

## **Impact of Curriculum Reforms on some Teacher Education programs**

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### **Introduction**

This paper explores the impact and sustainability of current curriculum reforms on some teacher education programs in Papua New Guinea (PNG). A case study approach was adopted with data gathered by interview, observation and document analysis. The focus is on primary school curriculum reforms and their impact on diploma, bachelor, masters and PhD programs at Madang Teachers College or Divine Word University.

My background in recent years has been in working at:

- (a) Madang Teachers College with student teachers, lecturers, consultants in the Primary and Secondary Teacher Education Project (PASTEP) and various parts of the education system related to the pre-service diploma in primary teaching and the in-service Diploma of Education Primary Inservice (DEPI) programs, and,
- (b) Divine Word University with educators in varied positions who are students and lecturers in bachelor, masters and PhD programs.

Some educators misguidedly think of curriculum in terms of syllabus documents. It is more than this. Curriculum refers to ‘all the planned learning opportunities offered to learners by an educational institution *and* the experiences learners have when the plans are implemented’ (Print 1993:9). The materials that come from the Curriculum Development Division (CDD) guide the planning of learning experiences. Consequently CDD materials are of paramount importance in developing people’s understanding of changes that are being promoted under the reform.

While lecturers and teachers do their best to work from CDD curriculum materials, their interpretation may be different from what is intended. Curriculum developers do not begin their task like empty buckets. Their beliefs, values, theories, conceptions, points of view, preferences and experiences have a profound effect on the curriculum that they will produce. They have their opinions of societal and organisational needs, the nature of learners, cultural factors and available resources. What is critical for those who implement curriculum is to gain a shared understanding of the forces that shaped the CDD curriculum materials to be like they are. This is an issue.

### **Changes under the curriculum reform**

Some knowledge of changes in the reform curriculum is needed to appreciate the impact that is intended. Some examples of changes under the curriculum reform are as follows.

Some new subjects have been created such as Making a Living and Personal Development; and some subjects have a name change such as Language instead of

English and Community Living instead of Community Life, (Department of Education 2003, 2004).

Weekly time allocations for subjects have changed. Under the reforms language, mathematics, science, social science in grades 6, 7 and 8 are allocated 180 minutes each week while personal development has 240 minutes and making a living has 360 minutes. This has implications for timetabling and programming.

There is a changed philosophy of education underpinning the curriculum (Matane 1986). This philosophy promotes integral human development for learners to enable them to become productive citizens able to contribute to the development of this nation. The previous philosophy of education aimed at preparing learners for employment in the formal sector of society. With the majority of learners (87%) proceeding to the informal sector of society, there needs to be greater emphasis on vocational skills.

The language policy (Secretary for Education 1999) of the reformed curriculum allows for languages of a community served by a school to be reflected in the school's program; this validates the use of vernaculars, *Tok Pisin* and English as opposed to the English only policy that existed before.

The reformed curriculum uses outcomes to replace objectives. Outcomes are phrased in present tense and may be thought of as competencies. Objectives are phrased in future tense. 'Students identify needs of living things' is an outcome. 'By the end of this lesson students will be able to identify needs of living things' is an objective.

The reformed curriculum is structured around strands, sub-strands, outcomes and performance indicators and teachers need to understand their progression and development from one grade to the next.

With the reformed curriculum, teachers need skills in elaborating on outcomes and developing units of work. Teachers have more autonomy than before in creating teaching programs that have relevance and meaning to students' lives.

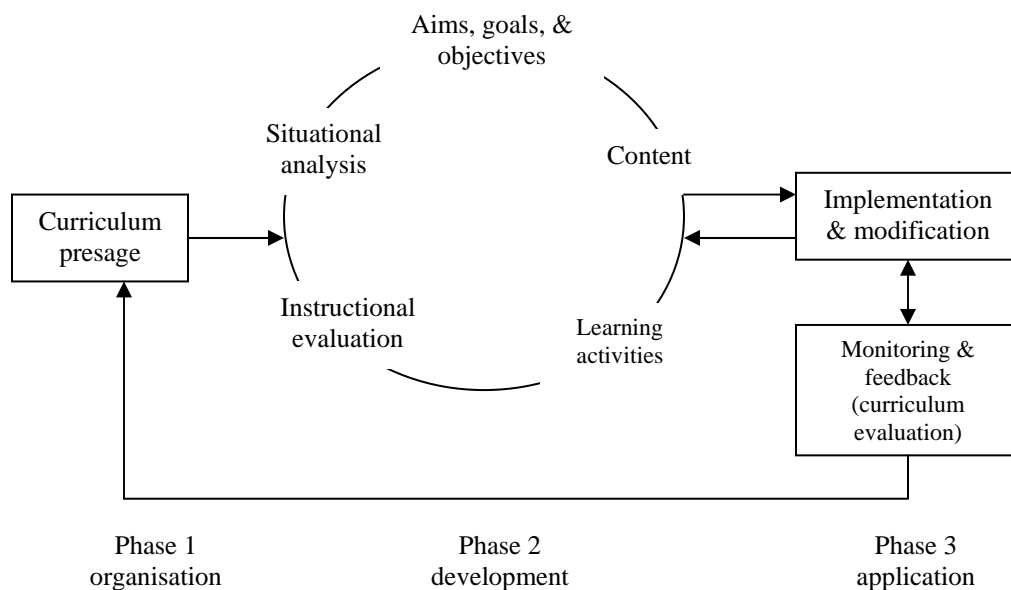
All these changes have implications for assessment, which now focuses on the extent to which students achieve the outcomes. As outcomes have changed, so too do assessment practices.

### **Implementation phase**

The development process for the primary school reform curriculum has moved through the organization and development phases and has now reached the phase where we want to see the ideas applied in practice. For this to happen, change must occur and be supported. In essence, this is what is meant by impact and sustainability.

It is insufficient merely to produce the materials and hope that lecturers will adopt them, although this is primarily what happens at tertiary level. It is to be expected that, as implementation occurs, there will be some modification, as a curriculum cannot possibly be devised to anticipate the diversity of variables operating in teacher education programs throughout the country. Consequently monitoring and feedback is needed at college and university levels and information fed back to the developers. This process is indicated in Print's model of curriculum development.

**Figure 1 Print's model of curriculum development**



(M. Print 1993:84)

Implementation of the reform curriculum must result in change. A well-known set of change strategies is that of Bennis, Benne and Chin (1976) and becomes a conceptual framework. The three dimensions are power-coercive, normative-re-educative and empirical rational. It is acknowledged that a combination of all three is used in a major change such as the current curriculum reform and that the strategies need to be sustained after the distribution of materials and initial training are completed.

*Power-coercive strategies* are based on the control of rewards and punishments. With school-based teachers, the power-coercive strategies come from the National Department of Education and the Inspectorate. If teachers use the ideas and materials of the reformed curriculum, their rewards are favourable reports and praise. If they do not, their punishments are poor performance reports and criticism. The question for teacher education programs is the extent to which anyone has the power of coercion to get universities or college programs to embrace the reforms, or is it left to the professionalism of individuals?

*Normative-re-educative strategies* refer to actions where recipients are trained or re-educated to appreciate the benefits of the new ideas. Strategies include establishing reform curriculum policies, providing materials, acquiring funds, staffing, developing positive attitudes, reviewing information, assessing and increasing knowledge levels, holding workshops, administering end-of-workshop questionnaires, modelling or demonstrating, observing peers, providing feedback, clarifying misconceptions, promoting use, encouraging people on a one-to-one basis, facilitating problem solving, sharing tips informally, reinforcing attempts to change, applauding progress and making presentations at conferences.

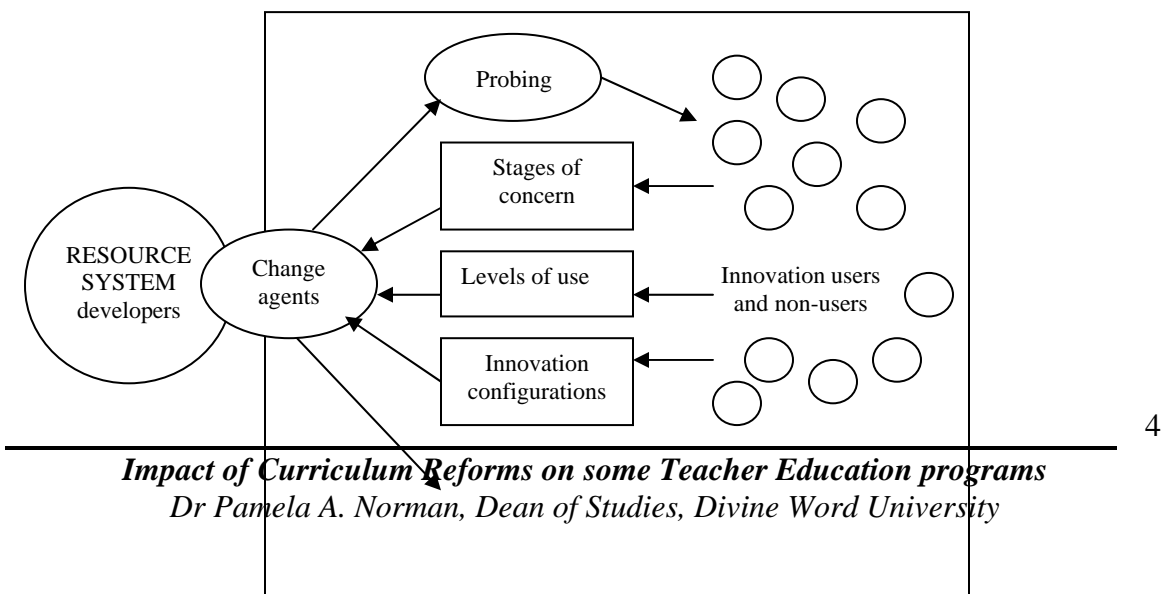
Most of these normative-re-educative strategies are evident at Madang Teachers College where the curriculum reforms have had a major impact on their thinking and performance. However, in general, these normative-re-educative strategies are not evident at university level for lecturers involved in teacher education programs.

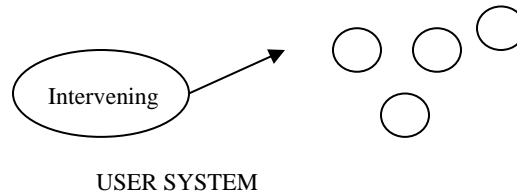
*Empirical-rational strategies* rely upon recipients realising that they should change to incorporate the ideas of the reform curriculum in their best interests. These are the strategies that are most common amongst lecturers in teacher education programs at college or university level. It is an issue of professional pride that lecturers are up-to-date and credible leaders in their fields.

### Change agents

Change agents or change facilitators are significant individuals and groups involved in the process of establishing communication links between the developers and the people who will use the reform curriculum materials. Lecturers in teacher education programs are part of this group. The following diagram illustrates how they probe the needs of users, identify concerns of users, explore levels of use, observe how curriculum intentions are modified by different users and determine appropriate interventions. Findings indicate that there is very limited interaction between developers and lecturers in teacher education programs and vice versa.

**Figure 2 The user system**





(After Heck, Stiegelbauer, Hall & Loucks 1981, p.9)

### **Importance of lecturers**

The greatest single factor affecting the quality of teacher education is the lecturer. While the provision of pre-service and in-service training opportunities for teachers is important (Department of Education 2000:29), little attention is given to how lecturers in teacher education programs become familiarised with curriculum reforms. This is an issue I would like to highlight in this paper. It will take much time, and for some a longer time than others, for lecturers to become familiar with the information in the reform curriculum materials.

The task facing lecturers is quite daunting, particularly if they are in the professional development field and need to be familiar with all subjects across the grades. In lower primary the subjects are Language, Mathematics, Environmental Studies, Community Living, Arts, Health and Physical Education. In upper primary the subjects are Language, Mathematics, Science, Social Science, Arts, Personal Development and Making a Living. I would be remiss not to mention also, that lecturers should know how the primary curriculum interfaces with the curriculum for elementary and secondary learners.

### **Examples of impact on teacher education programs**

The new syllabuses symbolise the essence of the intentions of the reform curriculum in primary schools. They have had an early impact and time will tell whether or not the strategies to support successful implementation are sustained beyond the life of the CRIP project, and whether or not there is evidence that the quality of teaching and learning has improved. It should be remembered that the elementary and upper primary syllabuses were only published in 2003 and the lower primary syllabuses in 2005.

#### **(a) Impact on assignments set for students**

The curriculum reforms have impacted on assignments set for students in teacher education programs. This activity can be sustained, as it is reasonable to expect that students will always be required to demonstrate how learning relates to their work contexts in the assignments they do. As the reform curriculum influences students' work contexts, so too it must influence their assignments. Following are some examples.

(Diploma assignment) Prepare a bilingual big book suitable for use with a particular primary school grade in a particular locality.

(Diru, 2005)

(DEPI assignment) Design an in-service session based on a topic derived from the curriculum reform

(Mariko, 2005)

(Bachelor degree assignment) Prepare a timetable and unit of work to demonstrate the ability to plan from reformed time allocations and a primary school syllabus and teachers guide.

(Norman, 2004)

(Masters degree assignment options)

- (1) Scheme for analysis of curriculum materials
- (2) Analysing worksheets
- (3) Studying a curriculum in action

(O'Donoghue, 2004)

(PhD field of study)

The purpose of the thesis is to explore the challenges, and identify the strategies for effective implementation of the reform curriculum in rural and remote schools in Papua New Guinea.

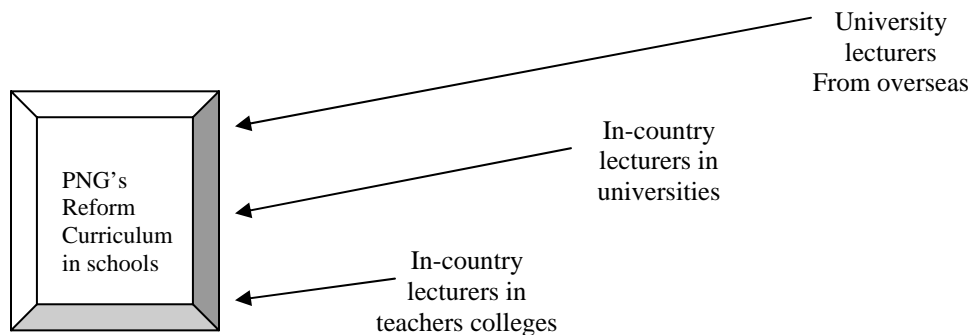
(Aihi, 2005)

Issues for tertiary students are that, in order to be able to do the assignments, they need ready access to materials, access to classroom contexts, and the intellectual ability to interpret reform ideas as intended.

### (b) Impact on lecturers in teacher education programs

The curriculum reforms have impacted on the lecturers involved in teacher education programs. The hypothesis is made that the further a lecturer is from a PNG primary school context, the less familiar they are with the reform curriculum and having an informed basis for matching teacher education programs with learners' needs.

**Figure 3. Lecturers' distance from curriculum implementation in schools**



Too often we are ready to criticise and under-value the expertise of educators in Papua New Guinea. One message I would like to promote is that we should not be afraid to invent our own future. In-country educators are familiar with the contexts and have the capacity to promote curriculum that is relevant to the needs of society. In-country programs have the value of providing greater access to students that if the alternative is to go overseas.

**(c) Impact on the Diploma in Primary Teaching program**

The curriculum reforms have impacted on the Diploma in Primary Teaching program. Its lecturers are closely connected with implementation of the reform curriculum as they are preparing student teachers to implement this curriculum in schools throughout the country.

In a way it is a shame that the curriculum reforms for primary schools began after millions of kina had been spent on reforming the pre-service primary teacher education program in the mid nineties (National Curriculum Guidelines or the Diploma in Primary Teaching 1998) and the subsequent Primary and Secondary Teacher Education Project (PASTEP) in 2000 to 2003. This work was out-of-date almost before it was completed.

In interviews with staff at Madang Teachers College, they listed changes in practices caused by the reform curriculum that included the following:

- Using reform documents, ideas and terminology in planning and teaching
- Revision of outlines of units of study
- Revision of handbooks for students
- Changing to outcomes based assessment e.g. ongoing, cumulative and criterion based
- Re-designing assessment tasks
- Planning and delivering in-service programs to field teachers e.g. planning teaching programs using reform curriculum materials
- Professional development sessions within strands and at whole college staff level on topics related to curriculum reforms, e.g. elaborating on outcomes
- Much professional reading of curriculum reform documents to plan teaching programs and learning activities for students.

Lecturers reported that the gaining of knowledge and skills to deliver teacher education programs at diploma level, relied heavily on personal professional reading, talking with colleagues, and college-based inservice programs and, to a lesser extent, occasional opportunities to be involved in CDD workshops.

For sustainability, lecturers felt a need for increased interaction with CDD officers and the production of curriculum support materials. These would enhance their ability to interpret curriculum documents in the way intended by the developers. There is also an

issue of how well Personal Development is covered, as different college ‘strands’ (or departments) are responsible the different ‘strands’ (or areas) in the reformed subject.

#### **(d) Impact on Bachelor degree programs**

The curriculum reforms have impacted on DWU’s two bachelor degree programs: one specialising in primary teaching and the other in special education. They are home-grown programs that offer relevance and access at affordable rates. Most teachers in these programs are self-sponsored. Most lecturers in the program are resident in Papua New Guinea.

In interviews with a sample of the staff involved in bachelor programs, they listed practices influenced by the reform curriculum as follows:

- Using reform documents, ideas and terminology in planning and teaching
- Designing outlines of units of study
- Collating books of readings and learning guides for students
- Designing assessment tasks
- Much professional reading of curriculum reform documents to plan teaching programs and learning activities for students.

One question is: How do university lecturers gain access to materials and knowledge about reform intentions? This is a difficult question as universities are not a focus for CDD activities. I am grateful to CDD that they have allowed me, on occasional visits to Port Moresby, to obtain materials. Although these are less than two years old, their well-worn condition is evidence of their frequent use. Other lecturers manage by borrowing. I am grateful to CDD staff that, on my occasional visits to Port Moresby, they give generously of their time to talk about programs. A few university lecturers are involved in writing workshops but this is patchy. Contact between lecturers and developers is sporadic which results in limited effectiveness and sustainability.

#### **(e) Impact on Master degree programs**

The curriculum reforms have had little impact on the three Masters programs with which DWU is involved: the Masters of Educational Leadership, the Master of Education (Curriculum) and the Master of Learning Innovation. Apart from some units in the Master of Education (Curriculum), there is little evidence of the impact of the curriculum reforms on these programs.

The Masters’ program specification documents generally mirror programs in Australia and the majority of lecturers come from overseas universities. Large binders of reading materials rarely contain readings about Papua New Guinea. Assignments such as the Masters one previously cited are relatively generic and could appear in an Australian Masters program as easily as a Papua New Guinea one.

It could be argued that, at Masters level, there is greater emphasis on students' abilities to research topics, do professional reading and critically analyse situations. Where overseas lecturers facilitate programs, it seems that they provide the theoretical parameters for studies, and the students fill in the gaps for practical application.

Hopefully this situation will change as more in-country doctoral level lecturers with appropriate expertise become available to facilitate Masters programs. For sustainability we need home-grown programs with in-country lecturers who are familiar with the reform curriculum and learners' needs.

**(f) Impact on the PhD program**

The curriculum reforms have impacted on the Doctor of Philosophy (PhD) program at DWU. Two scholars are carrying out research into issues associated with education delivery to rural and remote schools in Papua New Guinea. One scholar is exploring leadership issues and the other is exploring curriculum implementation issues. Their research will span the next three years. A major focus of their research is how the curriculum reforms are being implemented and supported in rural and remote schools. The curriculum reforms influences the type of data they will be seeking to collect.

**Understanding change**

In exploring issues associated with impact and sustainability of curriculum reforms, it is helpful to have the following understandings about change.

- Change is a process, not an event. The process occurs over time.
- Change is made by individuals first.
- Change is a highly personal experience.
- Change involves multilevel growth.
- Change is best understood in operational terms.
- Change facilitation must suit individual needs.
- Change efforts should focus on individuals, not innovations.

(Hord 1987, pp. 93-96)

At this moment in time, we are beginning a process of curriculum implementation that involves multilevel growth that will occur over time. The following levels characterise a person's development in acquiring new skills and varying use of the CDD materials. Each encompasses a range of behaviours, but is limited by a set of identifiable decision points.

LOU 0 Non-use: State in which the user has little or no knowledge of reform syllabuses and is doing nothing towards becoming involved

*Decision point A: Takes action to get information about the reform syllabuses*

LOU1 Orientation: State in which the user is acquiring knowledge about the reform syllabuses and their implication for practice

*Decision point B: User makes a decision to use the reform syllabuses by establishing a time to begin*

LOU 2 Preparation: State in which user is preparing for first use of reform syllabuses

*Decision point C: Use is dominated by user needs*

LOU 3 Mechanical Use: State in which user focuses most effort on short-term, day-to-day use of reform syllabuses; changes in use are made more to meet teacher needs than learner needs

*Decision point D1: A routine pattern of use is established.*

LOU 4A Routine: Use of the reform syllabuses becomes routine and few changes are made in their ongoing use.

*Decision point D2: As a result of reflection and evaluation, user decides to make changes to better meet the needs of students.*

LOU4B Refinement: State in which the user varies the use of reform syllabuses to increase the impact on students in her/his immediate sphere of influence

*Decision point E: Initiates changes based on input from and in coordination with colleagues.*

LOU 5 Integration: State in which the user is combining own efforts with related activities of colleagues to achieve a collective impact on students in their common sphere of influence.

*Decision point F: Begins exploring alternatives to, or major modifications of, the syllabuses presently in use.*

LOU 6 Renewal: State in which user re-evaluates the syllabuses, seeks major modifications or alternatives, examines new developments and explores new goals for the system.

(Loucks, Newlove & Hall 1975)

## **Conclusion**

To summarise, the curriculum reforms have impacted on teacher education programs. This is evident in the planning of units of study, collation of student learning materials, the use of ideas and terminology in teaching, the assessment tasks set for students, and the professional reading done by lecturers. From the data gathered, it was found that the impact and support for the curriculum reforms were more strongly evident in programs at Madang Teachers College than at Divine Word University.

The critical issue is for teacher educators to gain an accurate and shared understanding of the forces that shaped the CDD curriculum materials. It is essential that lecturers receive and read the materials for ideas to be included in their practices. Interaction by teacher educators with developers was found to be minimal and advantage needs to be taken of opportunities when they arise.

Support for curriculum reforms is sustainable as long as educators have the materials. It is an issue of professional pride for most teacher educators that they are up-to-date with curriculum developments and credible leaders in their fields.

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### **About the author**

Dr Pam Norman is the Dean of Studies at Divine Word University. She came from Brisbane to Papua New Guinea in 1964. In PNG she has taught at primary, secondary and tertiary level and is an author of Home Economics and Making a Living text books. She has been a curriculum consultant in Western Samoa, Solomon Islands and Abu Dhabi. She obtained her doctorate on teacher use of indigenously developed curriculum materials from the Northern Territory University in Australia. Her current research interests are in curriculum and teacher education.

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