their implementation of ICT across the education system. The project was driven by a specially formed team of educators and bureaucrats from the Philippine Department of Education assisted by educational researchers whose role was to inform and guide the project through the various stages of development. The findings of this study will offer four observations that will help inform methodological approaches to conducting similar projects. These were (a) the differences in the perception of what constitutes a policy document, (b) the processes needed to assist in development of such a document, (c) the effect modelling had on the drafting process and (d) the impact preconceptions and context have on the development process. Finally, it will explore the role educational research may play in policy initiatives in developing nations.

This study took an epistemological approach that sought to understand the context of the policy initiative that had a number of political, historical, social and cultural imperatives to consider. Political instability and its effect on policy

is a common theme in developing nations. The Philippines has had a turbulent history and continues to suffer from political and departmental upheavals. Compounding this situation was a considerable history of ICT schemes and initiatives that had, to date, little effect on the education system. This was further exacerbated by technophobia, firmly embedded in the cultural and social milieu of the nation. Hence, the methodological approach underpinning this project sought to understand these factors and the influence they wielded on the policy formulation process.

The findings from this study were based on data collected over three separate phases in the project; (1) Phase 1: electronic transcripts and participant observation, (2) Phase 2: an online survey and (3) Phase 3: interviews. In Phase 1, an online community was established, as a tool for members of the committee, who were located in both regional and metro areas in the Philippines, to remain in contact with the educational research team involved in the project. This tool provided a mechanism for support, the exchange of resources and guidance during the drafting stages of the document. The transcripts were initially coded in accordance with open coding (Glaser & Strauss, 1967) and the analysis provided insight into the processes and the meaning-making members undertook. In Phase 2, an online survey was delivered to both members of the committee and support staff involved in the project. The survey focused on the workshops and initial stages of the drafting process. The aim of this tool was to determine the effectiveness of the types of preparation tasks, the usefulness of the models presented and the approaches to drafting that were employed in the project. In Phase 3, the final source of data, were interviews with the committee members. These interviews were used to clarify issues and provide further insight into themes that emerged during the project.

The findings of this study suggest that the use of models to help formulate policy documents may be unsuitable for developing nations. The driving need to catch up with the developed world has led these nations to drafting documents that are unsuited, flawed and more likely fail to be implemented. It suggests that educational research has an important role to play in the development of policy in developing nations. Therefore it will present a framework, firmly grounded in educational research, which can be used by developing nations to develop an ICT policy document. This framework is more suited to the political, historical, social and cultural imperatives commonly found in developing nations than the more commonly used models of developed nations.

Introduction

The development of a national Information and Communication Technology (ICT) policy, henceforth, referred to as the ICTP document, is an intensive process. Ideally, when a country has prioritised the drafting of such a document, there is comprehensive development and consultation. The various stakeholders involved in this process are equally represented and time is available for consultation and drafting. This process would be typical of many developed nations, who may now be progressing towards the fifth or sixth manifestation of their national ICT policy document.

However, in developing nations there is a sense of urgency and perceived need to 'catch up' with the rest of the world. The process of drafting ICT policy documents for education is much shorter and more pressurised. Many of these developing nations look to the countries who are further down the path of policy development upon which to model their own document. This modelling offers both advantages and disadvantages. As much of the policy formulation work in developing countries is sponsored by external agencies, there is an additional pressure to be accountable and produce a document quickly. These processes often tend to undermine the effectiveness of the document being drafted.

This paper will present the findings of a study based on an AusAid funded project lead by a team of two researchers from Queensland University of Technology. This project was aimed at building capacity for ICT strategic implementation for basic education in the Philippines. In collaboration with the Philippine Department of Education the goal was to produce an *ICT for Education Policy* document that would assist the Philippines in their implementation of ICT across the education system. The project involved a special group of hand-picked educators and bureaucrats from the Philippine Department of Education and was lead by educational researchers whose role was to inform and guide the project through the various stages of development. The findings of this study will offer several observations that will help inform methodological approaches to conducting similar projects. Firstly, the differences in the perception of what constitutes a policy document, the processes needed to assist in the development of such a document, the effect modelling had on the drafting process and the impact preconceptions and context have on the development process. Finally, it will explore the role educational research may play in policy initiatives in developing nations.

Literature review

When analysing the literature available regarding ICT policy development it is clear that there are many approaches available. Much of the research on policy formulation is reflected in policy papers from various countries. Jhurree (2005) argues that technology integration in education has many inequities when comparing developed and developing countries, a view also espoused by MUNYUA (2005), GESCI (2008), Kendall, et al., (2006), Rowan (2003), and Van Audenhove et al., (1999). Rowan (2003) asserts that very little has

been written on the policy formulation '*processes*' in developing countries. Grant, (2001), Jhuree (2005) and Labelle (2005) concur with this view and have since written extensive guidelines to assist developing countries in ICT policy formation.

Some developing countries, like Nepal, for example, have seen their neighbour's successful foray into National ICT development and whilst working towards adopting similar policies have been faced with internal political instability and financial restraints that slows implementation of ICT Policy (Rowan, 2003). Sri Lanka faced similar difficulties with domestic turmoil and although they had formed the National Computer Policy (COMPOL) in 1983, little to no implementation took place for 18 years.

Other researchers have noted that 'Information and communication technology policies need to be comprehensive, taking into account local norms, values, and culture; holistic; and thoughtfully connected to socioeconomic needs, poverty reduction, and improvement of quality of life in developing countries' Kendall et al., (2006: 27). Identifying and encouraging the role of 'champions' can also prove to be a successful strategy (Cross & Adam, 2007), and in some cases dramatically improving the outcome of a country's ICT Policy. Cross and Adam (2007) go further to claim that it is the 'strong presence of leadership' which ICT champions provide that is a common denominator in all successful ICT initiatives. Kendall et al., (2006) maintained that 'Information and communication technology policy formulation is shaped by conflicting interests in different sectors of governments. Often overlooked in the policy formulation process is the pervasive nature of the changes needed to support the development ICT activities' (p.29).

Van Audenhove et al., (1999) suggested that developing countries often extrapolate the western model of ICT policy development, warning that ad hoc adoption of the 'dominant' formula would be financially untenable for developing countries. This view, however, appears outdated as there is little recent evidence in developing country ICT Policy Reports to reinforce this argument. The opposite appears to be more relevant as shown by the number of National ICT Policies that prioritise the need for legitimate participatory process (Burton, 2003; Grant, 2001; Lee, 2003, & Rowan, 2003) in the pursuit of a policy that is suitable for their national needs and goals.

This legitimate participatory process ranges from government formed taskforces that consult the private and public sector, (Islam, 2004; see also Lee, 2003 and MUNYUA, 2005) to Government initiated private consultation of existing state departments and hand-picked experts as in the case of Nepal, (Burton, 2003).

Research is needed to support the development of successful ICT Policy, a view supported by Kendall et al., (2006). Research findings provide a fresh perspective on the formation process that results in avoiding the risks associated with low-quality ICT Policy practices. Kendall et al., (2006) were able to provide new insights to the process of policy formation by studying 42 months of public listserv data and applying 'dramatism' as a form of analysis

of discourse, through euphemistic and non-euphemistic word usage. They were able to establish that the ICT researcher was associated with 'hero' themed positive words; whilst government was branded as 'villain' through negative language forms, suggesting that the role of researcher is invaluable to successful and harmonious ICT Policy Formation. Other countries that used online communication as a central format for ICT policy formation include Kenya who used an online mailing list to aid its participatory process (CATIA, 2005).

Both Korea and Sri Lanka confronted significant challenges to their ICT policy integration exercise and each followed different strategies. Lee (2003) states that Korea was able to invest \$5 billion in ICT infrastructure development in 2001, the equivalent of 8% of Sri Lanka's 2001 total GDP (Asia Source, 2008), a figure that would not be possible for Sri Lanka to match. Some outcomes were similar, however, as both followed participatory consultative processes in ICT policy formation with high involvement of key stakeholders.

For a country wanting to develop ICT Policy, there are extensive guidelines available, Labelle, (2005) states that the public and private sector needs are intertwined, with universal telecommunication access considered to be a great public need and that other services that serve to add value or do good within the public domain are the responsibility of the private sector; financing, however can come from both sectors. Rowan (2003) agrees and gives an example of Mozambique's ICT policy that prioritised clear goals of reducing poverty and enabling wider socio-economic development in its efforts to bridge a national digital-divide. Further evidence of countries that have chosen to use ICT Policy to create socioeconomic reform include; Gambia's ICT Policy wherein Islam (2004) details an extensive consultation process of many levels of society, including but not limited to marginalised groups, youth, civil and women's groups, urban and rural government areas as well as all levels of academia. Cross & Adam (2007) also agree, stating that simply increasing the use of ICT without considering social responsibilities increases the risk of causal socioeconomic distress.

ICT policy in regards to education is the focus of both reports written by Jhurree (2005) and Grant (2001). Their advice is echoed in many national ICT policies' findings regardless of the level of development of each country. Jhurree (2005) noted that even though developed countries may have more experience, knowledge and financial resources at their disposal than developing countries, the same challenges and concerns affect both, although the degree is likely to be different. Grant (2001) added to this by suggesting that if ICT knowledge and expertise is lacking amongst education administrators and policy makers then it is likely that policy initiatives will fail, furthering this he highlights the need for strategic leadership and management and collaboration between all stakeholders to ensure successful implantation of strategies.

Other recommendations by Grant (2001) and Jhurree (2005) include; prioritising needs-analysis, goal-setting, financial support, establishment of ICT infrastructure, teacher-training and teacher involvement in planning and

change to ensure policy support, modification of curriculum and teaching methods, collaborating with regional and international bodies to learn from the experiences of other countries and ensuring that the focus remains on basic literacy and is not hijacked by computer literacy.

Whilst Grant (2001) and Jhurree (2005) maintained the importance of collaborative efforts by all those involved in the decision making process, Labelle (2005) argued that a complete ICT strategy will include an 'e-readiness assessment' that involves research and market studies to discover needs and possible opportunities.

As allies in the policy formulation process, researchers must take time to identify the factors that influence policy development processes. The present study seeks to fill this gap in the literature by incorporating the following; (1) understanding administrative directives from government and external funding bodies, (2) gathering input from participants to identify the larger and more significant policy and (3) implementation implications related to developing a national ICT policy in under-developed countries.

Situating this study

The main focus of the AusAid project was to develop an ICT national strategy which would economically advance the country in relation to the use of ICT to broaden access and to improve the quality and efficiency of basic education services (BESRA, 2005).

In recent years there had been serious commitment to ICT in education which had proven to be a very daunting task in view of the fact that the Philippines has 42,000 schools, 18 million students and 500,000 teachers. Various policy documents have identified the need for ICT reform within the education sector. These policies have stressed the importance of support to improving education in the country. These have also resulted in more prioritising from regions (13 in total), schools and teachers regarding the integration of ICT across the education system. It is within this context of policy initiatives that the ICT policy development took place.

Policy catch up processes

This study took an epistemological approach that sought to understand the context of the policy initiative that had a number of political, historical, social and cultural imperatives to consider. Political instability and its effect on policy is a common theme in developing nations. The Philippines has had a turbulent history and continues to suffer from political and departmental upheavals. Compounding this situation was a considerable history of ICT schemes and initiatives that had, to date, little effect on the education system. This was further exacerbated by technophobia, firmly embedded in the cultural and social milieu of the nation. Hence, the methodological approach

underpinning this study sought to understand these factors and the influence they wielded on the policy formulation process.

The policy development process began in August 2007. It was an AUSAID funded project, which assisted the fifteen policy makers (representatives of various government sectors) the majority of which were from the Department of Education in the Philippines. The ICT development project had the endorsement of the Undersecretary for Education. During the period from August 2007 to April 2008, the team formulated practical plans around ICT implementation and usage in schools, involving the selection of realistic priority areas to ensure the successful use of ICT in relevant aspects of the school system. The process included three training workshops, conducted in Manila and Brisbane. Evaluation/research studies and lessons learnt from the experiences of other countries which are further down the path of ICT integration offered valuable insights and provided guidance in the development of the ICT Five-Year Strategic Plan.

The aims of this study were:

- To understand the differences in perception of what constitutes a policy document by policy-makers and the impact this has on development.
- To investigate the processes needed to assist in the development of such a document.
- To explore the effect of modelling on the drafting process.
- To discover the impact preconceptions and context have on the development process.
- To investigate the role educational research may play in policy initiatives in developing nations.

A team of key personnel from central and regional offices of the Department of Education underwent training and professional development in the leadership and management of ICT-enhanced educational interventions. To provide a better picture of the processes involved the timeline for policy initiation, development and completion is shown in Table 1 below:

Table 1: Timeline and Schedule for policy development

Date	Activity	Location	Ongoing discourse
Aug 2007	Pre-workshop activities, setting the context, background reading, establish online community	Online community	Blackboard community
Sept 2007	5 day intensive workshop focussing on the following key themes: <ul style="list-style-type: none"> • Introduction and induction: Overview of Philippine policy documents and setting the context • Localising the context to SE Asia Region • Policy, Planning and Implementation: Issues, challenges and problems • Assessing and evaluating ICT Strategy Documents – various countries • Focus on School, Teacher and Student – enabling and empowering • Focus on infrastructure, access to information resources, curriculum and assessment 	Manila	Blackboard forums Emails Yahoo group
End of first workshop formal evaluation			
Nov 2007	5 day workshop and visits to key ICT establishments: schools, universities, government agencies, etc	Queensland	Blackboard forums Emails Yahoo group
Mar/Apr 2008	5 day workshop Refine and complete final draft of policy Reflect on the entire process	Manila	Blackboard forums Emails Yahoo group
End of final workshop evaluation			
Survey of participants and group interviews			

Data Collection and Analysis

The findings for this study were based on data collected over three separate phases in the project; (1) Phase 1: electronic transcripts and participant observation, (2) Phase 2: an online survey, and (3) Phase 3: interviews.

<i>Phase</i>	<i>Action</i>
Phase 1: (Aug – Nov 2007) Electronic Transcripts/participant observation	Transcripts – conversation analysis (open coding) Participant observation records Focus: members meaning-making as they undertook the task of writing the draft document
Phase 2: Online Survey	Online Survey Focus: effectiveness of the preparation tasks, usefulness of information presented and the approaches to learning
Phase 3: Interviews	Interview Transcripts Focus: Clarify issues arising from survey

(1) Phase 1: electronic transcripts/participant observation

During Phase 1 (Aug – Nov 2007), an online community was established, as a tool for team members, who were located in both regional and metropolitan areas in the Philippines, to remain in contact with the educational research team involved in the project. This online tool was set up one month prior to the face-to-face workshop. In September 2007, a face-to-face workshop was conducted for one week in Manila where intensive professional development and policy development work was completed. Throughout these months the online community tool provided a mechanism for support, the exchange of resources and guidance during the drafting stages of the document. The transcripts were initially coded in accordance with open coding (Glaser & Strauss, 1967) and the analysis provided insight into the processes and the meaning-making members undertook. Data collected from participant observation added another dimension.

From the outset, understanding by the team members of the overall context for planning can greatly assist them to subsequently design and develop the strategic plan. The project leaders were keen to initiate a process whereby participants could take stock both outside and inside the system such as the ability to conduct an environmental scan to consider various driving forces, or major influences, which might affect the task in hand.

It was always the intention that during the entire planning process, regular feedback would be collected from participants. This would gauge whether the participants liked or did not like the processes and how could it be done

better? It also provided a forum for group cohesion where views could be opening exchanged.

Prior to the actual face-to-face workshop participants were given three tasks to complete online. One of the tasks required an analysis of current policy documents, an understanding of which would form the foundations for future planning discussions. An analysis of these tasks completed by the groups and the content of discussions that occurred within the groups, highlighted several important aspects. Team members were particularly concerned about the following.

- Status quo of ICT in their country
- Lack of visionary forward thinking by various agencies
- Need for centralised and systemic strategic planning in ICT
- Infrastructure issues and the often unclear authority lines
- Lack of professional development for all – educators, technical and non-technical professionals and administrators
- Culture change on all fronts
- Absence of a budget framework to provide resources in ICT to support basic education
- Ability to attend scheduled meetings (especially for regional representatives)

The overall sense of the comments was one of uncertainty and lack of confidence in policy formulation. In the past, too many agencies had been involved in ICT policy and development. Despite many ICT related initiatives, no concerted efforts had been made previously to bring a group of policy makers together to plan for the future. Overall the members took the past policies at face value and were not confident about whether implementation of any of these would in fact occur. There was also a chasm between the technical (a group mainly concerned with infrastructure) and the educational personnel (a group mainly concerned with pedagogy) who held greatly diverse views about ICT implementation.

(2) Phase 2: online survey

Phase 2, the online survey was delivered to both participants and support staff involved in the project. The survey focused on the workshops and initial stages of the drafting process. The aim of this tool was to determine the effectiveness of the types of preparation tasks, the usefulness of the models presented and the approaches to drafting that were employed in the project. For purposes of clarity, the results have been grouped under four broad descriptors; (a) building capacity: common items in ICT policy, (b) sense of adequacy in drafting the ICT policy document, (c) importance of process and (d) in terms of readiness: prior experience.

(a) Building Capacity: common items in ICT policy

When asked to indicate which common items should exist in ICT policy documents, Figure 1 provides an idea of the respondents' views. It is worthy to note that only five out for the fifteen participants indicated that there should be detailed information about how ICT is to be used in schools. This was contrary to the subsequent concerns which were raised throughout the process i.e. the majority of the participant were of the view that quite a substantial proportion of an ICT strategic plan should be devoted to how ICT can be used within the education sector. Only one mentioned the need for governance and administration.

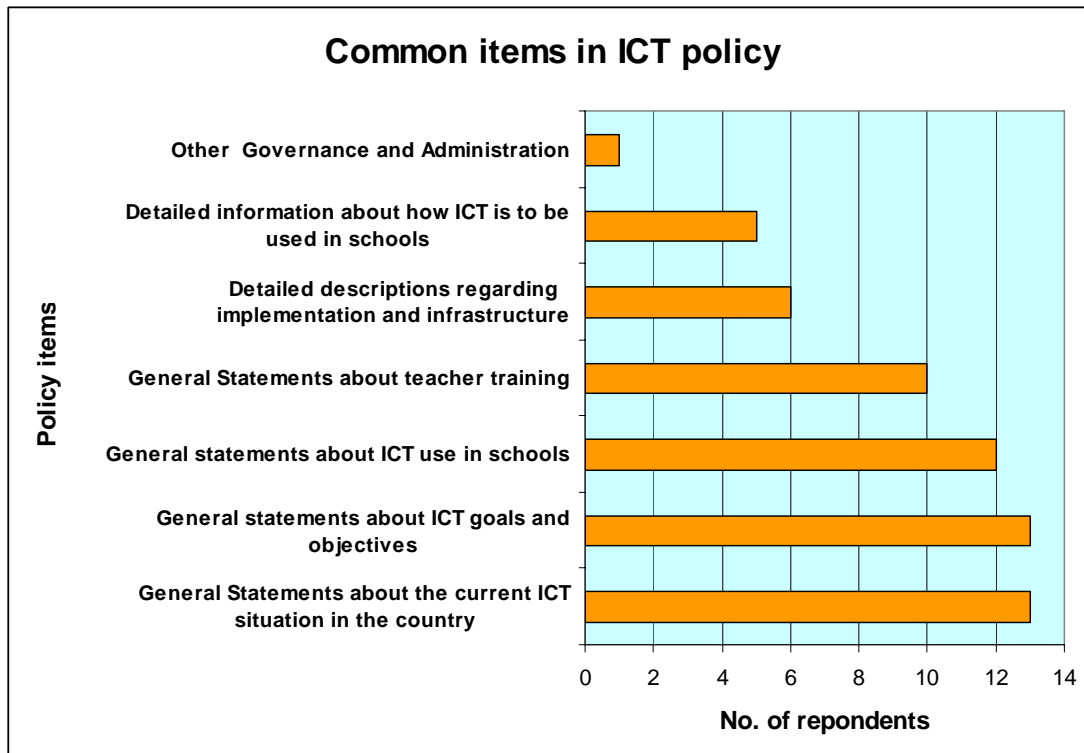


Figure 1 Common items in ICT policy Documents

Respondents were asked to rate the importance of a list of ICT elements as Extremely Important (EI), Very Important (VI) or Somewhat Important (SI).

The three highest rated items to be included in an ICT policy were:

- Vision
- Curriculum, assessment and resource support
- Access, connectivity and infrastructure

The rest of the results are shown in Figure 2.

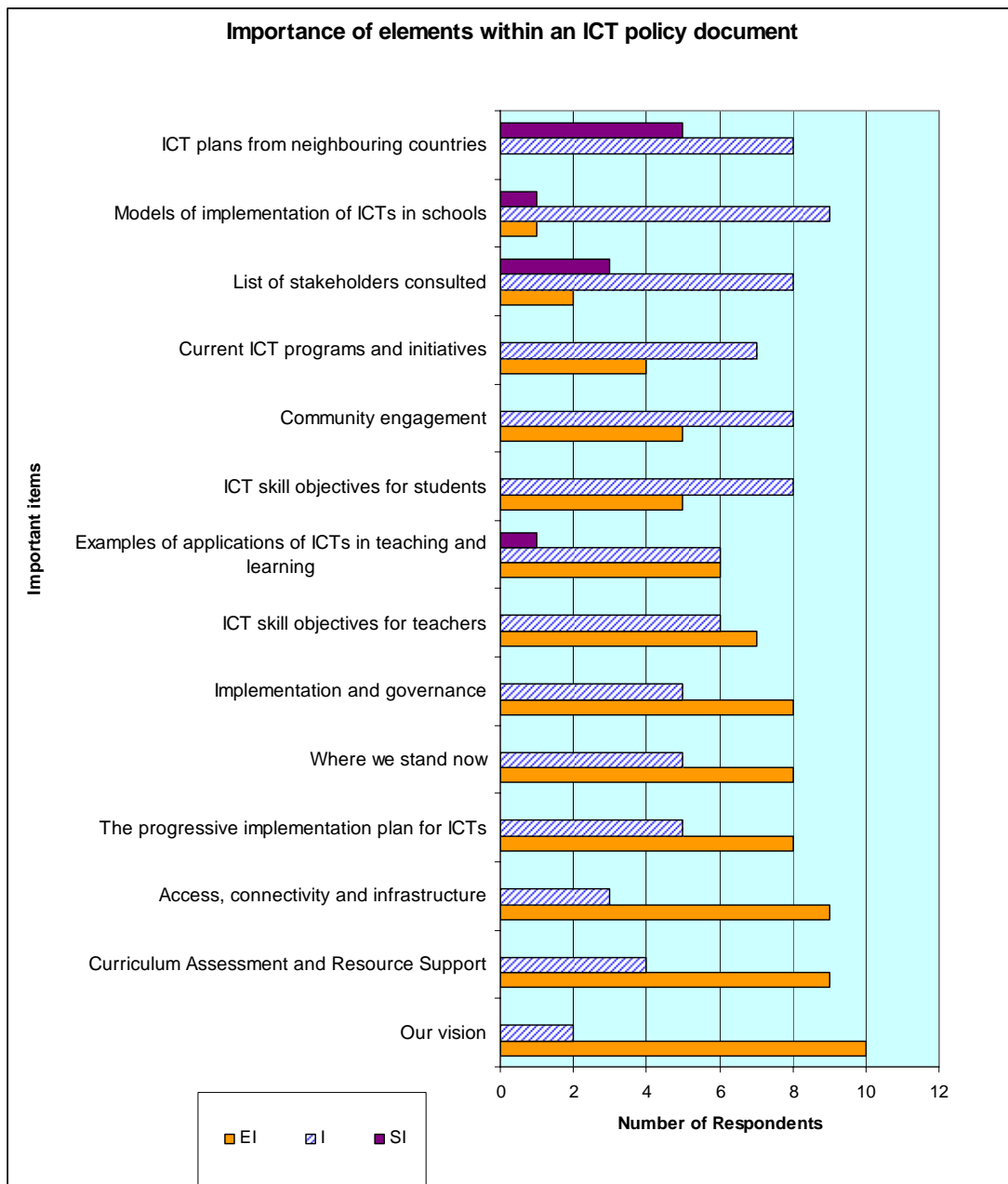


Figure 2 Importance of items in ICT policy Documents

Team members also listed the following under 'others' that should be included:

- *Monitoring and evaluation or part of assessment of ICT used in schools*
- *Measurable goals for schools*
- *Legal mandates for ICT*

When asked “Who, in your opinion, should draft the ICT policy document?” the responses are shown in Table 2.

Table 2. Types of representation in policy development group

Types of representation	Number	%
Reps from each section of the department	11	73
Policy experts	11	73
Grass roots staff	10	67
Experienced policy experts from other countries	9	60
Senior staff	9	60
Teachers	8	53
Undersecretary of education & staff	5	33
Other: Stakeholders, ICT teacher/coordinator, NGOs, etc.	4	27
Public servants	3	20
Non-department staff	1	6

The above results further reflect their concern about having the right people in the team to ensure widespread representation. Few members had any past experience nationally or internationally to draw upon but overall, they were very positive about accelerating the country’s entry into the information age.

(b) Sense of adequacy in drafting the ICT policy document

When asked if they felt they were able to draft an ICT policy document, only four respondents felt that they were able to do the task but added that they would need help and support. Some mentioned that it was outside of their normal duty. On the other hand another four stated that they were not well qualified to do the job and that the task was too challenging and was out of their depths.

(c) Importance of process

When asked to indicate what aspects of the policy development activities were the ‘most important’, participants revealed the following preferences in descending order (for items where 9 – 11 responses were received):

- Face-to-face workshops with university staff
- Face-to-face meetings with group members
- Availability of electronic copies of documents
- Drafting tasks (i.e. drafts of the section you are responsible for)
- Visits to schools (in Brisbane)
- Online support (e.g. Blackboard site and Yahoo email list)
- Email contact with group members
- Blackboard site with electronic documents and resources
- Writing tasks and homework

- Email contact with QUT staff
- Paper copies of documents
- Email contact with local support staff

(d) In terms of readiness: prior experience

When asked to indicate what they felt was needed to prepare them for this task, the following were listed:

- Thorough review of related literature (what is the ICT status of other countries, how does their ICT policy document look like)
- Training on how to write policy documents
- Review of the status and current situation
- Be prepared with systems to be in place
- Planning skills and use of planning tools
- Review of related literature
- Research on students and teachers regarding their activities, beliefs, needs, wants, levels of skills and awareness of ICT
- An understanding of ICT and governance
- Access to planning and budgeting experts
- More training on how to develop a policy plan and specific guidelines

With regards to other preparation needed and any additional issues, the team members suggested:

- Training and experience in how to write policy documents.
- Visits to schools in your country to gather information.
- Discussions with teachers and schools to understand their needs.
- A clearer understanding of what the departments aims and objectives regarding ICT are.
- A more carefully selected group of participants, so that all sections of the department are represented.
- More senior staff involved in the project.

When participants were asked the question: *'When you were first informed that you would be participating in the project how did you feel?'* more than half of them had very positive feelings and even felt honoured about being involved whilst a small number indicated negative feelings. Three indicated that they were scared, 1 was overwhelmed, 1 felt anxious and 1 was stressed by the idea.

It was also felt in the initial stages by 11 respondents that the policy documents provided to them were useful as they showed them what a policy document actually looked like and they also demonstrated what content needed included in an ICT policy document (Figure 3). From conversations with the group it was found that the majority had no experience in policy development. It was pleasing to note that most were very keen and eager to learn and recognised that there would be a huge learning curve ahead of them.

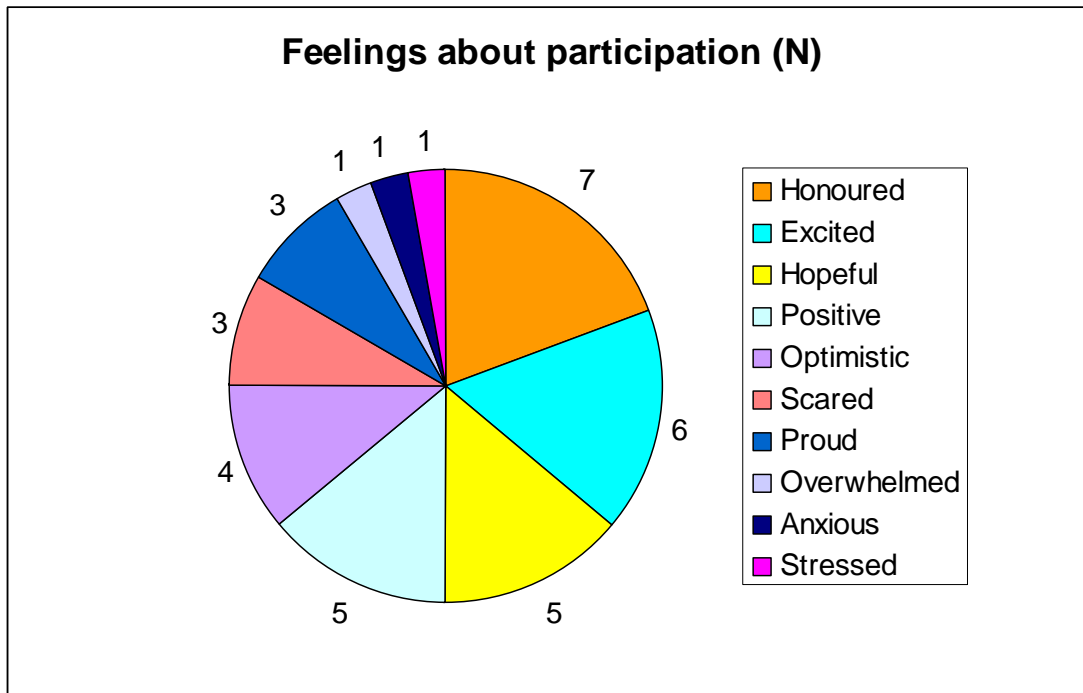


Figure 3 Feelings about participation (N = 15)

(3) Phase 3: interviews

Phase 3, the final source of data, were interviews with the committee members. These interviews were used to clarify issues and provide further insight into themes that emerged during the policy writing process.

Two additional evaluations were also formally conducted as part of the project at the end of each of the two the face-to-face workshops. A very positive response was received with most items rating between 4 – 5 on a five point scale (with 5 being the highest).

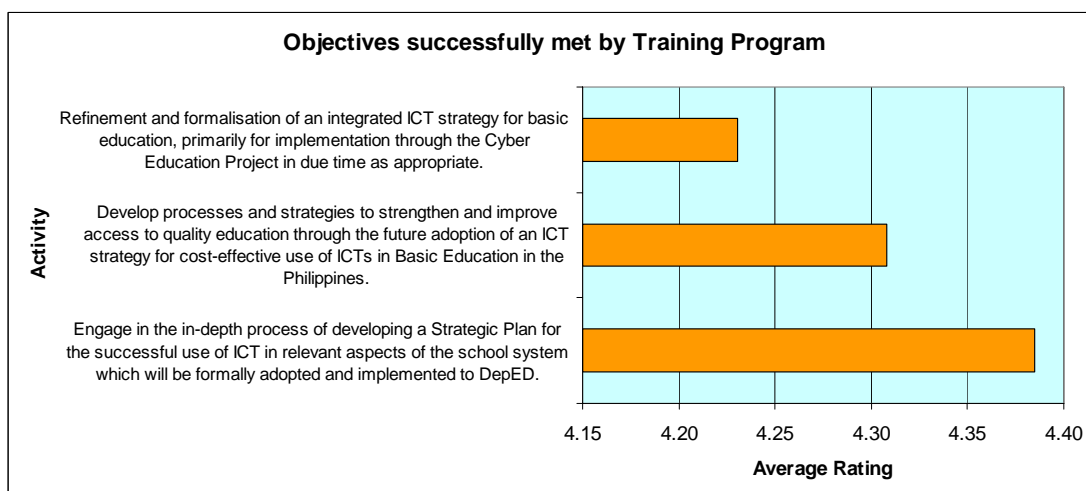


Figure 4 – Objectives successfully met by the Training Program

The team members clearly appreciated the in-depth process of developing a policy. In summary, the salient points of the whole process, some more positive than others were:

1. The policy making team was a group of hand-picked personnel and did not necessarily have widespread representation.
2. The first few drafts of the document did not have cohesion due to the lack of consensus.
3. There was no senior champion for ICT within the group – members did not feel that they had the mandate (a senior member was replaced mid-stream and an additional consultant was brought in as an observer).
4. The existing structure of ministries was not conducive to the various strategic thrusts of ICT contained in the final policy draft. It proved difficult to have one ministry (The Department of Education) to roll out a successful initiative that needed the agreement of various other ministries, who may not have some or the same mandate for aspects of ICT.
5. There was always the prospect of unstable leadership in government.

Lessons learned

As stated above, the project was externally funded and largely an initiative of the Permanent Secretary for Education. There were many vested interests within the group and participation was exclusively drawn from the public sector.

The following lessons learned are not ranked by priority. Rather they provide an interrelated set of observations. We hope that these will prove useful to future policy development teams in developing countries.

One of the main hurdles to the entire process was the poor and non-existent coordination between government ministries. Participants were unsure about who would be given the mandate to do what and when. It became very clear early on that for the processes to succeed we needed to use multi-level information to inform policy development. It is essential to have:

- *high level buy in ;*
- *an integration of teams from different sectors (elementary, secondary, vocational education, alternative education);*
- *obtain a degree of consensus form the outset; and*
- *link policy and strategy to other policy planning processes.*

In the meantime whilst the policy makers were in the midst of drafting they needed an assurance from government for the following to occur:

- *guarantee for resources to fund the initiatives*
- *commitment to implement*

- *a staged approach to implementation*
- *build on existing strengths(not to discard previous initiatives)*

Even though the preparation of the policy document was lead by two researchers, the confusion about who or which ministries were responsible for various items was often a bone of contention and much time was devoted to sorting out these differences. It was also interesting to note that on many occasions the members were arguing about how the Government would create an enabling environment to encourage better integration of various ministries and their functions. After several rather difficult sessions it became obvious that there was clear interest and recognition that the completion of the ICT policy was not an end of the process. Rather it had to be translated into an action plan that could orient implementation. The final draft included recommendations for a series of actions including public consultations and further research. Finally, at the end of nine months the team members rose to the challenge during the final workshop and an ICT policy was derived with some degree of consensus.

Conclusion

The entire process, though difficult, facilitated individual capacity building which took place successfully mainly because the team had to plan in collaboration with the external researchers and projects leaders. Essentially they had to plan each and every step of how to go about drafting the ICT strategic document. For the majority of them this was a very steep learning curve.

The findings of this study suggest that the use of models to help formulate policy documents may be unsuitable for developing nations. The driving need to catch up with the developed world has led these nations to drafting documents that are unsuited, flawed and more likely fail to be implemented. It suggests that educational research has an important role to play in the development of policy in developing nations. Applying a framework (which may be customised from case to case), firmly grounded in educational research, can more fruitfully be used by developing nations to develop an ICT policy document. This framework is more suited to the political, historical, social and cultural imperatives commonly found in developing nations than the more commonly used models of developed nations.

From personal experience in this policy development exercise, we are confident that the government officials involved will now go on to engage in deeper level conversations with other ministry personnel and stakeholders, practice shifts and begin to gain a sense of ownership and control. It is envisaged that policies and resources will be forthcoming to support this initiative and will allow for flexible implementation of the ICT strategic plan in due time.

Acknowledgements

The study described in this paper was based on an AusAid funded project aimed at building capacity in ICT policy development. The study was conducted by the researchers in their own time. The views expressed here are our own and in no way reflect the views of any particular government agencies. We are thankful of the participants' for taking time to provide feedback.

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