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Lecturer Receptivity to a Major Educational Change in the Context of Planned Change at Rajabhats in Thailand

A. Ketusiri

2005

PhD

LECTURER RECEPTIVITY TO A MAJOR EDUCATIONAL CHANGE IN THE CONTEXT OF PLANNED CHANGE AT RAJABHATS IN THAILAND

by

Anusak Ketusiri
B.Ed., M.Ed.

A Thesis Submitted in Partial Fulfillment of the Requirements for the Award of Doctor of Philosophy

in the Faculty of Community Services, Education and Social Sciences at Edith Cowan University

Date of submission: April, 2004

USE OF THESIS

The Use of Thesis statement is not included in this version of the thesis.

ABSTRACT

In accordance with the National Education Act of 1999, the educational system in Thailand was changed after 1999, the largest educational change in Thailand in 50 years. The achievable aims of the change were divided into eight main aspects covering, primary, secondary and higher education. These were: (1) ensuring access to basic education for all; (2) reform of the curriculum and learning processes; (3) encouraging participation and partnership in education; (4) restructuring of educational administration; (5) enhancing educational standards and quality assurance; (6) reform of teachers; faculty staff, and educational personnel; (7) mobilisation of resources and investment for education; and (8) utilisation of technologies for education.

This study focuses on higher education and aims to: (1) investigate lecturer receptivity to the major change, in the context of planned educational change at Rajabhat Universities, (2) investigate the relationships between lecturer receptivity, and nine aspects to the change, and (3) investigate why Thai lecturers at Rajabhats hold the attitudes that they do. Lecturer receptivity was conceptualised as composed of nine aspects, jointly influencing receptivity. They were: (1) attitude to the change in comparison with the previous system, (2) practicality in the classroom, (3) alleviation of concerns, (4) learning about the change, (5) participation in decision-making, (6) personal cost appraisal, (7) collaboration with other lecturers, (8) opportunities for lecturer improvement, and (9) perceived value for students. For each aspect, lecturers would have developed expectations that would, in part, influence their behaviours, and their receptivity to the change.

Data for the study were collected in two parts. Part one involved a survey questionnaire (N=659), and part two was face-to-face interviews (N=30). Initial findings from part one, the survey questionnaire became the basis for planning part two, the face-to-face interviews.

The 2000 Rasch Unidimensional Measurement Model (RUMM) Computer

Program was used to create a linear scale of lecturer receptivity. Initial analysis with the RUMM program tested the 150 items (50 items answered in three perspectives) in order to create a proper linear scale of lecturer receptivity. The non-performing items (96 items out of 150) were deleted from the scale, leaving only 54 items that fitted the measurement model. Data from the final 54 items of the questionnaire have a good fit to the measurement model, indicating a strong agreement between all 659 Rajabhat lecturers to the different difficulties of the items on the scale. The Index of Lecturer Separability for the 54 item scale is 0.95, meaning that the proportion of observed variance considered true is 95%. The data indicate that a good scale of receptivity has been created, that the data are reliable and consistent, that the errors are small in relation to the measures, and that the power of the tests-of-fit are excellent. The aspects and items were based on a model of receptivity and the measure of receptivity was based on a mathematical model of measurement (Rasch), meaning that one can have confidence in making inferences when the data fit the two models.

The results show that eight of the nine aspects influenced the formation of lecturer receptivity to the change in conjunction with each other. Opportunities for lecturer improvement did not influence receptivity in conjunction with the other eight aspects. The easiest aspect was comparison with the previous system; the hardest aspect was participation in decision-making. For most items in the eight aspects the perspectives were ordered. How I expect the change to be planned was easiest, How I think the change was really implemented was harder, and My actual behaviour towards the change involves .... was hardest, as conceptualised.

The data for each of the nine aspects were then analysed separately with the RUMM computer program to create nine separate, good quality scales of each aspect. For most items, the three perspectives were ordered from easy to hard, as conceptualised.

Interviews were arranged with 30 Rajabhat lecturers who were asked 18 questions covering the major educational change. Nearly all lecturers commented that the new system was better than the previous system because it: (1) was aligned with

the present economic, societal and globalisation aims for Thailand; (2) provided educational unity (brought Thai people together in a common cause for good); (3) provided standards and quality assurance for Thai education; (4) implemented a new and better culture of learning; (5) provided for equal rights and opportunities for learning; (6) provided for lecturer development and support; and (7) implemented educational decentralisation to some extent, to improve the Rajabhat Universities.

All the lecturers had mostly positive comments to make about each of the nine aspects of receptivity to the change and they gave reasons for their views.

DECLARATION

I certify that this thesis does not to the best of my knowledge and belief:

(i) incorporate without acknowledgment any material previously submitted for a degree or diploma in any institution of higher education;

(ii) contain any material previously written by another person except where due reference in made in the text; or

(iii) contain any defamatory material.

Signature

Date 13 April 2005

ACKNOWLEDGMENTS

This study would not have been possible without the support of many people. I am indebted to the initial encouragement from the president and administrators' staff of Ubon Ratchathani Rajabaht University, and Mrs. Buntiwa Ketusiri who gave me the confidence to embark on this learning journey.

My grateful thanks are extended to the lecturers who generously gave their time to participate in the study through pilot tests, completing the questionnaire and being willing subjects face-to-face interviews. Their cooperation and involvement has provided valuable knowledge and insight into the lecturer receptivity to a major new educational change at Rajabhats in Thailand.

In particular, I gratefully acknowledge the support and encouragement from my principal supervisor who has been central to the completion of this research. I thank sincerely, Dr. Russell Waugh, Edith Cowan University, for his patient imparting of his knowledge and expertise in Rasch analysis. His continual assistance and support through monitoring my progress and providing critical comment have been very much appreciated. I am sure that no one else provides detailed feedback as promptly as he does.

Finally, I wholeheartedly thank my family for their enduring support and extended forbearance.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF TABLES (continued)

LIST OF TABLES (continued)

LIST OF FIGURES

LIST OF FIGURES (continued)

CHAPTER ONE

INTRODUCTION

This chapter introduces the reader to a major planned educational change at the Rajabhat Universities in Thailand, and it is probably the largest and most far reaching change in the last 50 years of education in Thailand. Following the introduction, the background to the study and its relevance are discussed. Next, the limitation, significance, purpose of the study, and research questions are presented. Finally, some terms used in the study are defined, and the structure of the thesis is outlined, providing a brief overview of each chapter.

According to the National Education Act of 1999 in Thailand, Rajabhat lecturers must adapt themselves to a change in order to work in the proposed new culture of education in Thailand. The change is concerned with new knowledge and practices. The systems involving institutes of higher education, secondary schools, and primary schools will be different from the previous systems. Lecturers and teachers will have to be active learners. They will need to develop their professionalism, their use of innovation and technology for education, and their assessment for quality assurance (Bell & Harrison, 1998, pp.75-77).

There are more than 600 higher educational institutions distributed throughout every region of Thailand, and one category of them is the Rajabhat Institute (now called Rajabhat Universities). These institutions were controlled by ten government organisations and one private organisation (Office of the National Education Commission, 1999a). In accordance with National Education Act of 1999, the administration and management systems in these higher educational institutions must be changed. The changes will lead them into a new culture. One new cultural aspect is that all educational institutions providing education at degree level have become legal entities that are allowed to function with some academic freedom, within the central control of the Office of the National Education Commission. Each institution can develop its own administration and management system with flexibility and academic freedom under the supervision of the institutional council empowered by its own Act

(Office of the National Education Commission, 2001). The education personnel in Thailand, including those in the Rajabhats, will be classified into four categories of staff. They are teaching staff, administrative staff, educational support staff, and other educational support staff (Office of the National Education Commission, 2001). Moreover, higher education institutes will be given two allocations of resources. These are public and private sources – public expenditure for education includes the central government budget and subsidies for local funding and private expenditure, while the private sources are expenditure from households and other non-government sources (Office of the National Education Commission, 2002, p.27). Provision of matching grants for capital costs of public higher education institutions will be based on a long-term development plan, which is in line with the higher education development plan. Distribution of budgetary allocations for operating costs of public institutions will be based on the relative funding model (Office of the National Education Commission, 2001). In terms of the relative funding model, Rajabhat Universities will receive their funding on the basis of the number of the students who choose to enroll (Salmi, 1999, p.62). As a result, lecturers of Rajabhat Universities will be placed in a new environment that will be concerned with the characteristics of the change, managing the change, value for the lecturer, and perceived value for students.

The change has been implemented in two phases so far and this is consistent with some research on system-wide educational changes in centrally controlled systems. These are an initial planning stage (up to 1999) and then an implementation stage from 2000 onwards. Previous research on planned educational changes, when successful, shows that they have a life cycle that can be divided into three stages: initiation, implementation and routinisation (Moroz & Waugh, 2000, pp.159-178; Waugh, 2000a). Initiation refers to the processes and planning which lead up to and include the decision to proceed with the change. This may take from several months to many years. Implementation refers to the first use of the change on a system-wide basis in the organisation and may extend up to four years or more. Routinisation refers to whether the change becomes an ongoing part of the system.

The change will profoundly influence both the content and delivery system for traditional higher educational institutions such as Rajabhats in Thailand. Staff at

Rajabhats will have to rethink their delivery and teaching procedures and the way in which they teach people to learn. This leads to the focus of this study, lecturer receptivity to a major new policy change (in the context of planned change at Rajabhats in Thailand), that has been declared since 1999, and is expected to be fully implemented, Thailand-wide by 2002.

Background to the study

Change in higher education

In the competitive 1990s, higher education institutions have come to accept that they must adopt some business-type procedures in order to succeed, and they must be committed to satisfying the needs of their clients in the education community. New modes of teaching and learning should be developed in higher education institutes, such as building educational quality, providing for lifelong learning of all, and a renewed focus on professional purpose for higher education (Office of the National Education Commission, 2002, p.68). Particularly, the quest for better quality higher education must be linked to the quest for cost effectiveness in higher education. Bell and Harrision (1998) went further to state:

> ...If universities do not wish to be regarded by governments or by communities as 'arrogant' or 'self-serving', then they must match cost to outcome, and not simply keep on putting off the day of reckoning through trying to raise yet more money by increased student charges or other escape routes...(p.74).

Kasetsart University (1997, pp.331-332) reported on a study of the requirements of higher education in Thailand. Higher education institutes: (1) need to be the right-size and suitable for efficient management; (2) should be democratic institutions in which people can participate freely; (3) have modern educational technology suitable for student learning and the transfer of knowledge; (4) be able to do research and develop new knowledge; (5) be able to hire personnel for quality and virtue; (6) provide students with quality outcomes; (7) provide a diversity of curriculum and be responsive to the needs of their communities; (8) be able to work joint ventures

between business and organisations; (9) be able to network with other organisations to share knowledge and expertise; and (10) be able to take advantage of the internationalisation of knowledge, expertise and resources to benefit Thailand and the Thai people.

Coaldrake and Stedman (1998, p.147) stated that higher education institutions in countries like Thailand must be concerned with these areas, and they cannot now be avoided. Academics have long been accused of being remote from the concerns of society, and sometimes from their students. Academic expertise has been debated in Thailand around the concept of higher education autonomy, which basically means being able to conduct and implement one's own affairs, and be accountable for them. Higher education is already autonomous in the sense that academics decide what they teach and research, how they will do it, and who will be admitted.

Bell and Harrison (1998) stated that higher education institutes in Thailand have become aware of the gap that is widening between their own cultural positions and actual environmental change. Thus, changes in educational organisation have to be made rapidly in order to close the gap that has emerged between culture and reality. Basic research and industrial development of new technologies has helped produce more efficient services and products in other countries; Thailand has to 'catch up'. The 'knowledge centres' in Thailand need to carry new approaches, ideas, and practices into Thai communities. Culture changes in education at the universities through technology and globalisation have led them to require planning in two directions. These are new kinds of teaching and learning resources, and new staff policies. In order to achieve high quality in professional development in these two directions, planning will develop changes that link staffing policies (S) with new high quality teaching modes (T), new information and education technologies (I), and research enhancement (R)[1]. This is expected to include new aspects such as: (1) full opportunities for professional development of existing staff; (2) careful analysis of the

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[1] From these letters, the acronym STIR was used in reference to stirring the pot of higher education.

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need to recruit new staff; (3) the development of the staff towards enhancing both their teaching and research; and (4) achieving satisfaction among their students, the professions, local communities, and governments (Nixon, Martin, McKeown, & Ranson, 1997; Venables, 1997; Bell & Harrison, 1998, pp.75-77).

Eisemon et alia (1999, pp.17-18) have suggested that the organisation which controls higher education institutions should better define and provide for five aspects of higher education reform. These include: (1) a strategic assessment of national high level human resource requirements; (2) periodic assessment of performance of the institutions; (3) attestation of the credentials they award; (4) providing core budget funding for higher education institutions, funding for capital improvements, scholarships to students, and support for graduate education and research; and (5) establishing certain system-level policies governing academic employment and promotion.

Tack (2001) asserted that there are eight major challenges facing higher education in all countries, including Thailand. These are: (1) globalisation; (2) increased internal and external competition; (3) diminishing financial resources; (4) dramatically different students; (5) a radically changed role for faculty; (6) a significant assessment and accountability movement; (7) sweeping reform of instruction because of technology advances; and (8) redefinition of research and scholarship.

According to emerging related literature mentioned above, there are at least five main aspects that would impact on higher education in Thailand. They are: 1) globalisation and information technology, 2) new professional development, 3) strategic partnerships and links, 4) autonomous institutes, and 5) financial management. All this led to the development and planning of the largest change in education in Thailand for 50 years.

Educational reform in Thailand

Thailand has been confronted with major social changes from within and from its interconnection with the complex and rapidly changing world (Office of the National Education Commission, 2002, p.14). These changes can be overwhelming

for both individuals and society, and they may cause imbalances in various aspects of development. Present social institutions have failed to adapt themselves to these formidable changes. The results are organisational weaknesses, confusion, conflicts and suffering. Social reform is indispensable in order to strengthen all parts of society. Since it is believed that education is a very important process to enhance individual development, which will contribute to the social and economic development of the country, educational system reform is one of the most important areas of social reform. It will enable Thailand to move through the current crisis (Office of the National Education Commission, 1999b).

There has been continuous movement to push educational reforms by both the public and private sectors in Thailand during the 1990s. The first successful attempt was the inclusion of various provisions relating to education in the 1997 Constitution (the National Education Commission, 1999b). Among these provisions, there were two paramount impacts on education in Thailand. They were: equity for all in receiving at least 12 years of basic quality education; and enactment of the National Act, which is the first in the history of Thai education and will allow education improvements on all aspects. In the other words, educational systems in Thailand will be allowed to improve at least eight main categories, such as ensuring access to basic education for all, reforming the curriculum and learning processes, encouraging participation and partnerships in education, restructuring educational administration, enhancing educational standards and quality assurance, retraining teachers, faculty staff, and educational personnel, mobilizing the resources and investment for education, and utilizing technology for education.

Urgent steps were taken by concerned agencies in Thailand to make preparations for the enactment of the National Education Act in order to meet the many requirements stated in the various provisions, especially in the universalisation of 12 years of basic quality education. The drafting of the National Education Act was made on a number of significant issues, such as basic academic information, scrutiny by scholars, participation of all stakeholders, public relations, and public polling.

On 1st July 1999, the Bill received final approval in principle from the House of Representatives. A period of one year and 11 months was devoted to its drafting. On August 14, His Majesty King Bhumibol Adulyadej, graciously granted His Royal

assent for the promulgation of the National Education Act, B.E.2542 (1999), which was subsequently published on 19th August, 1999 in the Government Gazette and brought reform into effect in December the same year (Office of the National Education Commission, 1999b). Consequently, the structure of the educational systems in Thailand must be changed and be reformed. These changes include primary education, secondary education, and higher education. The present study focuses on higher education.

According to this Act, higher education in Thailand is divided into three levels (Office of the National Education Commission, 1999c). They are (1) lower than bachelor degree level, which aims to promote learners' knowledge and vocational skills at a moderate level; (2) bachelor degree level, which aims to promote learners' higher level of knowledge and skill in various disciplines; and (3) graduate level, which aims to promote learners' special knowledge and skills.

Higher education systems have been affected in at least four aspects, such as the principles of educational provision, the structure of administration and management, quality assurance of education, and mobilization of resources and capital for education. The Act aims to stimulate higher education to lead the Thai people to develop their skills to be competitive with other countries. Higher education in Thailand must be reformed in line with the National Education Act. Some important aims of higher education will be reformed. They are: (1) to adjust the missions and functions of higher education in similar directions, (2) to give the chance of equality for learning in higher education to each part of society, (3) to promote academic standards and quality assurance so that higher education is acknowledged in local areas, country areas, and internationally, and (4) to improve administration and management systems so that they are autonomous institutions, abreast of the time, and to mobilize all resources to ensure education is efficient, and ensure accountability (Office of the National Education Commission, 1999c).

In order to achieve these aims, higher education in Thailand must be reformed in various aspects. Higher education has to manage the new structures of organisation administration and support educational quality assurance (Office of the National Education Commission, 1999a).

The creation of Rajabhat Universities

A new educational system in Thailand was founded in the reign of King Rama IV, King Mongkut, more than one hundred years ago. At first, this new type of education was provided to princes and princesses only, while ordinary people had to study with monks in monasteries (Hunnakin, 1978, pp. 121-123; Sitthironnarit, 1979, pp.32-33). This situation continued until the reign of King Rama V, King Chulalongkorn, who upon his return from visiting European countries, brought a new educational system to Thailand. He founded an elementary school, the Royal Pages' School, and also a teacher training school (Office of Rajabhat Institutes Council, 2002).

That first teacher training school in Thailand was founded in 1892 at the former Yos-se Orphanage (The Children's Home) in Bangkok for the purpose of training elementary school teachers. As education expanded, the need for teachers inevitably increased. This resulted in the establishment of teacher training schools, both in metropolitan and provincial areas, to prepare teachers for teaching in elementary and secondary schools. In 1928, there were 25 such schools in operation, offering programs leading to a primary teaching certificate and a secondary teaching certificate (Jumpathong, 1979, p. 7; Ministry of Education, 1964).

It was not until 1954, however, that a separate teacher education department was established in the Ministry of Education (Hunnakin, 1978, p.171; Jumpathong, 1979, p. 8). This constituted a major reorganisation of the teacher education system, responsible for training qualified teachers for elementary and secondary schools throughout the country.

During the early years, up to 1975, teachers' colleges offered two programs. One, leading to the lower Certificate in Education, provided for those who had finished junior high school education, a two-year program to prepare them to become elementary school teachers. The second program, leading to the High Certificate in Education, provided for those who had finished senior high school education (a two-year training course), to prepare them to teach in secondary schools (Office of Rajabhat Institutes Council, 2002; Office of Educational Reform, 2000, pp. 592-593). However, in 1975, as a result of the expansion of compulsory education, the high rate

of population growth and the need to upgrade the quality of secondary school teachers, the teachers' colleges began to offer a four-year program leading to a bachelor's degree in education and, throughout the following years, these four-year programs of specialisation have expanded to include various other subject areas, such as education, sciences, and arts, in order to meet the needs of the continually growing community.

The teachers' College Act of 1975 (Office of Rajabhat Institutes Council, 2002) established teachers' colleges as institutions of education in order to provide academic knowledge, and for training qualified teachers to the bachelor's degree level (Jumpathong, 1979, p. 13). They were also required to conduct research, to promote the quality and status of the teaching and administrative personnel, to maintain and conserve culture, as well as national identity, and provide academic services to the community. For about ten years, teachers' colleges performed this function effectively, by training teachers with better qualifications to fill all teaching positions. However, owing to a surplus of teacher education graduates, the Teachers' College Act of 1975 was revised in 1984 (Office of Rajabhat Institutes Council, 2002). As a result of this Act (Teachers' College Act of 1984), the Teacher Education Department represented by the 36 teachers' colleges, diversified their curricula to train manpower in fields other than education (Office of Rajabhat Institutes Councils, 2002). Various subject areas were offered in the teachers' colleges, in accordance with the needs of the locality, and based on research conducted prior to the curricula design. These curricula aim to equip the learners with competence, knowledge, skills and good attitudes towards their future profession, as well as managerial skills and creativity. They also provided learners with continuous practice and on-the-job training opportunities. Graduates from teachers' colleges are well prepared to work in these new-teaching professional areas.

1992 marked the centenary of teacher education in Thailand, and also saw the Department of Teacher Education assuming wider roles in the education of future professionals to serve the nation. Consequently, there was a serious effort to find a name which would accurately reflect the teachers' colleges' new tasks and functions. On February 14th, 1992, His Majesty King Bhumibol Adulayadaj, graciously conferred the name "Rajabhat Institute" on the teachers' colleges. This name means

'the Royal Official' (Office of Rajabhat Institutes Council, 2003, 2000). The Department of Education and the teachers' colleges feel the deepest gratitude for His Majesty's favour (Rajabhat Institute Ubon Ratchathani, 2002b, p.5; Office of Educational Reform, 2000, p. 584).

The Rajabhat Institute Act of 1995 brought changes to the colleges' institutional structure, administration and autonomy. Up to then, colleges had been required to offer certain first degree programs, and could opt to offer other authorised programs in education, arts and sciences. Many restrictions have now been removed from the fields and specialisations that the Rajabhat Institutes can offer. Subject to a process of authentication and accreditation, each college may now offer programs leading to first, second or third degrees, and intermediate diplomas. An effect of these changes, and of the autonomy that they create, is to establish 41 locally-oriented institutions endowed with greater flexibility and capacity to provide for the country's educational needs (Office of Rajabhat Institutes Council, 2002). Thus, they will be called Rajabhat Universities in 2002 in line with the National Education Act of 1999 (Rajabhat Institute Ubon Ratchathani, 2001c, pp. 22-28).

Relevance of the study

Importance of the educational change to Thailand

The development pattern of the change in Thailand has been modeled on many western industrialised countries. The social, cultural and environmental impacts on Thai society, as a result of economic – led policy, are evidence that there is a need for a new development paradigm to help the country fully realise its economic potential and maintain its social and cultural identity. Amid fierce competition and striving to gain comparative advantages within the international community, together with the growing competitiveness of neighbouring countries, Thailand will have to move from resource-based and labour-intensive industries to a more advanced and knowledge-based economy (Office of the National Education Commission, 2002, p.6).

The future of Thailand rests with the ability of the Thai people to secure economic prosperity that goes hand in hand with social well being. The massive

influx of foreign culture, coupled with the weakening of traditional Thai values, have necessitated a counter-movement for cultural regeneration and preservation of Thai identity (Office of the National Education Commission, 2002, p.6). Currently, Thailand has entered a period of cultural revitalisation, needed as an antidote to the economic crisis and moral confusion. The social order restoration policy implemented throughout the country has been widely supported by the majority of people (Office of the National Education Commission, 2002, p.6). The policy emphasises in particular the crackdown on drug trafficking and smuggling which is now identified as a threat to national security. The crackdown, through strict enforcement of the law to deter crime, is one measure the Government uses to address social problems.

Thailand is radically improving its educational and training systems as the foundation of national development. In order to address the economic and social problems, particularly the anticipated economic slowdown and rising unemployment, the system of education and training will provide Thai people with self-sufficiency and adaptability. It will be, therefore, the kind of education that gives the people not only general and vocational skills, but also adequate learning skills, a love for learning and learning how to acquire skills. It is an education which provides the people with the ability to make rational judgments and choices, prepares them to take up prospective occupations, and gives them a common ground to share with other members of society. This kind of education will pave the way for Thailand to become a learning society (Office of the National Education Commission, 2002, p. 7; Ministry of Education, 2001, pp. 1-3). In order to achieve a learning society, the educational system in Thailand is being reformed in accordance with the National Education Act of 1999.

Significance

This study will add to knowledge in at least three ways. They are: (1) new knowledge of the change; (2) improving theory of change; and (3) improved variable measures. This study is very important for the decision-makers of the planned, major educational change in Thailand. The decision-makers want to improve the educational standards for the Thai people. This study will provide new knowledge about the

receptivity of Thai lecturers to the proposed change in the implementation stage. This knowledge may be very useful to them in deciding how to proceed during the later stage of the implementation process.

The study uses a general model of receptivity to system-wide educational change. The model has not been tested in Thailand. A test of the model will provide new knowledge about the theory of the major educational change in a centrally controlled system. The study will test a method of using a Rasch computer program to create a single scale of receptivity based on nine teacher-change aspects. The nine aspects are: (1) attitude to the new system compared to the previous system, (2) practicality in the classroom, (3) alleviation of concerns, (4) learning about the change, (5) participation in decision-making, (6) personal cost appraisal, (7) collaboration with other lecturers, (8) opportunities for lecturer improvement, and (9) perceived value for students. This will add new knowledge on each variable and test whether a Rash measurement model can be used to create a linear scale for each variable with expectations and behaviours calibrated on the same scale.

The data for each of the nine aspects will be tested for validity and reliability using statistics involved in a recently developed Rasch computer program (RUMM; Andrich, Sheridan, Lyne & Luo, 2000). This could improve our knowledge of the measurement of the variables used in understanding system-wide educational change.

Aims and Research questions

Purpose of the study

There are three aims of the study.

1. To investigate lecturer receptivity to a major new educational policy change in the context of planned educational change at Rajabhats in Thailand;
2. To investigate the relationships between lecturer receptivity, and nine lecturer-change aspects: (1) attitude to the new system compared to the previous system, (2) practicality in the classroom, (3) alleviation of concerns, (4) learning about the change, (5) participation in decision-making, (6) personal cost appraisal, (7) collaboration with other lecturers, (8) opportunities for lecturer improvement, and (9)

perceived value for students, in the context of three perspectives: (1) How I expect the change to be planned, (2) How I think the change was really implemented, and (3) My actual behaviour to the change involved; and

3. To investigate why Thai lecturers at Rajabhats hold the attitudes towards the change that they do, and help understand their behaviour towards the change.

Research questions

1. Can a proper linear scale of lecturer receptivity to change, involving nine aspects and three perspectives of the change, be created where the receptivity measures are calibrated on the same scale as the item difficulties, using a new Rasch computer program? The nine aspects are: (1) attitude to the new system compared to the previous system, (2) practicality in the classroom, (3) alleviation of concerns, (4) learning about the change, (5) participation in decision-making, (6) personal cost appraisal, (7) collaboration with other lecturers, (8) opportunities for lecturer improvement, and (9) perceived value for students. The three perspectives are: (1) How I expect the change to be planned, (2) How I think the change was really implemented, and (3) My actual behaviour to the change involved.

2. Can proper linear scales be created for each of the nine aspects of change, using the Rasch computer program?

3. Can the linear receptivity scale involving all aspects together be used to interpret the expectations and behaviours of Rajabhat lecturers to the change?

4. Can each of the nine new scales be used to interpret Rajabhat lecturer expectations, and behaviours towards a recently implemented planned educational change in Thailand?

5. What are the reasons that lecturers give for holding their expectations of, and behaviours towards, the recently implemented planned educational change?

Limitations

The results of this study apply to the lecturers in the South of the northeastern group of Rajabhat Universities in Thailand: Ubon Ratchathani, Surin, Buriram, and Nakhorn Rachasima. The results cannot be generalised, strictly, to all lecturers of all Rajabhat Universities in Thailand. However, there do not seem to be any reasons why

the results should not be applicable to all Rajabhats in Thailand.

A main study constraint lies in the research model itself. Lecturer receptivity towards the new educational policy is likely to be complex; involving the interaction of many variables, and it is not possible to detail all these interactions. The model attempts to isolate the most important variables in order to simplify the study and to provide some general guidance and understanding for the researcher. A limitation lies in the extent to which the nine chosen variables are actually the most important ones and that other important variables have not been omitted, and to how well the simplified model of receptivity can be used to understand complex interactions in a major educational change.

Definitions of terms

There are some important definitions of terms in this research.

The educational change is defined as educational system reform in line with the National Education Acts of 1999 in Thailand.

Receptivity to the educational change is defined in term of nine aspects (1) attitude to the new system compared to the previous system, (2) practicality in the classroom, (3) alleviation of concerns, (4) learning about the change, (5) participation in decision-making, (6) personal cost appraisal, (7) collaboration with other lecturers, (8) opportunities for lecturer improvement, and (9) perceived value for students. Each item of each variable is measured in three perspectives: (1) How I expect the change to be planned, (2) How I think the change was really implemented, and (3) My actual behaviour to the change involved.

New Policy is defined as the National Education Act of B.E.2542 (1999) of Thailand.

The National Education Act of B.E.2542 (1999) is defined as the National Education Act, which was subsequently published on 19th August 1999 in the Government Gazette in Thailand.

ONEC is defined as Office of the National Education Commission, abbreviated as ONEC, which is under the jurisdiction of the Office of the Prime Minister, Kingdom of Thailand.

A Rajabhat University is defined as a higher education institute, which is mainly under the responsibility of the Ministry of Education in Thailand, and was formerly called Rajabhat Institute.

A Lecturer is defined as person with major responsibilities for learning and teaching and encouragement of learning through various methods in a Rajabhat University such as Ubon Ratchathani, Surin, Buriram, and Nakhorn Ratchasima, in Thailand.

ORIC is defined as Office of Rajabhat Institutes Council in Thailand, abbreviated as ORIC.

Structure of the thesis

This thesis is reported in eleven chapters.

Chapter one introduces the reader to educational change in higher education (the Rajabhats in Thailand). Background to the study is provided and its relevance discussed. The research questions, purpose of the study, and definition of terms are also presented in this chapter.

Chapter two describes the major educational planned change in Thailand, ideas behind the change in line with the 1999 National Education Act, and the 'new' culture of learning. It also describes planned educational change in Thailand and the major stages of the change are also discussed.

Chapter three is the literature review. This chapter describes organizational change in higher education and some case studies of change in higher education. It summarises what other researchers have found on system-wide change in a centrally controlled educational system and also identifies factors affecting teacher (lecturer) receptivity to planned system-wide change.

Chapter four presents the model and the theoretical framework of the study. The presentation begins with a model of lecturer receptivity to a system-wide change in a Thai Rajabhat. Nine aspects influencing receptivity are highlighted. A rational for the interviews and hypothesis of the study are proposed.

Chapter five presents a new questionnaire on nine aspects relating to lecturer receptivity to the change. Questionnaire design, measuring lecturer receptivity, and Rasch Measurement Model are also discussed. The pilot testing for the questionnaire is described.

Chapter six describes the methodology of the study. The sample and population is described. Research design and procedure for data collection are discussed. Preliminary data analysis is presented.

Chapter seven reports the data analysis of the questionnaire (Part 2A). This chapter only presents results for lecturer receptivity where all nine aspects of the educational change are analysed together. The process of analysis using the RUMM (2010) computer program is explained and the results presented. Meaning of the consequence of lecturer receptivity to a major new policy change scale is explained. Then, research questions and hypotheses are discussed.

Chapter eight reports the data analysis of the questionnaire (Part 2B). This chapter presents the results for lecturer receptivity in the first group. There are five aspects: 1) comparison with the previous system; 2) practicality in the classroom; 3) alleviation of concerns; 4) learning about the change; and 5) participation in decision-making. The process of analysis using the RUMM (2010) computer program is outlined and the results for each aspect are presented. Meaning of the scale of lecturer receptivity to a major new policy change for each aspect is explained. Then, research questions and hypotheses are stated.

Chapter nine reports the data analysis of the questionnaire (Part 2C). This chapter presents the results for lecturer receptivity in the second group. There are four aspects: 1) personal cost appraisal of the change; 2) collaboration with other lecturers; 3) opportunities for lecturer improvement; and 4) perceived value for students. The process of analysis using the RUMM (2010) computer program is outlined and the results for each aspect are presented. Meaning of the scale of lecturer receptivity to a major new policy change for each aspect is explained. Then, research questions and hypotheses are stated.

Chapter ten reports the interview data analysis (Part 3). The findings are discussed in the light of reasons that lecturers give for holding their expectations of, and behaviours towards the nine change aspects, and receptivity to planned educational change.

Chapter eleven, the final chapter, provides a summary of the study and draws together the major findings, conclusions and implications of the study for administrators, lecturers and research on change at Rajabhats in Thailand.

CHAPTER TWO

THE CHANGE IN THAILAND

It is the purpose of this chapter to explain, briefly, the major educational planned change in Thailand and the ideas behind the change, in line with the 1999 National Education Act. It focuses on educational administration and management, and the new culture of learning. The educational administration and management are discussed first. Following, the 'new' culture of learning is described. Then, planned educational change in Thailand and the major stages of the change are discussed.

Major educational planned change in Thailand and the ideas behind the change

In accord with the 1999 National Education Act, administration and management of education in Thailand are reorganised in terms of administrative structure, personnel management and financial management (Office of the National Education Commission, 2001). They are based on three aspects: 1) re-organising the educational system; 2) a new educational structure; and 3) a new process of education as provided by the Act. Educational administration and management are concerned with (1) reorganisation of administrative structure, (2) educational personnel management, and (3) financial management. The 'new' culture of learning is concerned with three main aspects. They are (1) the learner as centre of learning; (2) the reform of the curriculum for basic education; and (3) a system of educational quality assurance (Office of the National Education Commission, 1999b, pp. 218).

Administration and Management of the change

1. Reorganisation of Administrative Structure

By 20 August 2002, the Ministry of Education is to be established by merging the Office of the National Education Commission under the Prime Minister's Office, the Ministry of Education and the Ministry of University Affairs. Currently, the process of organizing the structures, organs and division of responsibilities is still

in its initial stages. However, the Executive Committee of the Education Reform Office has so far agreed that education in Thailand is administered and managed at two levels. They are at national level and at local level.

At national level educational administration and management are the responsibilities of Office of the National Council for Education; Office of the Commission for Basic Education; Office of the Commission for Higher Education; Office of the Permanent Secretary for the Ministry of Education; and Office of the Commission for Vocational education (Office of Nitirat Press, 2002, p.228).

At local level, educational administration and management are under the responsibilities of educational service areas and local administration organisations as well as private and state educational institutions.

2. Educational personnel management

Educational personnel management is supposed to reform a system for administering the affairs of teachers, faculty staff and educational personnel. The new system is based on the principle of decentralization, taking into consideration the issues of standards, efficiency, and participation of teachers and educational personnel. These are concerned with two categories. They are (1) classification of education personnel, and (2) structure of personnel management for basic education. In terms of classification of educational personnel, educational personnel are classified to four groups. They consist of (1) teaching staff, including in-service teachers who are required to have professional licenses; (2) administrative staff, including educational institution administrators and educational administrators in local education areas. These administrators are required to have professional licenses; (3) educational support staff, including those providing direct support to teaching and learning, e.g. educational supervisors, those who prepare and develop educational media, those responsible for the inspection, monitoring and evaluation of educational institutions, including registration and report. Professional licenses are required for some of these staff; (4) other educational support staff refers to those who are not directly involved in the teaching and learning processes e.g. general administrative staff and accounting staff. These personnel are not required to have professional

licenses. The structure of personnel management for basic education is divided into two parts. They are the structure of personnel management for basic education at national level and the structure of personnel management for basic education at local level. At the national level, apart from the Institute for the Development of Teachers and Educational Personnel, and the Council of Teachers and Educational Personnel proposed for the national level, there is to be a central organisation responsible for the management of educational personnel for basic education, the Commission for Teachers and Educational Personnel. At the local level, under the Office of the Area Committee for Education, there is to be an organisation responsible for overseeing personnel management for teachers and educational personnel in the educational service area called the Area Committee for Teachers and Educational Personnel. Personnel management in an educational institution is the responsibility of the educational institution committee, or school board, and an administrator of each institution. The personnel administration of other agencies, under the supervision of education service areas, is under the responsibility of the administrator of each organisation (Office of the National Education Commission, 2001, pp. 15-18).

3. Financial Management

Financial Management is concerned with five aspects. They are (1) the 'demand-side' finance of education; (2) responsibilities of the government; (3) participation of learners and families; (4) contribution from the private sectors and society; (5) management, monitoring, auditing, and evaluation in utilisation of budget.

In relation to the 'demand-side' finance of education, there are major changes in the allocation of educational resources in order to achieve the objectives set out in the National Education Act 1999. Education in Thailand is currently financed through the 'supply-side', that is, the government is the provider of education. The reform initiatives have proposed financing of education through the 'demand-side', e.g., those demanding educational services, parents and students. Accordingly, any government subsidies will be provided to learners instead of educational institutions.

The responsibilities of the government are restricted to the allocation of resources for basic education and the allocation of resources for higher education. For

basic education, distribution of budgetary allocations for capital costs of public educational institutions are to be based on the proposed programs and projects, taking into consideration the needs of each institution. In addition, distribution of budgetary allocations for operating costs will be based on per head expenditure, excluding salaries for public educational institutions, and including salaries for private educational institutions. The allocation of resources for higher education, and the provision of matching grants for capital costs of public higher education institutions are to be based on a long-term development plan, which is in line with the higher education development plan. Moreover, distribution of budgetary allocations for operating costs of public institutions is to be based on the relative funding model.

Participation of learners and families are separated into two parts. They are basic education finance and higher education finance. For basic education finance, the Government provides 12 years of quality education, free of charge. However, learners or families take responsibility for other expenses related to education, such as personal expenses, or other supplementary educational services. Learners from lower income families are to be supported by the government based on the poverty line. Similarly, in higher education finance, learners are responsible for their educational expenses, in response to the high rate of private returns to higher education. A program of phased-increases in tuition fees is to be introduced as a mechanism for cost recovery. Scholarships and loans will be provided to learners who require financial aid in both public and private institutions.

Contributions from the private sector and society are planned in four categories. Firstly, financial institutions are to be encouraged to provide low-interest loans to private institutions. Secondly, financial support for education is to be sought from public and private organisations both in Thailand and other countries. Thirdly, with additional tax exemption measures, all sectors of the society are to be encouraged to be educational providers or participate in the provision of education. Fourthly, a levy of inheritance tax is to be proposed so that its income can be earmarked for educational provision. Finally, an endowment fund is to be established in each educational institution and donations to the fund can be included in calculation of tax rebates.

Management, monitoring, auditing and evaluation in regards to the budget are planned in three strategies. One is budget management as a financial entity. Each basic education institution specifies its own financial requirements for submission through the educational service area to the Basic Education Commission. The Budget Bureau distributes the budget directly to the educational service area for schools to manage by themselves. At the higher education level, request for government subsidies are to be submitted to the Higher Education Commission. The budget is to be allocated directly to each institution. Two is the accounting system. Each educational institution is required to establish its own accounting system on an accrual basis in order to show its actual performance and financial status. Three is auditing. Internal auditing is to be introduced in terms of financial audit, operation audit, and performance audit, by internal inspectors and the inspection committee of each institution. External auditing is to be under the responsibility of the Office of the Auditor-General of Thailand and licensed auditors (Office of the National Education commission, 1999b, pp. 220-221; Office of the National Education Commission, 2001, pp. 26-31).

New Culture of Learning

As learning reform can be implemented without required regulations, and the improvement of the learning process is considered to be extremely important, various efforts have been initiated and carried out in parallel with the drafting of the National Education Act in order to move towards the new culture of learning. Learning reform is concerned with three main categories. They are (1) learners as the centre of learning; (2) the reform of the curriculum for basic education; and (3) a system of educational quality assurance.

1. Learners as the centre of learning

All learners are capable of learning, and learning and self-development are regarded as being most important. To ensure desirable characteristics of future learners, child-centred learning has been promoted by all agencies concerned. Both teachers and learners are currently encouraged to change their roles. Teachers must change themselves from "tellers" to "facilitators", while learners are encouraged to

learn by themselves with the help of teachers (Office of the National Education Commission, 1999c). Three essential tasks are to be undertaken. They are: (1) change agents for the learning reform; (2) research development on the learning process; and (3) leading schools for learning reform. For change agents for the learning reform, the most significant agents of teaching and learning reform are teachers. Therefore, the Office of the National Education Commission initiated the National Teacher and Master Teacher Awards in 1998 in order to recognise and reward outstanding teachers in terms of teaching – learning reform. The Ministry of Education has currently accepted the idea of learning reform through national teachers and master teachers. Any teacher who is likely to change his teaching behaviour according to the child – centred concept is to be selected as Spearhead Teacher. This type of teacher attends workshops on child-centred learning, under the supervision of national teachers and master teachers. These teachers create increasing agents of change for learning reform through their networks of teachers.

In addition, research and development on the learning process are focused. Learning processes are essential for the success of learning reform. Teaching staff in all faculties of education and educational institutions, as well as personnel in other public and private organisations, are encouraged to conduct research and development (R&D) projects with financial support from the Thailand Research Fund. The objectives of the research and development projects are to develop basic education institutions through participation of all parties concerned, focusing on the learning process reform of the whole school. The expected outcomes of the research and development projects are: (1) changes in paradigm and learning processes; (2) development of learners in line with standards set; (3) developing a body of knowledge on research and development; (4) development of research skills and utilisation of research as an instrument in work development and building the body of knowledge; (5) community participation in learning process; and (6) networking of cooperation for development.

The Office of the National Education Commission has launched a project to select 1,000 schools in order to promote and support schools, or basic education institutions, in leading for learning reform. These actions are in the process of

teaching and learning reform, or to initiate the reform of learning. These schools are to be provided with documents on educational reform and learning reform, support for personnel development, and part financial support for reform of learning. They are required to improve the quality of education to conduct research and development on teaching and learning in their schools and, finally, to create networks by providing knowledge and experience to other schools. This project is expected to effectively encourage more schools to participate in the reform of learning in line with the 1999 National Education Act (Office of the National Education Commission, 2001, pp. 19-22; Office of the National Education Commission, 1999b, pp.221-228).

2. The reformed curriculum for basic education

The curricula at all levels of education are to be diversified, commensurate with each level in order to achieve the objectives of learning reform. Both academic and professional human development require a desirable balance regarding knowledge, critical thinking, capability, virtue and social responsibility. As a result, the existing curricula for basic education have been developed and redesigned by the Ministry of Education to ensure effective reform of learning (Office of the National Education Commission, 2001). There are three main categories for the reformed curriculum for basic education. They are: (1) development of a curriculum framework for basic education; (2) preparation of a national core curriculum; and (3) an implementation plan for the reform curriculum.

2.1 Curriculum framework for basic education.

The new curriculum framework for basic education has been based on the comments of all educational personnel, both public and private. The framework consists of concepts and principles, curriculum structure, objectives, basic education standards, standards of groups of learning content, assessment of learning content, and organisation of learning, as well as monitoring, inspection, and evaluation. Standards of subject groups and their indicators have been drafted in line with four key stages of basic education. They are: (1) primary education Grades 1-3; (2) primary education Grades 4-6; (3) secondary education Grades 7-9; and (4) secondary education Grades 10-12. The subjects are classified into 8 groups. They are: (1) Health Education and

Physical Education; (2) Art, Music and Dramatic Arts; (3) Mathematics; (4) Thai Language; (5) Social Studies (6) Science and Technology; (7) Foreign Languages; and (8) Career and Work Education. The prescribed standards and indicators have been used for development of the national core curriculum that provide the guidelines for all schools to prepare their learning content in detail, relevant to local conditions and wisdom.

The Curriculum Framework for Basic Education has been prescribed in line with Section 27 of the National Education Act 1999 (Office of the National Education Commission, 1999c), with three components: (1) the curricular framework specifying its objectives, and standards, as well as assessment and evaluation methods of teaching and learning; (2) the framework of the national core curriculum is to be organized consistently through four key stages; and (3) the framework for local curriculum providing schools with guidelines for adaptation of learning contents appropriate to their localities.

2.2 Preparation of national core curriculum

Concepts and guidelines for curriculum management including strategies for the introduction of the new curriculum have been developed as follows: (1) key structures of the core curriculum have been developed comprising eight subject groups; (2) four strategies have been set out for effective implementation of the new curriculum. They consist of: (1) the strategy for curriculum development includes a trial of curriculum management, research studies on the curriculum implementation process, improvement and development of curriculum implementation, curricular personnel development and introduction of the new curriculum; (2) a strategy for curriculum management includes public relations, guidance, academic networking system, supervision, monitoring, inspection and evaluation; (3) a strategy for organisation of learning experiences includes learning resources, professional associations, classroom research, development of learning media, and promotion of Master Teachers; and a strategy for assessment of educational quality which sets out that all educational institutions are required to establish their own quality assurance system, with inspection and review as well as the intervention of agencies concerned in their educational areas. Each educational institution must request evaluation of its quality, both internal and external.

2.3 Implementation plan for the reformed curriculum

The new curriculum for basic education was introduced in the academic year 2002. It started with the first year of each key stage, and the second and the third for the following years, as follows: (1) Academic Year 2002 : Grades 1, 4, 7 and 10; (2) Academic Year 2003 : Grades 2, 5, 8 and 11; (3) Academic Year 2004 : Grades 3, 6, 9 and 12.

3. A system of educational quality assurance

To ensure improvement of educational quality and standards at all levels, a system of educational quality assurance has been initiated, with both internal and external evaluation (Office of the National Education Commission, 2001). As internal quality assurance must be regarded as part of educational administration, educational institutions and agencies have been encouraged to conduct internal evaluation to improve the quality of education. So far, research and development on internal evaluation has been undertaken in 30 schools by the Office of the National Education Commission for the preparation of guidebooks and internal evaluation models. The Office of the national Education Commission has also conducted research on the status of internal evaluation in educational institutions, so as to promote internal evaluation, and prepare all schools for external evaluation. For external evaluation, the National Education Act 1999 requires that each educational institution receive external quality evaluation at least once every five years, and the evaluation results are to be submitted to the relevant agencies, and made available to the general public. The first round of external evaluation of all educational institutions will be completed by 20 August 2005.

The Office of the National Education Standards have been established as an independent public organisation since 4 November 2000. The major role of the office is to promote and set educational standards as well as to organise a system for quality assurance, evaluation and monitoring the educational standards of both public and private institutions. It has designed a system of external and internal evaluation, and prepared and implemented a major reform of educational testing and measurement.

In order to achieve the reform objectives laid down in the Act, understanding of and support for all parties concerned and the general public, are essential by the Thai

government. Consequently, measures and strategies to mobilise public participation have been urgently introduced to move forward the reform of education for the new century.

Planned educational change in Thailand and the major stages of the change

Overview

The first round of the models of planned educational change in Thailand were concerned with three major plans. They are the National Scheme of Education 1992, the Eighth National Education Development (1997-2001) and the National Education Act of 1999. The planned educational change in Thailand was implemented in accordance with the 1992 National scheme of Education and the Eighth National Education Development Plan (1997-2001). The National Education Act of 1999 was endorsed in 2002 and the system will be evaluated in 2005 (Office of the National Education Commission, 1999a, pp.212-215) (Figure 2.1). These are described later in this section.

Stages of planned educational change

The literature suggests that planned educational changes, in a centralised educational system,when successful, have a life cycle that can be divided into three stages: initiation, implementation and routinization (Moroz and Waugh, 2000; Waugh and Godfrey, 1995, 1993; Waugh and Punch, 1987, 1985). Initiation refers to the processes and planning that lead up to and include the decision to proceed with the

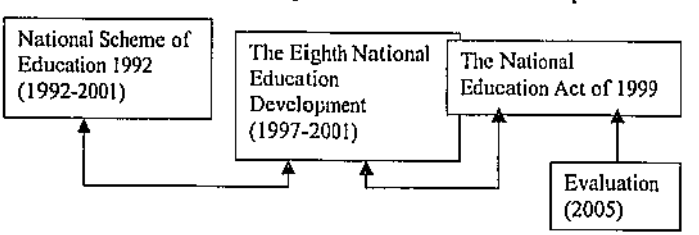

Figure 2.1: The three major bases for educational change in Thailand
Source: constructed by the author from the literature review.

change. This may take from several months to many years. Implementation refers to the first use of the change on a system-wide basis in the organisation and may extend up to four years. Routinisation refers to whether the change becomes an ongoing part of the system. This, however, has only been tested in a secondary school system, and not in higher education, as in Thailand.

The initiation stage of system-wide change in Thailand

Despite great efforts to improve the provision of educational services in both quantitative and qualitative aspects, there remain weaknesses in education and training in Thailand. Fortunately, the 1997 Constitution introduced challenging guidelines for educational development, particularly the enactment of the national education law. The first National Education Act was promulgated in August 1999 to serve as the fundamental law for the administration and provision of education and training in accord with the provisions in the Constitution.

However, before the full implementation of the first National Education Act of 1999, which will take at least three years, Thai education will still be provided in accordance with the 1992 National scheme of Education and the Eighth National Education Development Plan (1997-2001). According to the Eighth National Education Development Plan (Office of the National Education Commission, 1999a), the objectives have three major aspects. They are: (1) to expand the provision of basic education to all people, and to extend basic education to secondary education level; (2) to improve the equality of education and its relevance to the needs of individuals, communities and the Thai nation, and enable learners to achieve their full potential for self-development; and (3) to enhance Thai education in strengthening the national potential for self-reliance, and to contribute to national economic stabilisation and the role of Thailand in the global economy.

The targets for educational development to guide the implementation have been grouped into nine major programs. They are: (1) promotion of basic education for all; (2) improvement of educational quality; (3) development of the teacher education system and process, and the development of in-service teacher education; (4) production and development of manpower in the areas of science and technology and

social sciences; (5) research and development; (6) improvement of administration and management; (7) development of higher education; (8) education resource mobilisation; and 9) development of an educational information system.

In accordance with the National Education Act of 1999, planned educational change is divided into eight main aspects (Office of National Education Commission 1999b). They are: (1) ensuring access to basic education for all; (2) reform of curriculum and learning process; (3) encouraging participation and partnership in education; (4) restructuring of educational administrative structure; (5) enhancing educational standards and quality Assurance; (6) reform of teachers; faculty staff, and educational personnel; (7) mobilisation of resources and investment for education; and (8) utilisation of technologies for education.

The implementation stage in Thailand

Following the promulgation of the National Education Act 1999, all agencies concerned are required to take the following action as provided by the Act, including its transitory provisions (Office of National Education Commission, 1999a). The implementation is divided into 5 stages as follows.

Stage 1. Action taken by 20 August 1999

An Education Reform Office was to be established as a public organisation by virtue of a royal decree, as provided by the Public Organisations Act, with a nine-member Executive Committee of the Education Reform Office (Office of the National Education Commission, 1999b, pp. 212-213). The Executive Committee is to be composed of a chairperson and members appointed by the Council of Ministers from among those with knowledge, capability, experience and expertise in educational administration; state affairs administration, personnel administration; budgetary, monetary, and financial systems; public laws; and educational laws. The Secretary General of the Education Reform Office is to serve as a member and secretary of the Executive Committee. Both the Executive Committee and the Secretary General will have a single term of office of three years, at the end of which their tenures will be terminated, and the Education Reform Office will be dissolved.

The Education Reform Office has five new responsibilities. One is to propose reform for managing teachers, faculty staff, and educational personnel. Two is to propose mobilization of educational resources and investment. Three is to submit proposals to the Council of Ministers regarding the necessary bills. Four is to submit to the Council of Ministers, proposals regarding amendments to legislation, rules, regulations, statutes and orders. Five is to carry out other functions as provided by the Public Organisations Act.

A fifteen member Nominations Committee for the Executive Committee of the Education Reform Office is to be established. The chairperson and members of the Executive Committee from among those qualified is submitted to the Council of Ministers for appointment.

Stage 2. Actions taken within the enactment date of 20 August 2000

There are two actions to be taken in this stage. One is to issue the ministerial regulations to differentiate the levels and types of basic education. Two is to issue the ministerial regulations for differentiation or equivalence of the various levels of non-formal or informal education (Office of the National Education Commission, 1999b, p. 213).

Stage 3. Actions to be taken within three years of the enactment date (by 20 August 2002).

Educational rights and duties, educational administration and management, and development of a system, including production and further refinement for teachers and educational personnel, are to be issued during this stage. For educational rights and duties, all individuals have equal rights and opportunities to receive basic education provided by the State, free of charge for at least 12 years. Education is to be compulsory for 9 years, requiring children aged 7 to enrol in basic education institutions until the age of 16, with the exception of those who have already completed grade 9 (Office of the National Education Commission, 1999b, p. 213).

For educational administration and management, there are eight steps to be taken. Firstly, the Ministry of Education, Ministry of University Affairs, and the Office of the National Education Commission are to be merged and to be established

as the Ministry of Education. Secondly, an Office for National Education Standards and Quality Assessment is to be established as a public organisation. Thirdly, the National Council for Education, the Commission for Basic Education, the Commission for Higher Education, and the Commission for Vocational Education are to be established. Their secretariat offices are to be established as legal entities. Fourthly, the state educational institutions providing education at degree level are to be legal entities and enjoy the status of government or state-supervised agencies except those providing specialized education. Fifthly, the administration and management of basic education and higher education at lower-than-degree level are to be based on the educational service areas. Sixthly, educational administration and management are to be decentralised. Seventhly, educational administration and management are to be administered by local administration organisations. Finally, educational administration and management are to be administered by the private sector.

For development of this system, including production and further refinement for teachers and educational personnel, there are five strategies to be undertaken. One is the establishment of the Fund for Development of Teachers, Faculty Staff, and Educational Personnel. Two is the establishment of an organisation for teachers, educational institution administrators, and educational administrators as an independent body, administered by a professional council under the supervision of the Ministry of Education. Three is the establishment of a central organisation responsible for administering personnel affairs of teachers. Four is the provision of a law on salaries, remuneration, welfare and other benefits. Five is the amendment of the Teachers Act 1945 and Teachers Civil Service Act 1978 (Office of the National Education Commission, 1999b, pp. 213-215).

Stage 4. Actions to be taken within five years of the enactment date (by 20 August 2004).

In this stage, there is only one step to be carried out. All legislation, rules, regulations, statutes, announcements, and orders pertaining to education, religion, art, and culture applicable on the enactment date of the National Education Act 1999 are

to be amended in line with the Act (Office of the National Education Commission, 1999b, p. 215).

Stage 5. Actions to be taken within six years of the enactment date (by 20 August 2005)

The Ministry of Education is to complete the first round of external evaluation of all educational institutions (Office of National Education Commission, 1999b, p. 215), and then the system-wide educational change will be a matter of routine.

Routinisation of the change at Rajabhats in Thailand

By 20 August 2005, all educational institutions, including Rajabhat Universities, are expected to have completed a round of external evaluation. All educational systems are expected to be in a routinisation stage by 2006 (Office of the National Education Commission, 1999b). Whether this happens as planned is yet to be seen. In the stage of routinisation, Rajabhat Institutes will become Rajabhat Universities as public universities (Rajabhat Institute Ubon Ratchathani, 2001c, pp. 9-11; Office of the National Education Commission, 2001, p. 68). This stage, Rajabhat University routines, will be concerned with new administration and management. This will consist of education administration and management, academic management and teaching organisation, and higher education standards and quality (Office of the National Education Commission, 2001, p. 69).

Education administration and management in Rajabhats will be involved in a new cultural system. These will consist of: (1) creation of unity and coherence in policy formulation, planning and higher education standards; (2) promotion of lifelong and continuous education, improved access and quality, transfer of credit among institutions, recognition of work experience; (3) development of capability for autonomy management; (4) budget allocation as block grants for autonomous higher education institutions; (5) internationalisation of higher education while retaining and improving indigenous capability and knowledge; instituting good governance principles and cultivation of enterprising spirit; (6) extensive resources mobilisation and cultivation of stakeholder culture; (7) networking of higher education about

themselves and with other education units including private sector bodies; (8) academic staff and higher education personnel development; and (9) strengthening the higher education council (Rajabhat Institute Ubon Ratchathani, 2001b, pp. 16-17).

For academic management and teaching organisation at Rajabhats in Thailand, development of curricula and teaching and learning mechanisms to ensure flexibility, diversification to meet demands of learners, and national requirement will be placed into practice in the routinisation. Adoption of innovation and information technology will be emphasised for Rajabhats' staff. Also, development of student-centred learning, promotion of analytical skill, critical thinking and learning motivation will be implemented as routine stage. Placing importance on research, accumulation of knowledge and technology for development of the nation will be practised. In addition, evaluation and assessment mechanisms will be practised (Office of the National Education Commission, 2001, p.69).

For higher education standard and quality, internal and external quality assurance will be stipulated by the National Education Act of 1999. Rajabhat Universities will be assessed for education standard quality through both internal and external quality assessment (Office of the National Education Commission, 2001; Rajabhat Institute Ubon Ratchathani, 2002a; Rajabhat Institute Ubon Ratchathani, 2001b). Internal quality assessment consists of nine factors. These are: (1) philosophy, vision, mission, objectives and planning; (2) teaching and learning system; (3) student development; (4) research; (5) academic support for community and society; (6) cultural preservation; (7) administration and management; (8) finance and budget; and (9) quality assurance (Rajabhat Institute Ubon Ratchathani, 2001b). External quality assessment consists of eight factors. These are: (1) standard of student quality; (2) standard of learning system; (3) standard of learning support; (4) standard of research and creative devices; (5) standard of academic administration; (6) standard of cultural preservation; (7) standard of administration and management; and (8) standard of internal quality assurance system (Office for National Education Standards and Quality Assessment, 2002).

Summary

A major educational planned change in Thailand was implemented by Royal Decree in 2000. The change has been implemented for three years in Ubon Ratchathani, Surin, Buriram, and Nakhorn Ratchasima (2000-2002) where the data are collected. The change is divided into two levels. They are basic education, and higher education. However, this study is only focused on Rajabhat Universities. The change in Thailand involving the Rajabhats focuses on educational administration and management, and a 'new' culture of learning. Educational administration and management are concerned with reorganisation of administrative structure, educational personnel management, and financial management. The new culture of learning is concerned with three main aspects. They are the learners as the centre of education, the reform curriculum for basic education, and a system of educational quality assurance. In addition, it is set up in three stages: (1) an initiation stage (during 1992-2001); (2) an implementation stage (during 2002-2005), and (3) a routinisation stage (after 2005).

While these changes affect all levels of education in Thailand (primary, secondary and tertiary), the present study focuses on lecturer receptivity to the change at the tertiary level, namely the Rajabhat Universities. The next chapter discusses the literature review.

CHAPTER THREE

LITERATURE REVIEW

It is the purpose of this chapter to introduce the Thai educational change in the context of planned change in a centralised system. Organisational changes in higher education are discussed first because they were deemed to be important determinants of the changes and reforms in Thailand. Then, some case studies of change in higher education are introduced. Finally, recent research on system-wide educational change in a centralised system, and research needs in Rajabhats in Thailand are outlined.

The change literature in education and the social sciences dates back to at least 1940 and is voluminous. This literature involves numerous aspects such as administrative change, innovations, system-wide change, change with professional development, change in higher education, secondary education, primary education, the politics of change, variable affecting change, and many more. These are reported in refereed journals, in non-refereed journals, in government reports, and in various other publications. Much of the work on change is atheoretical and many of the conclusions and claims are open to challenge. It would be impossible to summarise all the findings and conclusions in this thesis. This thesis only reports on those studies deemed to be most relevant and pertinent to major planned educational changes in a centrally controlled system, where receptivity to the change is studied, so that it is possible that the findings might be applicable to lecturer receptivity to the planned change in Thailand. This literature review relies strongly on a small number of those studies, each of which summarises the main findings from the relevant change literature up to their date of publication.

Organisational changes in higher education

According with emerging related literature for educational system-wide change, there are at least five main aspects that would affect higher educational

organisation. They are: (1) globalisation and internationalism of education and technology; (2) new professional development; (3) strategic partnerships and links with other organisations; (4) autonomous institute; and (5) financial management.

Globalisation and internationalism of education and technology

There is a lot of writing about the so-called 'earth-shattering trends' that have been labeled as 'globalisation' or 'explosive' growth of knowledge (Botstein, 2001). Globalisation and growth of knowledge have impacted on the economy, information technology, and education of most countries, including Thailand. Countries are subject to the global trends, although the way in which countries, institutions, and even individuals react, varies. Internationalisation is related to specific policies and practices of academic institutions (and to some extent, national higher education agencies) in their relationship with other countries, usually aimed at improving and extending the international links and programs, and raising the consciousness of academic institutions (Altbach, 2001). Globalisation implies the 'borderlessness' of knowledge. The phenomena of globalisation affects many countries and causes, at least in part, social, economic, cultural and educational changes. The effects of changes can influence opportunities for improvements in searching for knowledge and communication, through innovations and technological devices. There appears to be an expectation that development will occur in every country, in terms of personal communication, and information in order to survive in the competing world. In every country where development occurs, personnel must be prepared to use new information technology (United Nations Development Program, 1989, pp. 24-26). An essential factor for development is education. The reflections of education reforms can be seen in most countries, as for example in Australia, New Zealand, England, United States of America, China and Thailand. Educational reform, particularly in higher education, is one important thing to be taken urgently (Privateer, 1999; Gunn & Reeker, 2001).

In the United States of America, higher education staff and students are aware that they live, work, and think in a global marketplace (Altbach, 2001). In Thailand, however, students in higher education do not generally think globally in the same way. Many Thai staff and students suffer from ignorance of world geography, the lack

of proficiency in languages, and cultural parochialism when, attempting to function in international settings (Office of the National Education Commission, 1999a, pp. 25-26). They need to be willing to consider a wide array of other perspectives. They need to be competent to conduct education, business, and governmental activities in an international environment and be prepared to make personal and public policy decisions, as responsible citizens in an international society. Moreover, growing global interdependence has substantially accelerated a broad social process of change (Glanz, 2000). These changes have influenced many facets of Thai society, including its economy, politics, demography, and culture. Education mirrors society in the sense that social change generates educational change.

Deem (2001) has investigated some analyses of change in the higher education institutes of western nations in relation to internationalization, new managerialism, globalisation, and entrepreneurialism. The results suggest that many universities in different countries have strong similarities in regard to their international policies. For example, higher educational institutions plan at least five categories of their policies for performance, involving some comparison with international efforts and standards (Eisemon, Mihailescu, Vlasceanu, Zamfir, Sheehan, & David, 1999, pp.17-18). They involve (1) strategic assessment of national high level human resource requirements; (2) periodic assessment of the performance of institution; (3) attestation of the credentials they award; (4) providing core budget funding for higher education institutions, funding for capital improvements, scholarships to students, and support for graduate education and research; and (5) establishing certain system-level policies governing academic employment and promotion.

Munitz (2001) stated that according to globalisation, information technology will profoundly influence both the content and delivery system for traditional colleges and universities. The talent to translate the content- the 'mountain' of data arriving rapidly- into accurate and useful information and, then, into knowledge and wisdom will test everyone's talent and energy. We will also have to rethink the delivery system- the way in which we teach and people learn- and re-examine the balance between classroom instruction and distance learning. Moreover, Board (2001) states that the tremendous pace of technological change has made it imperative that

individuals continuously upgrade their knowledge and skills. To stay competitive, one has to stay current. As a result, lifelong learning will be the dominant paradigm for higher education in the twenty-first century. Information technology is driving this increasing emphasis on establishing and maintaining effective learning relationships with students throughout their lives. Information technology is also likely to be the primary vehicle by which we accomplish the goal of staying competitive.

The International Association of University Presidents (IAUP) (2001) reported that information technology is having a strong influence on teaching and learning, research and administrative management. This is a time of enormous change both in the telecommunications industry and in the applications of communication and information resources in higher education. The use of technology in classrooms literally inverts the typical focus of educational activities, transforming the way that education is organised, delivered, and managed. Classrooms now face the world 'outside' as well as the world 'inside'. Furthermore, classrooms have become links to communications highways, transmitting data, video, and voice to thousands of other sites. Faculty and students have easy access to vast databases and participate in joint projects that involve an array of instructional activities throughout the world by travelling on these virtual electronic highways. Students and faculty in practically every discipline make extensive use of information technology, from the most basic operations of word processing, to courses delivered by televised instruction and the most sophisticated and elaborate exercises in computer simulations. Today, administrative offices from admission and records to the physical plant depend on information technology for their operations.

New professional development in higher education

Corcoran (2001) stated that reformative lecturer professional development might sound like an impossible task, but engaging all lecturers in discussions of good practice and supporting their efforts to learn and to use more effective pedagogy might be the first real step towards higher standards for all students. In order to obtain more effective pedagogy, policy makers might be reallocated resources and redirect exiting channels for professional development so that they are supportive of desired reform, which is the incentive structure for lecturers to encourage them to seek the

knowledge and skills that they need. On the other hand, desired reform of professional development will be included: (1) taking full advantage of every opportunity for professional growth - curriculum development, assessment programs, and lecturer conventions, (2) building new collaborations and partnerships to mobilize and coordinate public and private resources, (3) making greater use of lecturer and university networks, electronic networks and educational and cable television, to reinforce the message, help lecturers acquire necessary skills and support their efforts to change, and (4) adopting a different time-frame and making a long-term commitment to reform based on a coherent set of principles and polices. In addition, there are new kind of teaching/learning resources and new staff policies. In order to achieve high quality in professional development in these dual directions, planning which will stir the organisation pot may be seen in these terms, which link staffing policies (S) with new high quality teaching mode (T) new information/education technologies (I) and research enhancement (R). In accord with STIR implementation is included: (1) full opportunities for professional development of existing staff; (2) careful analysis of need in the recruitment of new staff; (3) staff moving towards enhancing both their teaching and research; and (4) achievable satisfaction among their students, professional, communities, and governments (Bell and Harrison, 1998, pp.75-77).

The Australia Curriculum Studies Association (ACSA) (2001) suggested that accomplished classroom teachers in Australia demonstrated their professionalism in fourteen categories. They were: (1) having knowledge, understanding of and enthusiasm for intellectual content, discourses and value; (2) enjoying teaching students and by holding highest expectations; (3) treating all students honestly, justly and equitably; (4) being able to empathize with students; (5) having an appropriate sense of humour; (6) exemplifying the qualities and values that they seek to inspire in their students; (7) being reflective practitioners, (8) displaying adeptness and discernment in creative use and critical evaluation of information technologies, (9) providing regular, accurate feedback to students and monitoring the growth in students' learning; (10) demonstrating excellence in practical, pragmatic craft of teaching and in managing a learning environment; (11) exercising high

communication and interpersonal skill; (12) being committed to their own professional development; (13) exercising educational leadership; and (14) taking due account of the educational implications of the community's cultural diversity.

Autonomous institute in higher education

Keranun et alia (2000, p.4) defined a higher education autonomous institute as a government higher education institute, which has autonomy but it is controlled by higher educational commission. It is emphasized the management is a part of the institution's commission, and the final decision making could be made in the institutional level. For budgeting, not only might it earn money by itself, and be audited, but it could also get block grants from the government.

Olswang and Lee (2001) stated that the increasingly complex environment in which colleges and universities now operate has spawned a set of requirements for accountability with which institutions and therefore faculty must comply. Although academic freedom and tenure provide important protections for faculty, they are not unlimited. At the same time, institutions face a myriad of new pressures and responsibilities, such as the need to account for monies from a variety of sources, and to deal with appropriate levels of outside faculty consulting and faculty internal workloads. There are pressures to review faculty performance in teaching, research, and service. In response primarily to external constituencies, colleges and universities are being compelled to confront areas of traditional faculty autonomy.

In accordance with the National Education Act of 1999 – sections 36 and 71, all higher education institutions must be reformed to autonomy (Rajabhat Institute Ubon Ratchathani, 2001c). For this change, there are several reasons. Firstly, they need to control and develop their administrative systems more easily, and be independent to manage their income. Secondly, they need to be more like a private company or corporation so that they can run all systems freely; they can decide about any investment and be able to be stockholders of any private firm. Thirdly, they need to be free to respond to any kind of opportunity, and to be able to solve any problem that they face immediately and appropriately. Fourthly, they need to improve standards of education and information technology; they need to change their old

benchmarks to be able to compete with the foreign higher educational institutes. Finally, they need to avoid some disadvantages of traditional government systems and build up new approaches to run the institutes more freely in all aspects

Partnership and links in higher education

According to the findings of the study about Student and Academic affairs Collaborations and Partnership, it is found that many campuses are realizing that collaboration between academic and student affairs is an important technique for enhancing student learning. In addition, the separation of academic and student affairs has a negative effect on student learning and collaboration between these groups enhances student learning. Student learning and shifting national, societal, and economic priorities have resulted in decreased funding making collaboration necessary (Critical Issue Bibliography (CRIB), 2001). Although the resources listed cover the familiar territory of academic and student affairs, it is important to emphasize the value of partnerships more generally including community agencies, primary and secondary education, the business sector, students, and government. The resources of partnerships might have been divided into three sections. They are: (1) the collaborative paradigm describing the rationale behind partnerships; (2) best practices and programs that work, highlighting examples of collaboration; and (3) bridging specific populations, noting ways that collaboration has been particularly effective in meeting the needs of different types of students. Similarly, the digest examination of the value of collaboration among businesses, community organisations, and educational institutions reports that partnerships create new opportunities and challenges (Kuo, 2001). Moreover, the benefits of collaborative efforts for community colleges include: (1) furthering access and services to local constituents; (2) bridging secondary education and baccalaureate programs; and (3) promoting economic development.

For encouraging participation and partnership in education in accordance with the National Education Act of 1999, the government planned to provide educational systems in five categories (Office of the National Education Commission, 1999a, p. 203). They are: (1) other than the State, private persons and local administration organisations, individuals, families, community organisations, private organisations,

professional bodies, religious institutions, enterprises and other social institutions will have the right to provide basic education. They will be given government support and grants, tax rebates or exemptions in bringing up children and providing basic education; (2) educational institutions in cooperation with all sectors of society will contribute to strengthening the communities by encouraging learning in the communities themselves; (3) as providers and partners in educational provision, individuals, families, communities, local administration organisations, private persons, private organisations, professional bodies, religious institutions, enterprises, and other socials institutions will mobilize resources, donate properties and other resources to education institutions and also share educational expenditures; (4) the government and local administration organisations will encourage and provide incentives for mobilization of these resources by promoting, providing support and applying tax rebate or tax exemption measures as appropriate and when necessary; and (5) private education institutions are allowed to provide education at all levels and of all types. The government will define clear-cut policies and measures regarding participation of private sector in provision of education.

Financial management of higher education

According to the reports of higher education – The Lessons of Experience (World Bank, 1999, pp.1-2), the development of higher education is correlated with economic development: enrolment ratios in higher education average 51 per cent in the countries that belong to the Organisation for Economic Cooperation and Development (OECD) compared with 21 per cent in the middle-income countries and 6 per cent in low-income countries. Estimated social rates of return of 10 per cent or more in many developing countries also indicate that investments in higher education contribute to increase in labor productivity and to higher long-term economic growth, which are essential for poverty alleviation. Despite the clear importance of investments in higher education for economic growth and social development, the sector is in crisis throughout the world. In all countries, higher education is heavily dependent on government funding. In an era of widespread fiscal constraints, industrial as well as developing countries are grappling with the challenge of preserving or improving the quality of higher education as education budgets are

compressed. Consequently, the World Bank reports suggest four key directions for financial management in higher education (World Bank, 1999, pp.4-8). They are: (1) diversifying the funding of public institutions and introducing incentives for their performance; (2) mobilizing greater private financing; (3) financial support to needy students; and (4) incentives for efficient resource allocation and utilization. Further, the findings of the study of Higher Education in Thailand: Solution considered higher education budgets (Kasetsart University, 1997, pp.373-382). A budget of higher education is divided into two main portions. It is provided by government and its diverse funding of public higher institutions. Moreover, the report suggests the directions of higher educational budgets might be changed into six categories. They are: (1) educational fees that consist of formal learning, special learning, distant learning, and curriculum for foreigner students; (2) research budgets that consist of both research budget and research advantages; (3) local community services that consist of academic seminar, training short course, assessment of the industrial produce and new innovation, establishment of service organisations such as local hospitals and early childhood schools; (4) consultant to private organisation; (5) cooperative investment with private organisation; and (6) donate properties.

Some case studies of change in higher education

This study is focused on Rajabhat Universities, which are higher educational institutions. Some case studies of the change in higher education of five other countries in the South East Asian region are discussed to illustrate similarities in order to achieve the level of development of each country. These are Australia, China, Japan, Malaysia and Indonesia.

Higher educational planned change in Australia

At present, there are 38 higher educational institutions that are distributed in major centres of Australia. Most of them are government institutions (Department of Education, Science and Training, 2003). However, there are a few private institutions such as Bond University, Notre Dame University and Australian William E Saimon

which were later established (Office of the National Education Commission, 1998). It has been shown that private organisations are participating in higher education management.

In 1988, the Australian government introduced a new higher educational policy with the 'White Paper Reforms' (Dawkins, 1988). There were three main purposes. One, it aimed to reduce the number of higher educational institutions and make them accountable for both standard and quality. Two, it aimed to stimulate higher education leading Australia to develop both quality and academic skills. Three, it aimed to give a greater chance for participation in higher education to all parts of society (Miller, 1995; Miriam, 1996).

There were three main goals for this 1988 higher educational planned change. One was a process for reducing the number of higher education institutions. There were several reasons for reducing the number of higher educational institutions. They were: (1) to establish the national education system which is called the Unified National System (UNS); (2) to merge smaller higher educational institutions into larger higher educational institutions; (3) to improve the budget management in higher educational institution by seeking cost effectiveness and to support budgeting only for members which have effective full-time student units; (4) to improve the personnel and management system so that higher institutions can obtain quality personnel; (5) to improve the quality of curriculum and create a harmony in important subjects for the future such as science, computer, engineering and business management; and (6) to manage tuition income from the international students by organising higher educational institutions. The second goal was the process of stimulating higher education to lead Australia people to develop both quality of life and academic skills. In order to achieve human resource management, the process was given as follows: (1) to develop a continuous curriculum in higher education which must be in line with workforce characteristics; (2) to develop the curriculum so it will be flexible and be transferable to other higher institutions. The third goal was the process of giving equal access to higher education to every part of society.

The Unified National System has now been implemented for over 10 years in Australia and has entered the routinisation stage. The Australian government has

made other changes to the university system since 1998, including the introduction of student fees and the setting up of an Australian University Quality Assurance Agency in 2001 (see Kemp, 1999).

Planned higher educational change in the People's Republic of China

The educational system of the People's Republic of China has been changed since 1990. The changes aimed to strengthen the People's Republic of China in technology and science. There are two directions for the changes. Firstly, they aim to manage the educational system to make it harmonious with the needs of all occupations in order to lead the People's Republic of China into the modern era. Secondly, they aim to improve both quality and efficiency of all educational institutions (Yee, 1995; Law, 1995; Zhu, 1996; Anonymous, 1996a).

The People's Republic of China's educational aims (Project 211) were established. There are three main categories: (1) to develop a blending of subjects for higher educational institutions; (2) to develop important curriculum; and (3) to establish higher educational services for all people.

By 2010, the People's Republic of China aims to increase its higher educational students to 9.5 million. There will be 100,000 graduate students each year (Kasetsart University, 1997, p. 251). Therefore, government has reformed higher educational management in order to achieve both higher quality and efficiency, and to bring it into line with social needs. Furthermore, higher educational institutions will have some autonomy in administration such as student re-enrollment, curriculum development, personnel administration, and monthly salary structure.

Planned higher educational change in Japan

According to "World educational competition", the University Council was established in 1987. This Council works in consultation with the Ministry of Education, Science and Culture. It consists of 20 members that are selected with higher educational expertise (Ministry of Education, Science and Culture Japan, 1994). This committee offers directions for planning higher educational changes in Japan. The plan came into effect in 1994. As a result, higher educational institutions

in Japan have been changed in many aspects (Doyon, 2001). The most important change is educational quality. It consists of curriculum and instruction development, organisation development, educational management, research and development in quality assurance, and self-assessment reporting.

Planned higher educational change in the Federation of Malaysia

Recently, Malaysia has improved its higher education act (Amendments (1996) to the University and University colleges Acts (of 1971)) that could possibly lead higher education to corporatisation (National Office of Overseas Skills Recognition, 1991; Lim, 1995; Syed, 1995; Anonymous, 1996b).

Higher educational changes in Malaysia have been planned for the 21st century. There are eight aims in higher education changes. They are: (1) to establish an ambitious program in order to stimulate human resource development; (2) to increase, up grade and improve the structure of higher educational institutions; (3) to manage the bachelor's degree students enrollment so that the ratio of students in Sciences and Arts equal 60:40 in each higher educational institution; (4) to give opportunity to private organisations to participate with government and other organisations for tertiary education and skill training; (5) to establish the National Accreditation Board and Council for Higher Education and Sub-Committee on Higher Education, Vice - Chancellor's Committee in order to control quality in higher educational institutions; (6) to stimulate and accelerate research and development (R&D); (7) to manage long distance learning and give opportunity to students to get degree qualifications; and (8) to lead higher education to an international standard of higher education.

Further, Malaysia has increased cooperation in the provincial areas. They are: (1) to share human resources between universities in provincial areas; (2) to establish special projects for students in provincial areas in order to study in higher education institutions; (3) to support all higher educational institutions with forums, work shops, seminars, and sharing experiences between the special experts; (4) to establish 'Centres of Excellence' in order to support academe and culture; (5) to support the activities that are conducted in cooperation and in provincial areas through

organisations such as The Association of Southeast Asian Nation university-network and the Asia-Europe Meeting.

Planned higher educational change in Indonesia

Indonesia has planned to develop higher education (1996-2005)(Anonymous, 1996b; Ranuwihardjo, 1995; Anonymous, 1996c). There are three categories planned for proceeding. Firstly, the expansion of opportunities for studying in higher education will be increased. At present, 10 per cent of the students attend higher education. There will be an increase to 15 per cent in 2005 and 25 per cent in 2020 (There will be about 6.1 million students in 2020). The government will support the role of private higher educational institutions. The amount of private higher educational institutions will increase to 15 per cent in 2005. In addition, the government will increase its polytechnic programs and support new programs of study such as engineering and management. In 2020, the bachelor's degree students will be increased to 1.2 million and about 0.5 million will be engineering students. Five new universities and one hundred and fifty polytechnic institutes will be established in the next 25 years. Further, the 'Centres of Excellence' will be developed. Secondly, the quality in higher education institutes must develop the fields of science and technology will be improved. Moreover, the quality of instructors will be improved and the achievements of students will be examined in order to be standard. Finally, the quality of higher education, involving curriculum, teaching, resources and services, will be improved.

Research on system-wide educational change in centrally controlled systems

In Western Australia, there have been four major, system wide educational changes introduced in the last 30 years in secondary education: the achievement Certificate System (begun in 1970)(McAtee & Punch, 1979), the Certificate of Secondary Education System (begun in 1976)(Waugh, 1983; Waugh & Punch, 1985, 1987), the Unit Curriculum System (begun in 1988)(Waugh & Godfrey, 1993, 1995) and the Student Outcome Statements System (due in 2004)(Waugh, 1999; Moroz & Waugh, 2000). All four major system-wide educational changes implemented in

Western Australia have been studied in terms of teacher receptivity (or teacher attitudes) to the changes. For each change, a model of main variables expected to influence teacher receptivity was created in terms of a different set of independent variables. The variables were measured separately and multiple regression was used to estimate the influence of the variables on teacher receptivity and amount of variance that could be predicted from the independent variables.

McAtee and Punch (1979) found that knowledge of the change, progressive attitude to education, traditional attitude to education, perceived participation and some situation variables predicted 38 per cent of the variance in teacher attitudes to the Achievement Certificate System.

Waugh and Punch (1985, 1987) found that progressive attitudes to education, feeling towards the previous system, attitudes towards the previous system, climate, practicality, comparability of assessment, teacher cost appraisal and validity of teacher assessments of student achievement predicted 43 per cent of the variance in teacher attitudes towards the Certificate of Secondary Education System. Attitudes to the previous system, feelings towards the previous system and cost appraisal were the most important variables.

Waugh and Godfrey (1993, 1995) found that cost benefit, practicality, alleviation of concerns, participation, feelings towards the previous system and support for the change predicted 56 per cent of variance in attitudes towards the Unit Curriculum System. The most important variables were cost benefit, participation, support for the change and feelings towards the previous system.

Moroz and Waugh (2000) found that non-monetary cost benefit, the alleviation of concerns, significant other support, comparisons with the previous system, shared goals, collaboration, teacher learning opportunities and some situation variables accounted for 49 per cent of variance in teachers' attitudes towards the Student Outcomes Statements System. Non-monetary cost benefit, comparisons with the previous system, significant other support and alleviation of concerns were most important variables.

Previous studies indicate that at least nine variables are likely to be related to lecturer receptivity (or teacher receptivity) to a planned educational change in a centrally controlled system. These are: comparison with the previous system, practicality in the classroom, alleviation of concerns, learning about the change, participation in decision-making, personal cost appraisal, collaboration with other lecturers, opportunities for lecturer improvement, and perceived value for students (Collins & Waugh, 1998; Waugh, 2000a). While the evidence only directly relates to secondary schools, there doesn't seem to be any reason why these variables shouldn't be applicable to Rajabhat Universities in Thailand. Indeed, Addison (1995) used these variables to study accounting practitioners' receptivity to a proposal to change accounting to a 4-year degree in Australia. The results found eight primary conclusions. First, there is equivocal support for a change as measured by the three aspects of receptivity (overall feeling, attitudes, and general behaviour intentions). Second, two independent variables general beliefs about the change based on the expanding scope of accounting education, and general behaviour intentions to support instructors and the accounting profession are both strongly related to receptivity.

Third, three group one independent variables account for 38 per cent of the variance in receptivity. They are, attitudes towards the structure and content of the proposed change, general beliefs about the change based on the expanding scope of accounting practice, and overall feelings about the strengths and weaknesses of accounting graduates. Fourth, overall feelings towards the proposed change, general beliefs about the change based on the expanding scope of accounting practice, overall feelings about the strengths and weakness of accounting graduates and overall feelings about the practicality of the change in the lecture room and tutorial room (costs) account for 44.9 per cent of the variance in attitudes towards the proposed change, and attitudes towards the proposed change, overall feelings about the proposed change, and general beliefs about the change, based on the expanding scope of accounting practice, accounted for 67.2 per cent of variance in general behaviour intentions towards the proposed change.

Fifth, independent variables concerned with the processes of education are not related to receptivity. These variables are overall feelings about alleviating fears and

uncertainties for the proposed change, overall feelings about the practicality of the change in the lecture room and tutorial room (strategies), and overall feelings about the practicality of the change in the lecture room and tutorial room (costs). Sixth, general behaviour intentions to support instructors and the accounting profession accounted for 22 per cent of the variance in receptivity. Seventh, when all dependent variables were entered in the regression equation, the variables general beliefs about the change based on the expanding scope of accounting practice, general behaviour intentions to support instructors and the accounting profession, and overall feelings about the strengths and weaknesses of accounting graduates account for 34 per cent of the variance in receptivity.

Eighth, canonical analyses indicate that accounting practitioners' receptivity to change at the adoption stage is related to their understanding of the scope of accounting practice at that time. They also indicate that accounting practitioners who believe that the scope of accounting practice has expanded intend to support instructors and the accounting profession. The canonical coefficient for the first set of canonical variables, attitudes to the structure and content of the proposed change, general beliefs about the change based on the expanding scope of accounting practice and overall feelings about the strengths and weaknesses of accounting graduates is 44. 4 per cent. The strength of this relationship indicates that accounting practitioners' receptivity to the proposed change is related to their attitudes about variables, which are specific to accounting. The canonical coefficient for the second set of canonical variables is 25.8 per cent whilst the canonical coefficient for the third set of canonical variables, general behaviour intentions about expectations and achievements for the proposed change, and general behaviour intentions to support instructors and the accounting profession is 29.4 per cent. This relationship also indicates that accounting practitioners' receptivity to the proposed change is related to their intention to help the accounting profession and that they intend to provide expectations and achievements for proposed change. The findings of this study support the general model used in the study of accounting practitioners' receptivity to the proposed change in accounting education at the adoption stage, except that the situation variables can be omitted.

In a previous study of system-wide change, Waugh and Punch (1985) found that teachers' attitudes to the previous system were positively related to attitudes to the

new system where the new system focused on demonstrated improvements.

Doyle and Ponder (1977-1978), and Waugh and Punch (1985, 1987) viewed the variable cost benefit as a ratio of the amount of return against the amount of investment relating to the effects of the change for the teacher and the students, as perceived by the teacher. That is, the teacher will have a positive cost benefit if the work involved in implementing the change at the school level is perceived to provide benefits such as increased student learning and increased satisfaction with teaching, and vice versa.

Waugh and Punch (1987), following an idea proposed by Giacquinta (1975) - that aspects such as knowledge, understanding, clarity of change proposal, lack of feedback, and lack of meetings can all be grouped under the same general variable, the alleviation of fears and uncertainties, because they aid or hinder the implementation of change through the mechanism of communication - found that this variable was related to teacher's receptivity to the Certificate Secondary Education System. That is, as changes are being implemented, teachers will be more receptive to the change, if administrators at the school provide a means whereby fears and concerns can be raised and something done about them.

Waugh and Godfrey (2000) state that the variable, practicality, measured the extent to which the teachers perceived the course outlines or syllabus statements to be practical in the classroom. It measured whether teachers found the courses suited to their teaching styles; whether the courses reflected the teachers' educational philosophy; whether courses provided a sufficient range of classroom learning experiences; whether the content was tuned to the needs of the students; and whether the course outlines were sufficiently flexible to help teachers manage the day-to-day running of the classroom.

Waugh and Godfrey (2000) found that the variable, participation, was identified in a major review of the literature by Conley (1991) as playing an important part in teachers' attitudes to planned change. She found that teachers examined such aspects as authority versus influence, actual outcomes versus expected outcomes, and classroom decisions versus administrative decisions in relation to changes that had to be implemented in their schools and their classrooms.

Gess-Newsome, Southernland, Johnston, and Woodbury (2003) studied "The Anatomy of Change in College Science Teaching" by using the Teacher-Centered Systematic Reform model (TCRS) model. TCRS recognises teaching context, teacher characteristics, teacher thinking, and their interactions as influential factors in attempts to implement classroom reform. Using the TCSR model, teachers' personal practical theories, and conceptual change as a framework, the researchers of this article studied three college science faculty members as they designed and implemented an integrated, inquiry-based science course. The documentation and analysis of context; instructors' knowledge and beliefs, and teaching episodes allowed the authors to identify and study the interaction of factors, including grant support, that shape reform attempts. The results suggest that grant-supported mitigation of structural barriers is a necessary but insufficient precursor to change and that personal practical theories are the most powerful influence on instructional practice. The findings highlight the critical role of pedagogical and contextual dissatisfaction in creating a context for fundamental change.

Phornphong (2002) studied "Trends for Development of Autonomy of Rajabhat Ubon University". It was found that Rajabhat Ubon Ratchathani should improve the academic administration, the student activities, the personnel development, and their financial situation. While this research on the change in Thailand is timely and useful, further research on change is needed. In particular, research and development are needed because Rajabhat staffs are placed in a new culture and educational environment. Research could help administrators implement the plan better in the coming years and prepare for aspects that may have otherwise caused implementation problems.

According to the National Education act of 1999, the statuses of Rajabhat Institutes are changed to that of a university. Rajabhat Universities in Thailand are now concerned with ten main aspects. These are (1) a new culture of learning; (2) administration and management; (3) educational personnel management; (4) educational quality assurance; (5) financial management for higher education (6) technology development and application; (7) accessibility; (8) human resource training and development; (9) teacher training and development towards 'Centre of Excellence'; (10) enhancing communication. (Rajabhat Institute Ubon Ratchathani,

2001a). While lecturer receptivity to these ten aspects has not been studied in Thailand, one can see that the nine receptivity variables reported in the studies of planned change, just stated, could be applicable to the change in Thailand.

From this literature review, it would appear that lecturer receptivity to a major new change (in the context of planned change) at Rajabhats in Thailand could be related to at least nine main variables, but this needs to be tested. The nine variables are: (1) attitude to the new system compared to the previous system, (2) practicality in the Rajabhat classroom, (3) alleviation of concerns, (4) learning about the change, (5) participation in decision-making, (6) personal cost appraisal, (7) collaboration with other lecturers, (8) opportunities for lecturer improvement, and (9) perceived value for students. These are the variables tested in the present study. For each variable, lecturers would have developed expectations that influence their behaviours. There is a need to test this in relation to the change at Rajabhat Universities in Thailand. In accordance with the educational system change, there are at least five main aspects that have impacted on higher educational organisations in Thailand. They are: (1) globalisation and internationalism of education and technology; (2) new professional development; (3) strategic partnerships and links to other organisations; (4) institutional autonomy; and (5) financial management. These aspects are likely to be related to at least nine variables influencing lecturer receptivity to the change, as outlined above.

The next chapter discusses the theoretical and conceptual framework of a model of lecturer receptivity to system-wide change in Thailand, nine variables influencing receptivity, a rationale for the interviews and hypotheses for the study.

CHAPTER FOUR

THEORETICAL FRAMEWORK

Introduction

A complete understanding of the receptivity of Thai lecturers to the major planned educational change in Thailand is likely to be complex. It will be difficult, and perhaps impossible, to understand fully the inter-relationships between all the variables affecting receptivity for every lecturer at the Rajabhat Universities. However, it is possible to simplify these relationships by creating a theoretical model in which only the expected most important and influential variables are used. This simplified model can provide an understanding of the inter-relationships between the most important variables, give direction to research in regard to the collection of data and provide guidelines for analysing and interpreting those data.

The model developed for this study is proposed as a general model applying to any major educational change (in the context of planned change controlled by a central body), in its implementation stage. In constructing the model, it was necessary to assume that there are fundamental generalisations common to all similar changes. These generalisations are embodied in the model. When the model is applied to the specific case of the change at Rajabhats in Thailand, the generalisations can be tested.

Lecturer receptivity is conceptualised as composed of nine aspects influencing receptivity. They are: (1) attitude to the change compared to the previous system, (2) practicality in the classroom, (3) alleviation of concerns, (4) learning about the change, (5) participation in decision-making, (6) personal cost appraisal, (7) collaboration with other lecturers, (8) opportunities for lecturer improvement, and (9) perceived value for students. For each aspect, lecturers will have developed expectations that will, in part, influence their behaviours, and their receptivity to the change.

The journal literature suggests that planned educational changes in a centrally controlled system be studied and managed in three distinct stages. These are the initial or adoption stage, the implementation stage, and the routinisation or incorporation as a

permanent feature of the system stage (Giacquinta, 1973, p. 179; Berman & McLaughlin, 1976, p. 349; Waugh & Godfrey, 1995, p. 39; Moroz & Waugh, 2000, p.163). It would seem that lecturer receptivity towards a major educational change is different at each stage and is related differentially to different variables at each stage. For example, in the adoption stage, lecturer receptivity depends on ease of explanation and communication with others, the possibility of a trial on a partial or limited basis, ease of use, congruence with existing values and obvious superiority over practices that existed previously (Berman & McLaughlin, 1976, p.342). However, in the implementation stage, lecturer receptivity is related to the interaction of the change with its institutional setting (Berman, 1978, p.157; Waugh & Punch, 1985, 1987). Here the practicality of the change in the classroom and the perceived support for the change from Rajabhat lecturers are likely to be strong determinants of the success, or otherwise, of the implemented change (Doyle & Ponder, 1977-78; Waugh & Punch, 1985, 1987; Waugh & Godfrey, 1993, 1995; Moroz & Waugh, 2000). Consequently, some of the variables included in this model are directly related to the interaction of the change with the Rajabhat, its personnel and the classroom.

The present study is situated during the implementation stage (year's 2001/2002 after 2 years of implementation). This refers to the first use of the change at Rajabhats across the educational system. Lecturers are then placed in an environment where their personal expectations and behaviours are adapting to the philosophy of the change to a greater or lesser extent, and to the culture of the new system. This is the culture of a system-wide educational change where some lecturers might find it difficult to adapt to the implementation. Some lecturers will want to adapt the change more than others, perhaps to suit their institutions, philosophy and personal style of lecturing.

Conceptual Model

Model of receptivity formation

A particular lecturer will form a view of 'How I expect the change to be implemented' in relation to each of the receptivity aspects. Then, lecturers come up against the evaluation and judgment of how the change is really implemented. The

lecturers see how the change is actually implemented at Rajabhats, and they talk to other Rajabhat staff, and receive feedback about ideas, understanding, expectations, strengths and weakness for the change. The lecturers compare their views to those of others. The lecturers would then come to form their real view of 'how I really think the change is being implemented' in regards to the same aspects of receptivity. This is, in effect, the lecturers' real view in relation to receptivity aspects. That is, lecturers will form a view of the implementation of the change in relation to the receptivity aspects, based on the interaction between their ideal view and their real view, using evidence from others around them, in regard to how the change is really being implemented.

Over a semester, lecturers may alter both their ideal view of the planned change, and they may alter their behaviour towards the change. There will be an interaction between their views of 'how I expect the change to be planned', 'How the change is actually implemented' and their actual behaviour towards the change, in regard to the aspects of receptivity. It is expected that there are likely to be power changes as a result of the system-wide change, that there will be complexities, and some chaos and uncertainties, and that they themselves will change during the implementation. This may be a simplified view of what is probably a complicated process that may vary between lecturers, but it is intended to capture some of the main 'flavours' and interactions in lecturers' receptivity to the planned system-wide change.

When the change is well planned and implemented, it is expected that lecturers will find it easy to hold positive views about how they expect the change to be implemented for all their teaching classes, and how they think the change was really implemented for all lecturers at the Rajabhats. In contrast, when the change is not well planned and implemented, it is expected that the lecturers will not find it easy to hold positive views about how they expect the change to be planned for all lecturers at the Rajabhats. Similarly, it will be much harder to hold positive views about how they think the change was really implemented for all at Rajabhats, and harder even still to be behave positively towards the change at Rajabhats.

In the terms of the main aspects of lecturer receptivity, when the change is not well planned and implemented, it is expected that lecturers will find it difficult to hold

positive views about one or more of the aspects. This will lead to them finding it hard to behave positively to the change. They may talk and act against the change because they think that it is not as good as the previous system it replaced, it is not practical in the classroom, their concerns are not alleviated, they are not learning about the change, they are not participating in decision-making, there is a high personal cost to implement the change, it is difficult to collaborate with other lecturers, these are few opportunities for lecturer improvement, or there is little perceived value for students. However, in direct contrast, when the change is well planned and implemented (in the view of the lecturers), and they have positive views about each of the aspects of the change, they will be more likely to behave positively towards the change at Rajabhats, and have positive views and behaviours in relation to each of the nine aspects.

The proposed model of receptivity

The proposed model, using the research findings on receptivity to major new policy changes in the context of planned change in a centrally-controlled system, was devised from empirical and theoretical material in the literature. This model is depicted in figure 4.1. Lecturer receptivity is concerned with three major self-reported perspectives of nine aspects of the change, expectations about implementation, real self-views about implementation, and actual behaviour towards the change. The nine influencing aspects are: the new system compared to the previous system, practicality in the classroom, alleviation of concerns, learning about the change, participation in decision-making, personal cost appraisal, collaboration with other lecturers, opportunities for lecturer improvement, and perceived value for students. The theoretical relationship amongst these aspects is explained next and used as the basis for constructing the questionnaire.

Since the major new policy was implemented in the year 2000 and data were collected at the end of 2001 (and 2002), it is assumed that receptivity to it has stabilised or is coming to stability, for many lecturers, and that it varies from lecturer-to-lecturer across the universities. This variation in receptivity is seen as being due to differences in the influence of the nine aspects. It is expected, for example, that the higher the perceived benefit of the change, the higher will be the receptivity to the change and the lower the perceived benefit, the lower the receptivity. This is because

lecturers who perceive personal benefits in the change (such as better conditions, more resources and so on) will develop better attitudes and behaviours in dealing with the change, and vice versa. As another example, lecturers who find parts of the change to be practical in their classrooms, and beneficial to student learning and interest, will develop better attitudes and behaviours in dealing with the change, and vice versa. These types of arguments can be applied to the influence of all nine aspects on receptivity.

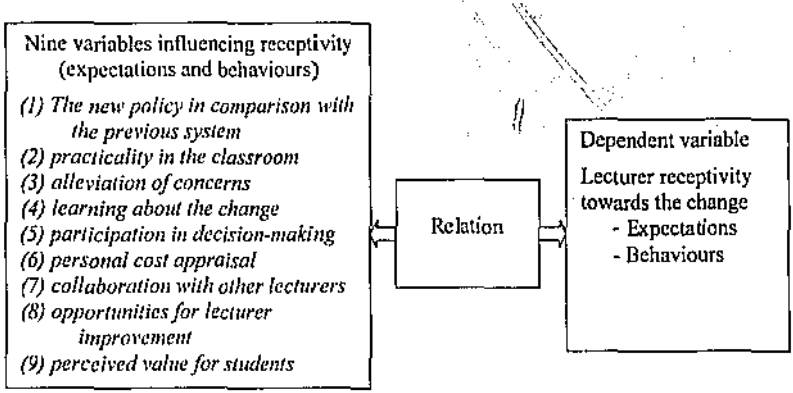

Figure 4.1: Nine aspects influencing lecturer receptivity to a major planned educational change

Source: Complied by the author from the literature review

Model of the structure of receptivity

A model of the structure of receptivity was conceptualised and created using ordered subgroups of nine main aspects of receptivity, linked with three perspectives (How I expect the change to be implemented, How I think the change was really implemented, and My actual behaviour to the change involves). The model of receptivity was based on four ideas that when integrated would help explain receptivity as a complex variable.

The first involved the creation of a structure of receptivity based on the nine main aspects. Each aspect was operationally defined by a number of sub-aspects (see

Appendix A and Chapter 5). The second involved creating stem-items in an ordered pattern by difficulty within each sub-aspect. The structure of receptivity was then based on sub-sets of stem-items in patterns of ordered difficulty, each aligned from easy to hard. The third involved an ordered set of perspectives for each of the stem-items. These are *How I expect the change to be implemented* (expected to be easy on average), *How I think the change was really implemented* (expected to be harder on average), and *My actual behaviour to the change involves* (expected to be hardest on average). It was expected that most lecturers would find it easy to say that the new system was expected to be planned to produce some specified benefits and that there would be some variation around this. It was expected that most lecturers would find it harder (but still easy) to say that they expected it was really implemented as planned and produce all the expected benefits because this involves more effort and work that is unlikely to be 100 % right. It was expected that most lecturers would find it 'harder still' to say that their behaviour involves everything as centrally planned, because this involves more personal effort and work again, that is not likely to be undertaken 100 %. The fourth involved calibrating all the difficulties of the items (from easy to hard) onto the same scale as the measure of receptivity (from low to high), using a Rasch Measurement Model. The following material provides an example of the conceptual and model thinking involved with the construction of one of the sub-aspects, Practicality in the classroom.

Expected ordering by difficulty pattern for practicality in the classroom

It was expected that most lecturers would find it easy to say that they expected *the new educational system provided changes that can be adapted to the needs of their students* (item 31). It was expected that there would be some variation in lecturer responses around this. It was expected that most lecturers would find it harder to say that they expected *the new educational system would provide sufficient flexibility in the changes to suit the needs of different students* (item 34), and there would be some variation in lecturer responses around this. This is because item 34 involves 'a little bit more practically' and conceptually than does item 31. It was expected that most lecturers would find it 'harder still' to say that they expected *the new educational system would provide sufficient resources to allow them to implement the change in*

their classroom (item 37), and there would be some variation in lecturer responses around this. This is because item 37 involves 'a little bit more practically' and conceptually than does item 34. So it was expected that these three stem-items (31, 34, 37) would form an ordered pattern of responses by difficulty, on average, from easy to hard, when the lecturers reported this is *How I expect the change to be planned*. This is the vertical ordering of stem-items by difficulty in the questionnaire set out in Appendix A and Figure 4.2.

Similarly, it was expected that this vertically ordered pattern of difficulties for the lecturers' perspectives of, *How I expect the change to be planned,* in the relation to the three stem-items for practicality in the classroom (as explained above) would be repeated for the other two perspectives, *How I think the change was really implemented* and *My actual behaviour to the change involves* (items 31, 34, 37). These patterns can be seen in the questionnaire (see Appendix A and Figure 4.2).

Expected ordering by difficulty for the other aspects

The stem-items for the other aspects were designed to be ordered vertically from easy to hard and, for each stem-item, the perspectives were designed to be ordered horizontally from easy to hard. The actual descriptions are not reported here to avoid repetition, but they can easily be worked out from Appendix A.

Item No.	Item wording	How I expect the change to be planned.	How I think the change was really implemented.	My actual Behaviour to the change involves.
	Practicality in the Classroom			
31-33	Providing changes that can be adapted to the needs of my students.	Easy	a little harder	a little harder
34-36	Providing sufficient flexibility in the changes to suit the needs of different students.	Harder	harder still	still harder
37-39	Providing sufficient resources to allow me to implement the changes in my classroom.	Harder still	harder still more	still more hardest

Figure 4.2 Conceptual structure of Practicality in the classroom items by difficulty

Notes on Figure 4.2 1. Items are designed to be ordered by perspective from easy to hard (vertical ordering).

2. perspectives are designed to be ordered by items from easy to hard (horizontal ordering).

3. source: part of the questionnaire designed by the author for this of study.

Rationale for the interviews

In order to answer the research questions outlined in Chapter one, structured interviews were conducted. This is because structured interviews are appropriate for complex situations, are useful for collecting in-depth information, and the questions can be explained to the respondents (Kumar, 1996, p. 115; Flick, 1998). In this study, the researcher expected to find out the reasons that Rajabhat lecturers gave for holding their expectations of, and behaviours towards, the recently implemented planned educational change.

The interview questions are set out below.

Interview questions

Direction: You are requested to respond to the questions concerning lecturer receptivity to a major new policy change in the context of planned change at Rajabhats in Thailand.

Lecturer receptivity to the new educational system

Aspect 1: Comparison with the previous change

1.1 Do you think that the new educational system is better than the previous educational system?

1.2 Why do you think that?

Aspect 2: Practicality in your classroom

2.1 Do you think that the new system is practical in your classroom?

2.2 Why do you think that?

Aspect 3: Alleviation of concerns

3.1 When the new educational policy is implemented, will all your concerns be alleviated?

3.2 Why do you think that?

Aspect 4: Learning about the change

4.1 How did you learn about the educational change?

4.2 Why do you think like that?

Aspect 5: Participation in decision-making

5.1 How will you be participated in decision-making at your Rajabhat, when the new educational policy is implemented?

5.2 Why do you think that?

Aspect 6: Personal cost appraisal

6.1 Do you think the new educational system is worth all the effort to implement it? Would you please give some details?

6.2 Why do you think that?

Aspect 7: Collaboration with other lecturers

7.1 Is collaboration with other lecturers necessary to implement the new educational system?

7.2 Why do you think that?

Aspect 8: Opportunities for Lecturer Improvement

8.1 Does new educational system provide opportunities for your educational knowledge and professional improvement?

8.2 Why do you think that?

Aspect 9: Perceived Value for Students

9.1 Is the new educational system advantageous for your students?

9.2 Why do you think that?

Hypotheses

Ten hypotheses were set up in order to achieve the purposes of the study. These are as follows:

1) Lecturers are able to answer the items in the conceptually ordered-by difficulty patterns in which they were designed for the nine aspects.

2) The expectations are easier than the behaviours for each item in the measure of the new policy compared with the previous system.

3) The expectations are easier than the behaviours for each item in the measure of practicality in the classroom.

4) The expectations are easier than the behaviours for each item in the measure of alleviation of concerns.

5) The expectations are easier than the behaviours for each item in the measure of learning about the change.

6) The expectations are easier than the behaviours for each item in the measure of participation in decision-making.

7) The expectations are easier than the behaviours for each item in the measure of personal cost appraisal.

8) The expectations are easier than the behaviours for each item in the measure of collaboration with other lectures.

9) The expectations easier than the behaviours for each item in the measure of opportunities for lecturer improvement.

10) The expectations easier than the behaviours for each item in the measure of perceived value for students.

Summary

This chapter has reviewed the major theoretical assumptions that underpin this study. A model of lecturer receptivity to system-wide change in a Thai Rajabhat was proposed. Nine aspects influencing receptivity towards the new educational change, which were measured in three perspectives, were proposed as part of the model. Further, the model of the structure of the questionnaire using items ordered by difficulty, linked with a model of ordered perspectives, and an ordered set of response categories, was described. In the final section of this chapter, the rationale for the interviews and hypotheses of this thesis are explained. The next chapter discusses measurement of variables and explains the instrument devised for measuring lecturer receptivity.

CHAPTER FIVE

MEASUREMENT

This chapter begins with a brief introduction to Rasch measurement used in this study. A description of the survey questionnaire that was used in this study follows. Background to measurement of lecturer receptivity is then provided, followed by a discussion on the use of a Rasch measurement model, used to construct a scale of lecturer receptivity to the change. Finally, the pilot testing of the questionnaire and biographical data are discussed.

Measurement

Measurement can be viewed as a process in which numbers are used to link concepts to indicators on a continuum (Punch, 1998). Traditionally, the most common means of measuring attitudes have been based on classical test theory with the use of Thurstone and Likert scales (Boyd, 2002). However, for this study, the methods used are referred to *as Item Response Theory*. Item Response Theory is based on the notion of a relationship between the observable responses to test items and the unobservable traits assumed to underlie responses to items on a test. A mathematical formula is used to describe this relationship (Rasch, 1960/1980; Hambletion & Swaminathan, 1985). One family of measurement models based on Item Response Theory that satisfies the requirements of measurement, as suggested by Andrich (1989), is the Rasch models which have been hailed to be "simple", yet "very powerful" models of measurement (Hambleton & Swaminathan, 1985, p.4). It has also been noted that Rasch models incorporate the best elements of the Thurstone and Likert approaches (Wright & Stone, 1979; Andrich, 1982). The original Rasch model developed by Danish mathemathician Georg Rasch in the 1950's, was the Simple Logistic Model (Rasch, 1960/1980), and it was used to analyse dichotomous responses. Subsequent work has extended Rasch models to incorporate polychotomous responses, where three or more response categories are used to compare measures (Andrich, 1988a, 1988b; Anderson, 1995). Central to the notion of objective measurement in Rasch

models, also termed specific objectivity or sample-free measures (Douglas, 1982; Wright & Masters, 1982; Andrich, 1988b), is that both item difficulties and people measures can be calibrated on the same scale. That is, differences between pairs of person measures are scale-free and differences between pairs of item difficulties are expected to be sample-independent (Wright & Masters, 1982; Andrich, 1988b), which is a requirement of measurement. As mentioned above, a new questionnaire was devised to measure lecturer receptivity because lecturer receptivity measures and item difficulties have to be calibrated together on the same scale, in order to form a proper linear scale with the RUMM computer program (Andrich, Sheridan, Lyne & Luo, 2000, Waugh, 2000b, 2001), and the items have to be designed in order of difficulty.

A new questionnaire on lecturer receptivity to new educational policy change

As outlined in the preceding chapter, the model of lecturer receptivity was created with nine aspects. They are: 1) the new system in comparison with the previous system, (2) practicality in the classroom, (3) alleviation of concerns, (4) learning about the change, (5) participation in decision-making, (6) personal cost appraisal, (7) collaboration with other lecturers, (8) opportunities for lecturer improvement, and (9) perceived value for students. Receptivity items on these nine aspects were answered in three perspectives: one was for *How I expect the change to be planned* (to measure the ideal aspect), two was *How I think the change was really implemented*, and three was *My actual behaviour to the change involves* (to measure the actual or real aspect). The items relating to each aspect were ordered conceptually by difficulty. The items were set up under their aspect headings, so it would be clear to lecturers what was being measured and all the items were written in a positive sense with an ordered response format.

The four ordered response categories – for all or nearly all of the classes I teach (score 4); for about 3/4 of the classes I teach (score 3); for about 2/4 of the classes I teach (score 2); for none or few of the classes I teach (score 1) – were devised to allow consistent discrimination by the respondents. For each item, lecturers were required to enter their responses in each of the three perspectives. Effectively, there

were 150 items - 50 related to the *How I expect the change to be planned* column, 50 related to *How I think the change was really implemented*, and 50 to the corresponding *My actual behaviour to the change involves* column. The questionnaire is given in Table 5.1.

Table 5.1

Questionnaire on lecturer receptivity to the change

Direction: Please rate the 50 stem-items according to the following response format and place the appropriate number in relation to the aspects *What expectations I had about the planned changes, How I think the change has been really implemented*, and *My actual behaviour in response to the change involves* on the appropriate line opposite each statement:

For all or nearly all of the classes I teach	**put 4**
For about 3/4 of the classes I teach	put 3
For about 2/4 of the classes I teach	put 2
For none or few of the classes I teach	put 1

Example

If you expected the change would be planned to make your satisfaction with teaching outweigh the extra work generated for you in all or nearly all your classes, put 4; if you think it has been really implemented like this in about 3/4 of your classes, put 3; and if your present behaviour in response to the changes involves is like this in about 2/4 of your classes, put 2, and if your present behaviour in response to the changes is like this in none or few of the classes, put 1.

Item Provide for better student learning than the previous system

		3	2	1
Item No.	Item wording	How I expect the change to be planned	How I think the change was really implemented	My actual behaviour to the change involves
	Characteristics of the Change			
	Aspect : Comparison with Previous System (21 items)			
	Student learning			
1-3	Providing for better student learning experiences than the previous system.	.....	.....	.....

Item No.	Item wording	How I expect the change to be planned	How I think the change was really implemented	My actual behaviour to the change involves
4-6	**Providing for better student achievement than the previous system**	.....	.....	.....
	Classroom management			
7-9	Providing for better classroom management than the previous system.	.....	.....	.....
10-12	Providing better feedback (reporting) to students on their achievements (or lack there of).	.....	.....	.....
	Student Needs			
13-15	Providing for more student interest and variation than the previous system.	.....	.....	.....
16-18	Providing for the needs of students better than the previous system.	.....	.....	.....
19-21	Allowing students to better match subjects with needs and abilities than the previous system.	.....	.....	.....
	Aspect: Practicality in the classroom (18 items)			
	Classroom Management			
22-24	Providing changes that can be adapted to the educational philosophy which guides my teaching.	.....	.....	.....
25-27	Providing changes that can be adapted to my classroom teaching style.	.....	.....	.....
28-30	Providing changes that is sufficiently flexible for managing the day-to-day running of the classroom.	.....	.....	.....

Item No.	Item wording	How I expect the change to be planned	How I think the change was really implemented	My actual behaviour to the change involves
	Student Needs			
31-33	Providing changes that can be adapted to the needs of my students.	.....	.....	.....
34-36	Providing sufficient flexibility in the changes to suit the needs of different students.	.....	.....	.....
37-39	Providing sufficient resources to allow me to implement the changes in my classroom.	.....	.....	.....
	Managing the Change at my Rajabhat			
	Aspect : Alleviation of Concerns (24 items)			
	Concerns of the Change			
40-42	Contributing to regular Rajabhat meetings at which I can raise my concerns about the change.	.....	.....	.....
43-45	Being able to solve quickly any classroom problems in implementing the changes at my Rajabhat.	.....	.....	.....
46-48	Providing for specific concerns of lecturers to be raised with the Rajabhat administration and staff.	.....	.....	.....
49-51	Providing for specific concerns of lecturers to be negotiated with management by the Teaching staff.	.....	.....	.....
	Supporting the Change			
52-54	Having some lecturers to whom I can turn for advice about the change.	.....	.....	.....

Item No.	Item wording	How I expect the change to be planned	How I think the change was really implemented	My actual behaviour to the change involves
55-57	Having good general Rajabhat support whenever there are problems with resources for the change.	.....	.....	.....
58-60	Having the Principal supporting the change at my Rajabhat in practical ways.	.....	.....	.....
61-63	Providing sufficient and continuing resources for the change.	.....	.....	.....
	Aspect: Learning about the Change (15 items)			
	Learning about the Change			
64-66	Providing how to learn best about implementing the changes.	.....	.....	.....
67-69	Providing information on adapting the change to the classroom.	.....	.....	.....
70-72	Providing information about the most important issues relating to the change.	.....	.....	.....
	Discussion about the Change			
73-75	Providing regular forums to discuss the most important issues of the change.	.....	.....	.....
76-78	Providing for the Rajabhat staff and management to discuss the change.	.....	.....	.....
	Aspect : Participation in Decision-making (12 items)			
	Discussion about the Classroom			
79-81	Participating in selecting teaching resources associated with the change.	.....	.....	.....

Item No.	Item wording	How I expect the change to be planned	How I think the change was really implemented	My actual behaviour to the change involves
82-84	Participating in Rajabhat decisions that affect how the change is implemented in my classroom.	.....	.....	.....
85-87	Participating in determining the content of professional sessions.	.....	.....	.....
88-90	Participating in Rajabhat decisions that are related to implementing the changes.	.....	.....	.....
	Value for the Lecturer			
	Aspect : Personal Cost			
	Appraisal (18 items)			
	Concerns of Lecturers			
91-93	Increasing my satisfaction with teaching which outweigh the extra work generated for me.	.....	.....	.....
94-96	Making my satisfaction with home life outweigh the extra work generated for me.	.....	.....	.....
97-99	Keeping the emotional strain of the change for lecturers to a minimum.	.....	.....	.....
	Concerns of Students			
100-102	Making for better student classroom learning to outweigh the extra work generated for me.	.....	.....	.....
103-105	Making the total benefits for the students outweigh the total problems for me.	.....	.....	.....
106-108	Making for better classroom management which outweighs the extra work generated for me.	.....	.....	.....

Item No.	Item wording	How I expect the change to be planned	How I think the change was really implemented	My actual behaviour to the change involves
	Aspect : Collaboration with Other Lecturers (15 items)			
	Sharing Knowledge of the Change			
109-111	Sharing resources associated with the change with other lecturers.	.....	.....	.....
112-114	Sharing teaching ideas with other lecturers in my Rajabhat, as they relate to the change.	.....	.....	.....
	Advice and Support from Others			
115-117	Giving support to other lecturers at my Rajabhat when they need it to implement the change.	.....	.....	.....
118-120	Asking for advice from others in my Rajabhat when I have problems with the change.	.....	.....	.....
121-123	Providing advice to other lecturers about the change when requested.	.....	.....	.....
	Aspect : Opportunities for Lecturer Improvement (12 items)			
	Teaching Improvement			
124-126	Providing opportunities for me to improve my educational knowledge and understanding.	.....	.....	.....
127-129	Providing opportunities for management and lecturer staff to work together for Lecturer improvement.	.....	.....	.....

Item No.	Item wording	How I expect the change to be planned	How I think the change was really implemented	My actual behaviour to the change involves
	Students Improvement			
130-132	Providing opportunities for me to improve my teaching.	.....	.....	.....
133-135	Providing opportunities for me to do better for my students.	.....	.....	.....
	Aspect: Lecturer Perceived Value for Students (15 items)			
	Perceived value for students			
136-138	Providing value for my students.	.....	.....	.....
139-141	Providing for the needs of my students.	.....	.....	.....
142-144	Providing for good student learning.	.....	.....	.....
	Discussion of the Change			
145-147	Discussing the change with students.	.....	.....	.....
148-150	Discussing the change with parents.	.....	.....	.....

Measuring lecturer receptivity

A Lecturer Receptivity to Change Scale was created by analysing the data with a Rasch measurement model computer program. This program tests the conceptual ordering of the items and the fit of data to the measurement model. Before this is explained, it is necessary to explain Rasch measurement.

Rasch measurement model

The Extended Logistic Model of Rasch (Rasch, 1960/ 1980; Andrich, 1988a) was used with the computer program Rasch Unidimensional Measurement Models (RUMM) (Andrich, Sheridan, Lyne & Luo, 2000) to create a scale of receptivity to change. Items fitting the model were calibrated from easy to hard and lecturer

receptivity measures were calibrated from low to high on the same scale. It should be note that, in Rasch measurement, attitude items are described as easy or hard because they are treated just like achievement items and interpreted in the same way. The Rasch method produces scale-free person measures and sample-free item difficulties (Wright & Masters, 1982; Andrich, 1988b). This means that the differences between pairs of lecturer measures and pairs of item difficulties are expected to be sample independent- one of the requirements of measurement.

The Rasch model requires that data must fit the measurement model (see Andrich, 1989). This follows from the requirements needed to create a proper, linear scale. This is contrary to Classical Test Theory where one tries to model the data. There are three main scale requirements (not assumptions of the measurement model). One is that of scale additivity. Equal differences between two sets of item difficulties on the scale must equal differences between the two corresponding sets of measures on the scale. In a psychology test where item scores are added to give a percentage, the difference between 55% and 65% does not equal the same amount of Psychology understanding as between 75% and 85%; that is, there is no additivity and simply adding marks on a number of items does not mean one has a proper scale. The second is that it should be possible to omit some items without affecting a lecturer's measure on the scale. The third is that the created scale should not be affected by the opinions of lecturers whose answers are used to construct it. That is, a proper scale is invariant across groups for which it is used. This means that, for the Rasch model, all the items contributing to the scale must have the same discrimination parameter. In contrast to Classical Test Theory, item discriminations can very considerably.

The RUMM computer program (Andrich, Sheridan, Lyne & Luo, 2000) calculates standard errors of measurement for the lecturer measurements of receptivity to change and for the item difficulties, as well as a Lecturer Separability Index. The equations for these are given in Wright and Masters (1982). The Index shows the proportion of observed variance considered true.

The zero point on the scale does not represent zero Lecturer Receptivity to Change. It is an artificial point representing the mean of the item difficulties, calibrated to be zero. It is not possible to calibrate a true zero point of Receptivity to Change in the present study.

The RUMM program parameterises an ordered threshold structure, corresponding with the ordered response categories of the items (see Andrich, 1988a; Andrich & van Schoubroeck, 1989). The responses to the categories were checked to ensure that discrimination is satisfactory and that lecturer responses are logical and consistent, in relation to measurement on the Receptivity to Change scale. Discrimination is satisfactory when the thresholds are ordered in correspondence with the ordering of the response categories. In Rasch measurement, threshold values are calculated so that there are odds of 1:1 for lecturers answering in adjacent response categories. If thresholds are disordered, items are discarded because it means that the response categories are not answered logically or consistently. In the present study, there are four categories and hence three thresholds per item that should be ordered.

The RUMM program substitutes the parameter estimates back into the model and examines the difference between the expected values predicted from the model and observed values using two tests-of-fit: one is the item-trait interaction and the second is the item-lecturer interaction. The item-trait test-of-fit (a chi-square) examines the consistency of the item parameters across the lecturer measures for each item, and data are combined across all items to give an overall test-of-fit (see Andrich & van Schoubroeck, 1989, pp.479-480 for the equations). This will show the collective agreement for the difficulties of all items across lecturers of differing Receptivity to Change measures. This means that all the lecturers, irrespective of their measure of receptivity to change, agree that particular items are easy and others are hard. The item-lecturer test-of-fit examines both the response patterns for lecturers across items and for items across lecturers. It examines the residual between the expected estimate and actual values for each lecturer-item summed over all items for each lecturer and summed over all lecturers for each item (see Andrich & van Schoubroeck, 1989, p.482; or Styles & Andrich, 1993, p.914 for the equations). The fit statistics approximate a t-distribution with a mean near zero and standard deviation near one, when the data fit the measurement model. Negative values indicate a response pattern that fits the model too closely (probably because response dependencies are present, see Andrich, 1985) and positive values indicate a poor fit to the model (probably because other measures –'noise'- are present).

There are at least three reasons why items may not fit the Rasch measurement model in the present study. One, the response categories may not be answered consistently and logically. An example would be where a lecturer with a high measure answers a low category for an easy item and a higher category for a harder item. The RUMM program creates item thresholds and produces a category characteristic curve for each item. This allows the researcher to check how the categories are answered. Two, lecturers may not be able to agree on the difficulty of all items on the scale. This may indicate, for example, that half the lecturers with high measures answer an item positively and the other half answer negatively. Three, the residuals may be too large indicating that there is too big a difference between the actual and expected values according to the measurement model. This could arise for a number of reasons such as the item not being affected by the same dominant trait as the other items, or a particular group of lecturers responding differently to one response category of the item than would be expected for their overall score on the scale.

Pilot testing of questionnaire

An informal trial of the questionnaire was conducted with three colleagues. They were asked to answer the questionnaire, and then the researcher discussed the questionnaire with them. Their feedback indicated *respondents might find it easier to circle the appropriate number in relation to the aspects* instead of putting it directly on the appropriate line opposite each statement. They stated that the instructions were clear enough and that Rajabhat lecturers should be able to understand the items and answer them satisfactorily. The questionnaire was then considered ready for a formal pilot test.

A formal pilot test of the questionnaire survey instrument was conducted with 50 Mahasarakham Rajabhat University's lecturers. Sampling was processed through individuals initially selected, and they suggested the names of others who might be appropriate for the sample. This process has been referred to as the network, chain, or "snowball" method (Wiersma, 2000, p. 287). Each participant was asked to complete the original 50 stem-item questionnaire and responded with written feedback on several aspects. Particularly, each lecturer was asked to consider the following questions, adapted from Boyd (2002, p. 64).

1. How long did it take to complete the questionnaire?
2. Were the instructions clear?
3. Do you think any major aspect has been left out?
4. Were the response format categories workable?
5. Any other comments?

While all respondents completed the original 50 stem-item questionnaire, only 35 respondents provided verbal feedback on several aspects. They reported varying times to complete the questionnaire, ranging from 25 to 40 minutes, with most reporting around 30 minutes. None of the 35 lecturers reported any problems with the response format or clarity of instructions. However, two lecturers commented that there were difficulties in responding to some items. They indicated that the items *'Providing value for my students' (Items 136-138) and 'Providing for the needs of my students' (Items 139-141) were a problem.* They pointed out that the question needed to define the words 'value for my students' and 'needs of my student'. They discussed the words 'value' and 'need'. As one lecturer wrote "I had to think about this before I placed the appropriate number on the questionnaire". These items *were in the aspect: perceived value for students.* This aspect was one of nine aspects influencing receptivity. Further discussion was not able to produce another way to write the items more clearly. Therefore, the researcher did not discard the items. Lecturers made no additional comments about the questionnaire in general, no comments were made that any important aspects had been left out, and no other main comments were made about the questionnaire. Apart from minor changes to the wording of some items, no further changes were made.

Biographical data

The questionnaire contained four biographic questions such as name of Rajabhat Universities, gender, academic position, and educational degree. This section provides information on which a description of the sample is derived.

Please complete the following details.

1. At what Rajabhat University do you work?
   - ☐ Nakhorn Ratchasrima Rajabhat University
   - ☐ Buriram Rajabhat University
   - ☐ Surin Rajabhat University
   - ☐ Ubon Ratchathani Rajabhat University
2. What gender are you?
   - ☐ Male
   - ☐ Female
3. What is your academic position?
   - ☐ Associate Professor
   - ☐ Assistant Professor
   - ☐ Lecturer
4. What is your higher education degree?
   - ☐ A doctorate
   - ☐ A master's degree
   - ☐ A bachelor's degree

CHAPTER SIX

METHODOLOGY AND PRELIMINARY DATA ANALYSIS

This chapter begins with the design of present study, followed by a description of the samples. Next, the procedure is presented, and then, the process of data collection using the questionnaire is outlined, followed by a description of the trial and data collection using the semi-structured interview schedule. A summary statement of lecturer support for the change is given from a preliminary analysis of the raw questionnaire data.

Design

A "mixed method design" is used for this study. The mixed method design is referred to as an apparent dichotomy created between quantitative and qualitative methods (Clarke & Dawson, 1999, pp.86-90; Green &McClintock, 1985). In other words, this study employed a combination of quantitative and qualitative methods (see also Punch, 1998). Both survey questionnaire (quantitative data) and semi-structured interview (qualitative data) were used for data collection.

The study was conducted in three phases. Phase one involved trialing the questionnaire, phase two was collecting data using a survey questionnaire, and phase three was face-to-face interviews. Initial findings from phase two, the survey questionnaire became the basis for planning phase three, the face-to-face interviews.

Samples

For the pilot test of the questionnaire data, fifty lecturers from the Mahasarakham Rajabhat University were chosen and seven of these lecturers were chosen for pilot interviewing. Sampling was processed by voluntary selection and they suggested the names of others who might be appropriate. This process has been referred to as "snowballing" method (Wiersma, 2000, p.287). The pilot test was necessary in order to investigate whether the items made sense, that the lecturers

could answer the items sensibly, and that the items covered all the topics that the researcher wanted to study. Pilot testing was described in the previous chapter (Chapter 5).

For the questionnaire data, the population was 952 lecturers, who were working during the academic year 2001-2002, from four Rajabhat Universities in the southern part of the northeastern region of Thailand. The population comprised 285 lecturers from Nakhon Ratchasima Rajabhat University, 238 lecturers from Buriram Rajabhat University, 209 lecturers from Surin Rajabhat University, and 220 lecturers from Ubon Ratchathani Rajabhat University (Rajabhat Institute Ubon Ratchathani, 2001a, 2000). Of the 952 invited to complete the questionnaire, 660[2] did so on a voluntary basis (69.3%), and data from this sample were analysed in the next chapter (Chapter 7).

The first step in the analysis of the biographical data was to assign numbers to the questionnaire responses in order to code the responses for entering into an Excel computer program. The codes were a single number representing the questions and the answers that were provided. The biographical data was used to identify the status of lecturers of Rajabhat Universities: name of Rajabhat University; gender; academic position; and educational degree. Table 6.1 provides a summary of biographical data of lecturers of Rajabhat Universities.

For the 660 respondents, there were 28.80 percent from Nakhon Ratchasima Rajabhat University, 21.20 percent from Buriram Rajabhat University, 20.50 percent from Surin Rajabhat University, and 29.50 percent from Ubon Ratchathani Rajabhat University. Female was 45.60 percent and male was 54.40 percent. For academic position, Associate Professor was 2.90 percent, Assistant Professor was 39.40 percent, and lecturer was 57.70 percent. For educational degree, a doctorate was 6.20 percent, a master's degree was 68.50 percent, and a bachelor's degree was 25.30 percent (see Table 6.1).

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[2] N=660 in chapter 6, but N=659 in chapter 7, 8, and 9 due to RUMM rejecting incomplete data for one person.

For the interview data, a 'snowballing technique' was used, with a process starting with some lecturers from each of four Rajabhats (Wiersma, 2000, p.287). Eight lecturers known to the researcher were interviewed and asked to nominate others. Eight lecturers from Nakhon Ratchasima Rajabhat University, 7 lecturers from Buriram Rajabhat University, 7 lecturers from Surin Rajabhat University, and 8 lecturers from Ubon Ratchathani Rajabhat University were selected and interviewed. The analysis of data from the interviews is reported in chapter 10.

Table 6.1

Summary of biographical information of lecturers of Rajabhat Universities

Biographical Information of lecturers of Rajabhat Universities	Number of Lecturers	Percentage
Name of Rajabhat Universities		
Nakhon Ratchasima Rajabhat University	190	28.80
Buriram Rajabhat University	140	21.20
Surin Rajabhat University	135	20.50
Ubon Ratchathani Rajabhat University	195	29.50
Gender of lecturers		
Female	301	45.60
Male	359	54.40
Academic status		
Associate Professor	19	2.90
Assistant Professor	260	39.40
Lecturer	381	57.70
Academic Degree		
Doctor's Degree	41	6.20
Master's Degree	452	68.50
Bachelor's Degree	167	25.30

Source: questionnaire data

Procedure

There were six stages of the procedure. One, approval to conduct the research was obtained from the University Ethics Committee. Two, permission for data collection was obtained from the Presidents of Mahasarakham Rajabhat University, Nakhon Ratchasima Rajabhat University, Buriram Rajabhat University, Surin Rajabhat University , and Ubon Ratchathani Rajabhat University . Three, the pilot study was conducted at Mahasarakham Rajabhat University. The results of the pilot study were used to modify the questionnaire. Four, the questionnaire was distributed to each Rajabhat for data collection and collected by the researcher. After a month, reminders were issued and followed up. Five, 30 lecturers were interviewed after completing the questionnaire. Six, both questionnaire and interview data were analysed. This procedure was illustrated in the following diagram (figure 6.1). The data collection for both questionnaire and interview schedule spanned a period of six months.

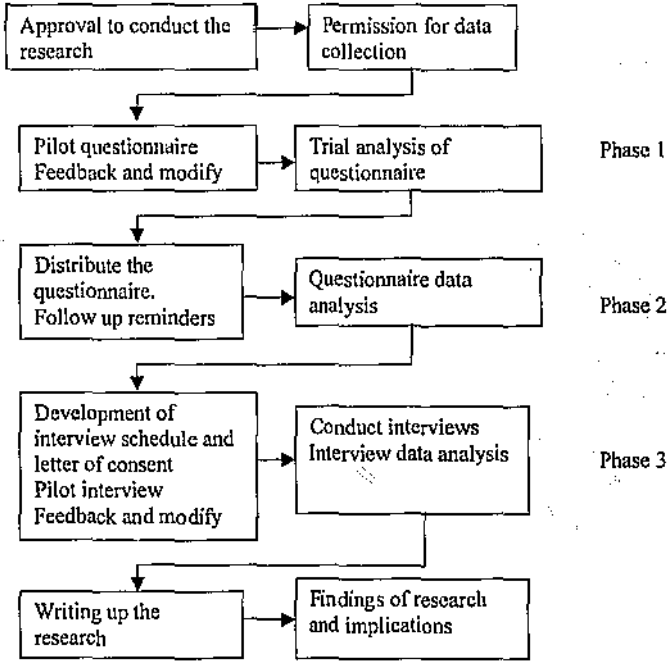

Figure 6.1: Procedure for data collection and analysis

Questionnaire

Packages containing questionnaires for Rajabhat's lecturers were prepared and distributed to each Rajabhat University in the southern part of the northeastern region of Thailand. The distribution was conducted via each office of the Faculties in Rajabhat Universities. The covering letter of the questionnaire was taken as informed consent, based on the condition of anonymity (see Apendix A). Principals distributed the questionnaires mostly during Semester 2, in academic year 2001 (October 2001-March 2002). In the main, the questionnaires were collected together at the Rajabhat and mailed directly to the researcher. Follow-up letters and phone calls were made to every Rajabhat University, where lecturers had not responded by the beginning of January, 2002.

Interviews

Three expert lecturers from the Office of Rajabhat Institute Council informally examined questions and key issues of the original interview schedule, that could be explored in more depth in an initial stage of the interview pilot study. Discussion revealed that general lecturer receptivity to a major new policy change at Rajabhats in Thailand was an important heading and needed more stress. Accordingly, it was decided to emphasis more strongly the words *'a major new policy change at Rajabhats in Thailand'*. The interviewee had to be given permission by the Rajabhat to take part before the interview was begun. Some alterations to the wording of some questions were made to the interview schedule, based on comments from the Rajabhat Council lecturers.

An initial sample of eight Rajabhats' lecturers known to the researcher was selected. Two of them were from each of four Rajabhat Universities: Nakhon Ratchasima Rajabhat University, Buriram Rajabhat University, Surin Rajabhat University, and Ubon Ratchathani Rajabhat University. They were asked to participate in an interview about their receptivity to a major new policy change at Rajabhats in Thailand. They were also asked to suggest other lecturers, who had known about the major new policy change at Rajabhats in Thailand, for participation in an interview. With this approach, 30 lecturers agreed to participate in this study. Before the lecturers participated in the interview, they were provided with a letter of

consent and an information statement (see Appendix A). The lecturers then read the enclosure of the interview questions and they confirmed their participation in the interview again before the interview was conducted. The lecturers were asked to sign a form of consent. In the case where lecturers refused to participate, their current positions were not prejudiced in any way. The time and place for the interview was set according to the interviewees' preferences. Most of them preferred to set the interview at their working room in their office. All interview data were recorded with a code number. No names were used in this study. The average length of the interviews was 45 minutes. None of the lecturers declined to answer any of the questions.

Data analysis

The model behind the questionnaire was tested by analysing the data collected with the questionnaire. The tests were performed with a Rasch computer program, Rasch Unidimensional Measurement Models (RUMM) (Andrich, Sheridan, Lyne & Luo, 2000). Responses to the questionnaire items were entered into an Excel file in terms of the response code (1, 2, 3, or 4). Then the data were converted to a text file in Word, and analysed with the RUMM computer program. Various linear scales were created. These analyses are described in chapters 7-9.

An attempt was made to discover why Rajabhat lecturers answered the questionnaire the way that they did and to find out some of the reasons behind their answers to the questionnaire. These qualitative data were analysed with a view to providing some answers to why (or background to) the lecturers holding their attitudes, expectations and behaviours towards the change. These analyses are described in chapter 10.

Preliminary data analysis

According to the conceptual design of the questions for each aspect, most lecturers were expected to find it easy to hold positive perspectives about how they expected the change to be implemented for all their teaching classes. The percentage response of most lecturers' expectations was high because they did find it easy to hold a positive perspective. Most lecturers were expected to find it harder to hold positive

perspectives about how the change was really implemented at Rajabhats. The percentage response of most lecturers' perspectives for implementation compared to the ideal expectation was reduced. It was found that most lecturers behaved positively towards the change at Rajabhats, and the percentage response of most lecturers' behaviour compared to implementation was reduced, as expected.

Table 6.2

Percentage of lecturers answering items by response categories for the aspect, comparison with the previous system

Item	in none or few of my classes (score 1)	in 2/4 of my classes (score 2)	in 3/4 of my classes (score 3)	In nearly all my classes (score 4)
7	3.0 %	25.5 %	47.3 %	24.2 %
8	5.9 %	36.8 %	47.7 %	9.5 %
9	6.2 %	39.5 %	42.3 %	12.0 %
16	2.3 %	18.0 %	50.5 %	29.2 %
17	4.4 %	30.6 %	52.0 %	13.0 %
18	7.0 %	33.6 %	44.1 %	15.3 %

For comparison with the previous system, items 7-9, and items 16-18 fitted the measurement model. Table 6.2 shows the percentage response of lecturers' perspectives for expectation, implementation compared to expectation, and behaviour compared to implementation, for the aspect comparison with the previous system. Most lecturers (47.3 % of 660) expected that *the new system would provide for better classroom management than the previous system* (item 7) in about 3/4 of their classes (score 3). It should be harder for lecturers to say that the new system was really implemented *to provide for better classroom management than the previous system* (item 8). For item 8, most lecturers (47.7 % of 660) expected that the change would be planned for about 3/4 of their classes. The percentage for item 8 should be less than the percentage for item 7, because implementation requires more than expectation. Thus, with the raw data, the conceptualised horizontal ordering was not supported for item 8 (but it does with Rasch modelling, see Appendix B). It should be 'harder still'

for lecturers to say that their actual behaviour to *the change involves providing for better classroom management than the previous system* (item 9). This is because it involves the lecturers' behaviour rather than attitude. It requires the lecturers to actually do something in regard to the change and is conceptually harder. For item 9, most lecturers (42.3 % of 660) expected the change would be planned in about 3/4 of their classes. The percentage for item 9 was less than the percentage for item 8. Hence, conceptually, the raw data from item 7, and item 9 were ordered from easy to harder, and the data partially supported the conceptual model used in this study. Items 16-18 were similar.

Table 6.3

Percentage of lecturers answering items by response categories for the aspect, practicality in the classroom

Item	in none or few of my classes (score 1)	in 2/4 of my classes (score 2)	in 3/4 of my classes (score 3)	In nearly all my classes (score 4)
34	3.6 %	18.5 %	51.8%	26.1 %
35	5.0 %	39.4 %	47.6 %	8.0 %
36	10.5 %	33.0 %	41.7 %	14.8 %
37	6.2 %	24.1 %	48.5 %	21.2 %
38	6.7 %	40.9 %	39.4 %	13.0 %
39	11.5 %	37.9 %	31.7 %	18.8 %

For practicality in the classroom, items 34-36, and items 37-38 fitted the measurement model. Table 6.3 shows the percentage response of lecturers' perspectives for expectation, implementation compared to expectation, and behaviour compared to implementation for the aspect practicality in the classroom. Most lecturers (51.8 % of 660) expected that *the new system would provide sufficient flexibility in the changes to suit the needs of different students* (item 34) in about 3/4 of their classes (score 3). It should be harder for lecturers to say that the new system was really implemented *to provide sufficient flexibility in the changes to suit the needs of different students* (item 35). For item 35, most lecturers (47.6 % of 660) expected

that the change would be planned for about 3/4 of their classes. The percentage for item 35 was less than the percentage for item 34, because implementation requires more than expectation. It should be 'harder still' for lecturers to say that their actual behaviour to *the change involves providing sufficient flexibility to suit the needs of different students* (item 36). This is because it involves the lecturers' behaviour rather than attitude. It requires the lecturers to actually do something in regard to the change and is conceptually harder. For item 36, most lecturers (41.7 % of 660) expected the change would be planned in about 3/4 of their classes. The percentage for item 36 was less than the percentage for item 35. Hence, conceptually, the raw data from item 34, item 35, and item 36 were ordered from easy to harder, and the data supported the conceptual model used in this study. Items 37-39 were similar.

Table 6.4

Percentage of lecturers answering items by response categories for the aspect, alleviation of concerns

Item	in none or few of my classes (score 1)	in 2/4 of my classes (score 2)	in 3/4 of my classes (score 3)	In nearly all my classes (score 4)
40	8.0 %	23.9 %	48.2 %	19.8 %
41	9.8 %	36.7 %	45.2 %	8.3 %
42	11.5 %	36.5 %	40.8 %	11.2 %
43	7.3 %	29.5 %	45.6 %	17.6 %
44	10.8 %	43.3 %	37.9 %	8.0 %
45	17.9 %	39.1 %	36.6 %	9.4 %
46	7.7 %	24.1 %	46.2 %	22.0 %
47	7.6 %	37.0 %	44.5 %	10.9 %
48	11.1 %	38.5 %	37.9 %	12.6 %
58	6.8 %	28.6 %	45.3 %	19.2 %
59	8.2 %	40.9 %	43.6 %	7.3 %
60	13.9 %	37.7 %	37.3 %	11.1 %

For alleviation of concerns, items 40-42, items 43-45, items 46-48, and items 58-60 fitted the measurement model. Table 6.4 shows the percentage response of lecturers' perspectives for expectation, implementation compared to expectation, and behaviour compared to implementation for the aspect alleviation of concerns. Most lecturers (48.2 % of 660) expected that *the new system would contribute to regular Rajabhat meetings at which lecturers could raise their concerns about the change* (item 40) in about 3/4 of their classes (score 3). It should be harder for lecturers to say that the new system was really implemented *to contribute to regular Rajabhat meetings at which lecturers could raise their concerns about the change* (item 41). For item 41, most lecturers (45.2 % of 660) expected that the change would be planned for about 3/4 of their classes. The percentage for item 41 was less than the percentage for item 40, because implementation requires more than expectation. It should be 'harder still' for lecturers to say that their actual behaviour to *the change involves contributing to regular Rajabhat meetings at which lecturers could raise their concerns about the change* (item 42). This is because it involves the lecturers' behaviour rather than attitude. It requires the lecturers to actually do something in regard to the change and is conceptually harder. For item 42, most lecturers (40.8 % of 660) expected the change would be planned in about 3/4 of their classes. The percentage for item 42 was less than the percentage for item 41. Hence, conceptually, the raw data from item 40, item 41, and item 42 were ordered from easy to harder, and the data supported the conceptual model used in this study. Items 43-45, items 46-48, and items 58-60 were similar.

Table 6.5

Percentage of lecturers answering items by response categories for the aspect, learning about the change

Item	in none or few of my classes (score 1)	in 2/4 of my classes (score 2)	in 3/4 of my classes (score 3)	In nearly all my classes (score 4)
64	4.1 %	25.5 %	47.9 %	22.6 %
65	5.8 %	42.7 %	44.5 %	7.0 %
66	10.8 %	38.9 %	41.1 %	8.8 %

Table 6.5 (continued)

Item	in none or few of my classes (score 1)	In 2/4 of my classes (score 2)	in 3/4 of my classes (score 3)	In nearly all my classes (score 4)
67	4.5 %	26.8 %	42.6 %	26.1 %
68	6.5 %	39.4 %	46.5 %	7.6 %
69	10.8 %	36.3 %	41.7 %	11.2 %
70	6.1 %	23.3 %	43.0 %	27.6 %
71	6.8 %	38.9 %	44.7 %	9.6 %
72	11.8 %	38.5 %	39.1 %	10.6 %
76	8.2 %	30.2 %	38.1 %	23.5 %
77	8.9 %	43.4 %	39.4 %	8.3 %
78	10.9 %	45.5 %	34.1 %	9.5 %

For learning about the change, items 64-66, items 67-69, items 70-72, and items 76-78 fitted the measurement model. Table 6.5 shows the percentage response of lecturers' perspectives for expectation, implementation compared to expectation, and behaviour compared to implementation for the aspect learning about the change. Most lecturers (47.9 % of 660) expected that *the new system would provide how to learn best about implementing the change* (item 64) in about 3/4 of their classes (score 3). It should be harder for lecturers to say that the new system was really implemented *to provide how to learn best about implementing the change* (item 65). For item 65, most lecturers (44.5 % of 660) expected that the change would be planned for about 3/4 of their classes. The percentage for item 65 was less than the percentage for item 64, because implementation requires more than expectation. It should be 'harder still' for lecturers to say that their actual behaviour to *the change involves providing how to learn best about implementing the change* (item 66). This is because it involves the lecturers' behaviour rather than attitude. It requires the lecturers to actually do something in regard to the change and is conceptually harder. For item 66, most lecturers (41.5 % of 660) expected the change would be planned in about 3/4 of their

classes. The percentage for item 66 was less than the percentage for item 65. Hence, conceptually, the raw data from item 64, item 65, and item 66 were ordered from easy to harder, and the data supported the conceptual model used in this study. Items 67-69, items 70-72, and items 76-78 were similar. However, with the raw data, the conceptualised horizontal ordering was not supported for item 68, item 71, and item 77 (but they do with Rasch modelling, see Appendix B).

Table 6.6

Percentage of lecturers answering items by response categories for the aspect, participation in decision-making

Item	in none or few of my classes (score 1)	in 2/4 of my classes (score 2)	in 3/4 of my classes (score 3)	In nearly all my classes (score 4)
88	7.6 %	30.9 %	41.8 %	19.7 %
89	11.2 %	49.1 %	32.9 %	6.8 %
90	16.4 %	43.6 %	30.5 %	9.5 %

For participation in decision-making, items 88-90 fitted the measurement model. Table 6.6 shows the percentage response of lecturers' perspectives for expectation, implementation compared to expectation, and behaviour compared to implementation for the aspect participation in decision-making. Most lecturers (41.8 % of 660) expected that *the new system would participate in Rajabhat decision that were related to implementing the change* (item 88) in about 3/4 of their classes (score 3). It should be harder for lecturers to say that the new system was really implemented *to participate in Rajabhat decision that were related to implementing the change* (item 89). For item 89, most lecturers (32.9 % of 660) expected that the change would be planned for about 3/4 of their classes. The percentage for item 89 was less than the percentage for item 88, because implementation requires more than expectation. It should be 'harder still' for lecturers to say that their actual behaviour to *the change involves participating in Rajabhat decision that were related to implementing the change* (item 90). This is because it involves the lecturers' behaviour rather than attitude. It requires the lecturers to actually do something in regard to the change

and is conceptually harder. For item 90, most lecturers (30.5 % of 660) expected the change would be planned in about 3/4 of their classes. The percentage for item 90 was less than the percentage for item 89. Hence, conceptually, the raw data from item 88, item 89, and item 90 were ordered from easy to harder, and the data supported the conceptual model used in this study.

Table 6.7

Percentage of lecturers answering items by response categories for the aspect, personal cost appraisal

Item	in none or few of my classes (score 1)	in 2/4 of my classes (score 2)	in 3/4 of my classes (score 3)	In nearly all my classes (score 4)
91	7.1 %	25.4 %	48.6 %	18.9 %
92	7.4 %	40.9 %	45.0 %	6.7 %
93	12.6 %	37.1 %	40.9 %	9.4 %
97	7.0 %	31.5 %	43.8 %	17.7 %
98	10.2 %	44.5 %	38.0 %	7.3 %
99	14.7 %	42.0 %	31.5 %	11.8 %

For personal cost appraisal, items 91-93, and 97-99 fitted the measurement model. Table 6.7 shows the percentage response of lecturers' perspectives for expectation, implementation compared to expectation, and behaviour compared to implementation for the aspect personal cost appraisal. Most lecturers (48.6 % of 660) expected that *the new system would increase their satisfaction with teaching which outweigh the extra work generated for them* (item 91) in about 3/4 of their classes (score 3). It should be harder for lecturers to say that the new system was really implemented *to increase their satisfaction with teaching which outweigh the extra work generated for them* (item 92). For item 92, most lecturers (45.0 % of 660) expected that the change would be planned for about 3/4 of their classes. The percentage for item 92 was less than the percentage for item 91, because implementation requires more than expectation. It should be 'harder still' for lecturers

to say that their actual behaviour to *the change involves increasing their satisfaction with teaching which outweigh the extra work generated for them* (item 93). This is because it involves the lecturers' behaviour rather than attitude. It requires the lecturers to actually do something in regard to the change and is conceptually harder. For item 93, most lecturers (40.9 % of 660) expected the change would be planned in about 3/4 of their classes. The percentage for item 93 was less than the percentage for item 92. Hence, conceptually, the raw data from item 91, item 92, and item 93 were ordered from easy to harder, and the data supported the conceptual model used in this study. Items 97-99 were similar.

Table 6.8

Percentage of lecturers answering items by response categories for the aspect, collaboration with other lecturers

Item	in none or few of my classes (score 1)	in 2/4 of my classes (score 2)	in 3/4 of my classes (score 3)	In nearly all my classes (score 4)
115	6.7 %	25.4 %	43.8 %	24.1 %
116	8.6 %	34.7 %	46.2 %	10.5 %
117	10.4 %	36.4 %	41.2 %	12.0 %

For collaboration with other lecturers, items 115-117 fitted the measurement model. Table 6.8 shows the percentage response of lecturers' perspectives for expectation, implementation compared to expectation, and behaviour compared to implementation for the aspect collaboration with other lecturers. Most lecturers (43.8 % of 660) expected that *the new system would give support to other lecturers at their Rajabhats when they needed it to implement the change* (item 115) in about 3/4 of their classes (score 3). It should be harder for lecturers to say that the new system was really implemented *to give support to other lecturers at their Rajabhats when they needed it to implement the change* (item 116). For item 116, most lecturers (46.2 % of 660) expected that the change would be planned for about 3/4 of their classes. The percentage for item 116 should be less than the percentage for item 115, because implementation requires more than expectation. Thus, with the raw data, the

conceptualised horizontal ordering was not supported for item 116 (but it does with Rasch modelling, see Appendix B). It should be 'harder still' for lecturers to say that their actual behaviour to *the change involves giving support to other lecturers at their Rajabhats when they needed it to implement the change* (item 117). This is because it involves the lecturers' behaviour rather than attitude. It requires the lecturers to actually do something in regard to the change and is conceptually harder. For item 117, most lecturers (41.2 % of 660) expected the change would be planned in about 3/4 of their classes. The percentage for item 117 was less than the percentage for item 116. Hence, conceptually, the raw data from item 115, and item 117 were ordered from easy to harder, and the data partially supported the conceptual model used in this study.

Table 6.9

Percentage of lecturers answering items by response categories for the aspect, Opportunities for lecturer improvement

Item	in none or few of my classes (score 1)	In 2/4 of my classes (score 2)	in 3/4 of my classes (score 3)	In nearly all my classes (score 4)
124	5.2 %	24.2 %	45.3 %	25.3 %
125	5.5 %	32.4 %	50.0 %	12.1 %
126	8.8 %	34.8 %	42.7 %	13.6 %
127	4.8 %	29.8 %	47.3 %	18.0 %
128	7.7 %	37.1 %	43.9 %	11.2 %
129	11.7 %	34.4 %	40.5 %	13.5 %
130	6.1 %	29.4 %	39.8 %	24.7 %
131	8.2 %	31.7 %	47.3 %	12.9 %
132	8.8 %	34.2 %	41.1 %	15.9 %

Table 6.9 (continued)

Item	in none or few of my classes (score 1)	In 2/4 of my classes (score 2)	in 3/4 of my classes (score 3)	In nearly all my classes (score 4)
133	5.2 %	20.9 %	49.7 %	24.2 %
134	5.0 %	28.5 %	51.7 %	14.8 %
135	5.8 %	34.5 %	40.0 %	19.7 %

For Opportunities for lecturer improvement, all of these items did not fit the measurement model and were deleted. Table 6.9 shows the percentage response of lecturers' perspectives for expectation, implementation compared to expectation, and behaviour compared to implementation for the aspect opportunities for lecturer improvement. The new system was expected to *provide opportunities for lecturers to improve their educational knowledge and understanding* (item 124) and should be easy to agree with. For item 124, most lecturers (45.3 % of 660) expected the change would be planned in about 3/4 of their classes (score 3). It should be harder for lecturers to say that the new system was really implemented *to provide opportunities for lecturers to improve their educational knowledge and understanding* (item 125). For item 125, most lecturers (50.0 % of 660) expected the change would be planned in about 3/4 of their classes. The percentage for item 125 should be less than the percentage for item 124, because implementation requires more than expectation. Thus, with the raw data, the conceptualised horizontal ordering was not supported for item 125. It should be 'harder still' for lecturers to say that their actual behaviour to the change involves *providing opportunities for lecturers to improve their educational knowledge and understanding* (item 126). This is because it involves the lecturers' behaviour rather than attitude. It requires the lecturers do something in regard to the change and is conceptually harder. For item 126, most lecturers (42.7 % of 660) expected the change would be planned in about 3/4 of their classes. Although the percentage for item 126 was less than the percentage for item 124 and item 125 but they did not fit the measurement model. Hence, conceptually, the raw data from item 124, item 125, and item 126 did not support the conceptual model used in this study. Items 127-129, items 130-132, and items 133-135 were similar.

Table 6.10

Percentage of lecturers answering items by response categories for the aspect, perceived value for students

Item	in none or few of my classes (score 1)	in 2/4 of my classes (score 2)	in 3/4 of my classes (score 3)	In nearly all my classes (score 4)
136	4.8 %	21.4 %	46.5 %	27.3 %
137	5.5 %	28.6 %	49.4 %	16.5 %
138	5.3 %	34.2 %	46.8 %	13.6 %
139	5.0 %	19.7 %	48.9 %	26.4 %
140	7.1 %	30.8 %	47.9 %	14.2 %
141	7.6 %	33.2 %	42.9 %	16.4 %

For perceived value for students, items 136-138, and items 139-141 fitted the measurement model. Table 6.10 shows the percentage response of lecturers' perspectives for expectation, implementation compared to expectation, and behaviour compared to implementation for the aspect perceived value for students. Most lecturers (46.5 % of 660) expected that *the new system would provide value for their students* (item 136) in about 3/4 of their classes (score 3). It should be harder for lecturers to say that the new system was really implemented *to provide value for their students* (item 137). For item 137, most lecturers (49.4 % of 660) expected that the change would be planned for about 3/4 of their classes. The percentage for item 137 should be less than the percentage for item 136, because implementation requires more than expectation. Thus, with the raw data, the conceptualised horizontal ordering was not supported for item 137 (but it does with Rasch modelling, see Appendix B). It should be 'harder still' for lecturers to say that their actual behaviour to *the change involves providing value for their students* (item 138). This is because it involves the lecturers' behaviour rather than attitude. It requires the lecturers to actually do something in regard to the change and is conceptually harder. For item

138, most lecturers (46.8 % of 660) expected the change would be planned in about 3/4 of their classes. The percentage for item 138 was less than the percentage for item 136. Hence, conceptually, the raw data from item 136, and item 137 were ordered from easy to harder, and the data partially supported the conceptual model used in this study. Items 139-141 were similar.

The next chapter describes the Rasch data analysis (Part 2 A)

CHAPTER SEVEN

DATA ANALYSIS: QUESTIONNAIRE (Part 2A)

This chapter presents the Rasch analysis results for lecturer receptivity to the change, where all nine aspects of the educational change are analysed together. The presentation begins with a description of the analysis for receptivity that is reported in two parts: (1) initial analysis with 150 items, and (2) final analysis with 54 items. Then, meaning of the receptivity scale is discussed. Following this, research questions and hypotheses are answered.

Rasch analysis

Initial analysis with 150 items (50x3 perspectives)

Initial analysis with the RUMM program tested the 150 items (50 items answered in three perspectives)[3] in order to try to create a linear scale of lecturer receptivity. The item thresholds were checked so that only those items with ordered thresholds (indicating that the response categories for the item were answered consistently and logically) were included in the final analysis. After that, the residuals were examined; the residual being the difference between the expected item score calculated according to the Rasch measurement model and the actual item score of the lecturers. This is converted to a standardized residual score in the computer program. The probability of fit of items to the measurement model was then checked to identify items that fitted the model. The item-trait test of fit examines the consistency of the item difficulties across the lecturer receptivity measures along the scale. This determines whether there was agreement among lecturers as to the difficulties of all items along the scale. The non-performing items (96 items out of 150) were deleted from the scale, leaving only items that fitted the measurement model. In traditional measurement practice, the deletion of 96 items might be considered a problem. However, in Rasch analysis, it is the scientific thing to do. In Rasch analysis, the

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[3] N=659

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items are designed in a conceptual order and this order is tested. The data for the items have to also fit the measurement model in order to create a linear scale and this is tested. The final 54 items 'survived' these tests. Finally, the person measures and item difficulties were calibrated on the same scale by the RUMM 2010 program, thus providing the creation of a linear measure of Lecturer Receptivity.

Final analysis with 54 items

Psychometric characteristics of the lecturer receptivity data

The results are set out in one Table, four Figures and two appendices. Table 7.1 gives a summary of the global fit statistics for the 54 item scale. Figure 7.1 shows item category curve for item 91 (good-fitting item). Figure 7.2 shows item category curve for item 9 (not-so-good fitting item). Figure 7.3 shows a graph of the scale of lecturer receptivity to a major new policy change at Rajabhats in Thailand (54 items, 3 thresholds) for the 659 lecturers, with the receptivity measures on the LHS and the thresholds on the RHS. Figure 7.4 shows the receptivity measures (LHS) and the difficulties for the 54 receptivity items (RHS) on the same scale in logits. Appendix B shows the questionnaire items and the difficulties of the 54 items and questionnaire fit and non-fit of lecturer receptivity items. Appendix C shows, in probability order, the location on the continuum, fit to the measurement model and probability of fit to the model for the 54 items. Appendix D shows the thresholds.

Data from the final 54 items of the questionnaire have a good fit to the measurement model, indicating a strong agreement between all 659 Rajabhat lecturers to the different difficulties of the items on the scale (see Table 7.1). That is, there is strong agreement amongst the lecturers to the item difficulties along the scale. The Index of Lecturer Separability (akin to traditional reliability) for the 54 item scale is 0.95. This means that the proportion of observed variance considered true is 95 %.

The items are well targeted against the receptivity measures (see Figure 7.3 and Figure 7.4). That is, the range of items thresholds match the range of receptivity measures of the lecturers on the same scale. The item threshold values range from -2.8 logits (standard error 0.06) to + 2.6 logits (SE 0.06) and the lecturer measures range from -2.8 logits to +4.2 logits. There are only 8 lecturers whose receptivity measures are more than +2.6 logits and hence not 'matched' against an item threshold on the scale. Taken together, these results indicate that a good measurement scale of receptivity has been created, that the data are reliable and consistent, that the errors are small in relation to the measures, and that the power of the tests-of-fit are excellent.

Table 7.1

Summary of fit statistics for Lecturer Receptivity Scale (54 items)

	Items	Lecturers
Number	54	659
Location mean	0.00	0.27
Standard deviation	0.34	0.94
Fit statistic mean	-0.08	-0.88
Standard deviation	0.88	3.16
Item-trait interaction chi square =1140.20		
Probability of item-trait (p) =1.00		
Degree of freedom =486		
Lecturer Separation Index =0.95		
Cronbach Alpha =0.95		
Power of test-of fit: excellent		

Notes on Table 7.1

1. The item means are constrained to zero by the measurement model.
2. When the data fit the model, the fit statistics approximate a distribution with a mean near zero and a standard deviation near one. The item fit and lecturer fit data are satisfactory, but not an excellent fit. Item global fit is better than lecturer global fit.

3. The item-trait interaction indicates the agreement displayed with all the items across all lecturers from different locations on the scale (acceptable for these data).
4. The Lecturer Separation Index is the proportion of observed lecturer receptivity variance considered true (in this scale, 95% and is very high).

Ordered thresholds and response categories

Figure 7.3 is in logits, the log odds of answering the response categories positively. Lecturer Receptivity measures are placed on the LHS of the scale and item thresholds are placed on the RHS scale. Compare 8.1 refers to the threshold between the response categories 0 and 1 for item 8; Compare 8.2 refers to the threshold between the response categories 1 and 2; Compare 8.3 refers to the threshold between the response categories 2 and 3 for the same item. These thresholds are ordered: Compare 8.1 is easiest (difficulty is -2.5 logits), Compare 8.2 is hard (difficulty is -0.5 logits), and Compare 8.3 is hardest (difficulty is +2.0 logits), in line with the ordering of the response categories. Other item thresholds are labeled similarly. Generally, the first threshold is towards the easy end of the scale (as expected), the second threshold is harder, and the third threshold is harder still (as expected). This supports the conceptual model of the response categories.

In order to determine threshold values, the RUMM 2010 program estimates the boundaries between each pair of adjacent response categories where there are odds of 1: 1 of answering in either category. For an item to fit the measurement model, the thresholds need to be ordered in line with the response categories. The threshold values are ordered from low to high for each of the 54 items indicating that the lecturers have answered consistently and logically, in line with response format used (see Appendix D).

Item difficulties

The 54 items that fitted the measurement model consisted of eight aspects. For each aspect, the items were conceptually ordered from easy to hard, vertically. In

addition, the perspectives for each item were also conceptually ordered from easy to hard, horizontally (expectation, implementation, and behaviour). The results supported the model in relation to increasing difficulty for the three perspectives for most, but not all, items. Expectation was easy, implementation was harder, and behaviour was harder still (see Figure 7.4 and Tables 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10).

For example, in aspect of practicality in the classroom, most lecturers found it easy to say that they expected the new educational system *to provide sufficient flexibility to suit the needs of different students* (34PracticExp, difficulty = -0.64) It was harder for Rajabhat lecturers to say that the new educational system was really implemented *to provide sufficient flexibility to suit the needs of different students* (35PracticImp, difficulty = 0.05) because implementation requires more than expectation. It was harder still for Rajabhat lecturers to say that their actual behaviour to the change *provided sufficient flexibility to suit the needs of different students* (36PracticBeh, difficulty = +0.10) (see Figure 7.4). This is because it involves the lecturers' behaviour rather than attitude. It requires the lecturers to actually do something in regard to the change and is conceptually harder. Hence, conceptually, items 34, 35, and 36 are ordered from easy to hard to harder still, and the data supported this. This horizontal ordering by perspectives holds for the other item in practicality (see Table 7.4).

Category probability curves

The RUMM program provides a Category Probability Curve for each item, which makes it possible to view the ordering of the thresholds, and check whether the category responses are being answered logically and consistently. A perusal of the category curves for the 54 items indicates that the lecturers answered the response categories consistently and logically, resulting in ordered thresholds. For example, in Figure 7.1, the category response curve is shown for the excellent fitting item 91, *Increasing my satisfaction with teaching which out-weighs the extra work generated for me.*

Item 91 is a good-fitting item. Its difficulty is -0.20, indicating that lecturers found it relatively easy to say that *the change increases their satisfaction with teaching which out-weighs the extra work generated for them.* Figure 7.1 shows that the curve 0 (category response 0) indicates that when a lecturer has very low receptivity (-6 logits), then the probability of scoring 0 is 0.95 (very high as expected). As the lecturer receptivity increases (to –2 logits), then the probability of scoring 0 drops to near 0.50 (as expected). When the lecturer receptivity increases to +1 logits, then the probability of score 0 drops to zero (as expected).

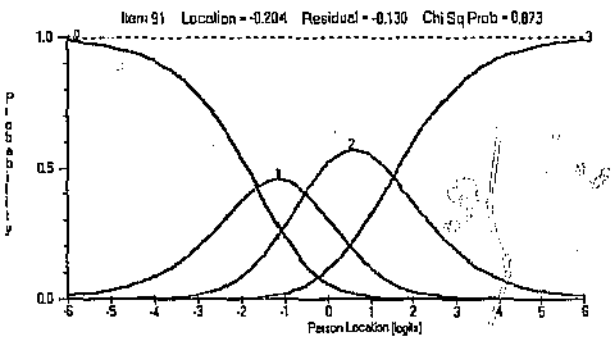


Figure 7.1 Item category curve for item 91 (good-fitting item)

Notes on figure 7.1

1. Threshold 1 is about –1.63
2. Threshold 2 is about –0.51
3. Threshold 3 is about +1.53

For curve 1 (category response 1), when the lecturer has a very low receptivity (-6 logits) then the probability of scoring 1 is near zero (very low as expected). When the lecturer receptivity increases (to –2 logits), then probability of scoring 1 increases to 0.3 (as expected). When the lecturer receptivity increases to –1 logits, the probability of scoring 1 increases to +0.4 logits (as expected). When the lecturer receptivity increases to +3, the probability of scoring 1 decreases to 0 (as expected).

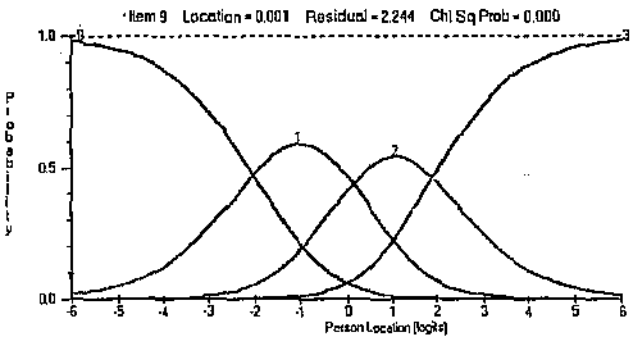


Figure 7.2 Item Category Curve for Item 9 (not-so-good fitting item)

Notes on figure 7.2

1. Threshold 1 is about -2.04 logits
2. Threshold 2 is about 0.13 logits
3. Threshold 3 is about +1.90 logits

For curve 2 (category response 2), when the lecturer has a very low receptivity (-3.5 logits), then the probability of scoring 2 is 0.0 (very low as expected). When the lecturer receptivity increases to –2 logits, then the probability of scoring 2 increases to 0.10 (as expected). When the lecturer receptivity increases to +1 logits, the probability of scoring 2 increases to 0.5 (as expected). When the lecturer receptivity increases to +6 logits, the probability of scoring 2 drops to zero (as expected).

For curve 3 (category response 3), when the lecturer has a very low receptivity (-2 logits), then the probability of scoring 3 is 0.0 (as expected). When the lecturer receptivity increases to 1.0 logits, then the probability of score 3 increases to 0.30 (as expected). When the lecturer receptivity increases to +6 logits, the probability of scoring 3 increases to 1.00 (as expected).

Item 9 is a medium difficulty item that doesn't fit the measurement model as well as one would like. Nevertheless, its thresholds are ordered and the Item Category Curve is good. It has a moderate difficulty of 0.00 on this scale, which indicates lecturers found it moderately easy to say that *the new system allowed them to provide better for their students than the previous system.* Figure 7.2 shows that the curve 0

(category response 0) indicates that when a lecturer has a very low receptivity (-6 logits), then the probability of scoring 0 is 0.95 (very high as expected). As the lecturer receptivity increases to -2 logits, then the probability of scoring 0 drops to 0.50 (as expected). When the lecturer receptivity increases to +1 logits, then the probability of scoring 0 drops to zero (as expected).

For curve 1 (category response 1), when the lecturer has a very low receptivity (-6 logits) then the probability of scoring 1 is 0.05 (very low as expected). When the lecturer receptivity increases to –2 logits, then probability of scoring 1 increases to 0.5 (as expected). When the lecturer receptivity increases to –1 logits, the probability of scoring 1 increases to 0.6 (as expected). When the lecturer receptivity increases to +3 logits, the probability of scoring 1 decreases to 0 (as expected).

For curve 2 (category response 2), when the lecturer has a very low receptivity (-3.5), then the probability of scoring 2 is 0.0 (very low as expected). When the lecturer receptivity increases to –2 logits, then the probability of scoring 2 increases to 0.05 (as expected). When the lecturer receptivity increases to +1 logits, the probability of scoring 2 increases to 0.58 (as expected). When the lecturer receptivity increases to +5.4 logits, the probability of scoring 2 drops to zero (as expected).

For curve 3 (category response 3), when the lecturer has a very low receptivity (-2 logits), then the probability of scoring 3 is 0.0 (very low as expected). When the lecturer receptivity increases to +1 logits, then the probability of score 3 increases to 0.2 (as expected). When the lecturer receptivity increases to +6 logits, the probability of scoring 3 increases to 0.95 (as expected).

The structural model of receptivity to change

The structure of Lecturer Receptivity was conceptualised from a model involving nine aspects: 1) comparison with previous system; 2) practicality in the classroom; 3) alleviation of concerns; 4) learning about the change; 5) participation in decision-making; 6) personal cost appraisal; 7) collaboration with other lecturers; 8) opportunity for lecturer improvement; and 9) value of the change for the students. Three lecturer perspectives (*How I expect the change to be planned, How I think the change was really implemented, and My actual behaviour to the change*) were

LOCATION	PERSONS	UNCENTRALISED ITEM THRESHOLDS
	High receptivity to change	Hard items
5.0		
	X	
4.0		
	X	
3.0		
		Learn68.3 Allev59.3 Learn 65.3 Cost92.3
	X	Allev 44.3 Cost 98.3 Partic89.3 Allev 41.3 Practic 35.3
	XX	Cost 93.3 Learn 71.3 Compare 8.3 Learn 77.3 Learn 66.3
2.0	X	Allev 60.3 Partic 90.3 Allev 42.3 Compare 17.3 Learn 69.3 Learn 72.3 Learn 78.3 Allev 47.3 Allev 45.3 Collab116.3
	XX	Practic 38.3 Allev 48.3 Value 140.3 Value138.3 Compare 9.3 Collab117.3
	XX	Value 141.3 Value 137.3 Compare18.3 Cost 99.3 Practic 36.3
	X	Practic 37.3 Allev 58.3 Allev 40.3 Cost 97.3 Cost 91.3 Allev 43.3
	XXXXXXX	Practic 39.3 Allev 46.3 Learn 64.3 Partic 88.3
1.0	XXXXXXXXXXX	Compare 16.3 Value136.3 Learn 67.3 Learn 76.3 Value 139.3 Collab115.3
		Compare 7.3 Practic 34.3
	XXXXXXXXXXX	Learn70.3
	XXXXXXXXXXXXXX	Partic 90.2 Partic 89.2
	XXXXXXXX	Allev 44.2 Allev 45.2 Cost 98.2 Cost 99.2 Learn 78.2
	XXXXXXXXXXXXX	Allev 59.2 Learn 65.2 Learn 72.2 Practic 38.2 Allev 48.2 Allev 60.2 Practic 39.2 Learn 77.2
0.0	XXXXXXXXXXXXXXXXXX	Practic 35.2 Allev 47.2 Allev 41.2 Learn 68.2 Collab117.2 Learn 71.2
		Learn69.2 Compare 9.2 Cost 93.2 Allev 42.2 Cost 92.2 Learn 66.2
	XXXXXXXXXXXXXXXXXX	Partic88.2 Value 138.2 Cost 97.2 Compare 18.2 Value 141.2 Learn 76.2 Collab116.2 Compare 8.2 Practic 36.2
	XXXXXXXXXXXX	Value137.2 Compare 17.2 Learn 67.2 Allev 58.2 Value140.2 Allev 43.2
	XXXXXXXXX	Practic37.2 Allev 40.2 Learn 64.2 Compare 7.2 Learn 70.2 Cost 91.2 Allev 46.2 Collab115.2
	XXXXXX	Value 136.2
-1.0	XXXXXX	Allev 45.1 Value 139.2
	XXX	Allev 60.1 Cost 99.1 Partic90.1 Compare 16.2 Practic34.2 Learn72.1 Allev 42.1 Cost 93.1
	XXX	Learn76.1 Allev 41.1 Allev 46.1 Allev 48.1 Allev 40.1 Learn 66.1 Learn 69.1 Collab117.1 Practic39.1 Practic36.1 Practic37.1 Learn 70.1 Allev58.1 Value 139.1 Value 140.1 Collab115.1 Value141.1 Partic 88.1 Allev 43.1 Collab116.1 Cost 98.1 Partic 89.1 Cost 91.1 Learn78.1 Allev 44.1
-2.0		Cost 92.1 Allev 47.1 Allev 59.1 Value136.1 Cost 97.1 Learn77.1 Compare 18.1
	X	Practic38.1 Learn68.1 Practic 34.1 Learn71.1 Compare 8.1 Value137.1 Compare 9.1 Practic35.1 Learn 64.1 Learn 65.1 Learn 67.1 Compare 17.1 Value138.1 Compare7.1 Compare 16.1
	X	
	Low receptivity to change	Easy items

Figure 7.3. Scale of measures (N=659) and item thresholds (3 thresholds for each of 54 items).

Notes on Figure 7.3

1. The scale is in logits, the log odds of answering positively.

2. Measures of receptivity are calibrated on the same scale as the item difficulties.

3. Measures are ordered from low to high on the LHS and item thresholds are ordered easy to hard on the RHS
4. Items at the easy end of the scale are answered positively by most lecturers. As the items become harder, lecturers need a higher receptivity to answer the items positively.
5. Each X represents 4 Rajabhat lecturers.
6. N = 659 lecturers
7. I = 54 items
9. Compare = Comparison with previous system
10. Practice = Practicality in the classroom
11. Allev = Alleviation of concerns
12. Learn = Learning about the change
13. Partic = Participation in decision-making
14. Cost = Personal cost appraisal
15. Collab = Collaboration with other lecturers
16. Value = Value of the change for the students.
17. Opport = Opportunities for lecturer improvement (These items did not fit the model and were deleted).

conceptualised as part of model. Items on eight of these nine aspects fitted the model of Lecturer Receptivity (opportunities for lecturer improvement did not fit the model of Lecturer Receptivity).

The items relating to each aspect were designed in simple ordered-by-difficulty patterns. All the item difficulties were calibrated on the same scale together so that their difficulties in relation to one another can be seen (see Appendix B) and so that the relationships between the aspects can be tested and explained. The results support that part of the model in relation to the increasing difficulty by perspectives (*How I expect the change to be planned, How I think the change was really implemented, and My actual behaviour to the change*), for the 54 items, that fitted the measurement model.

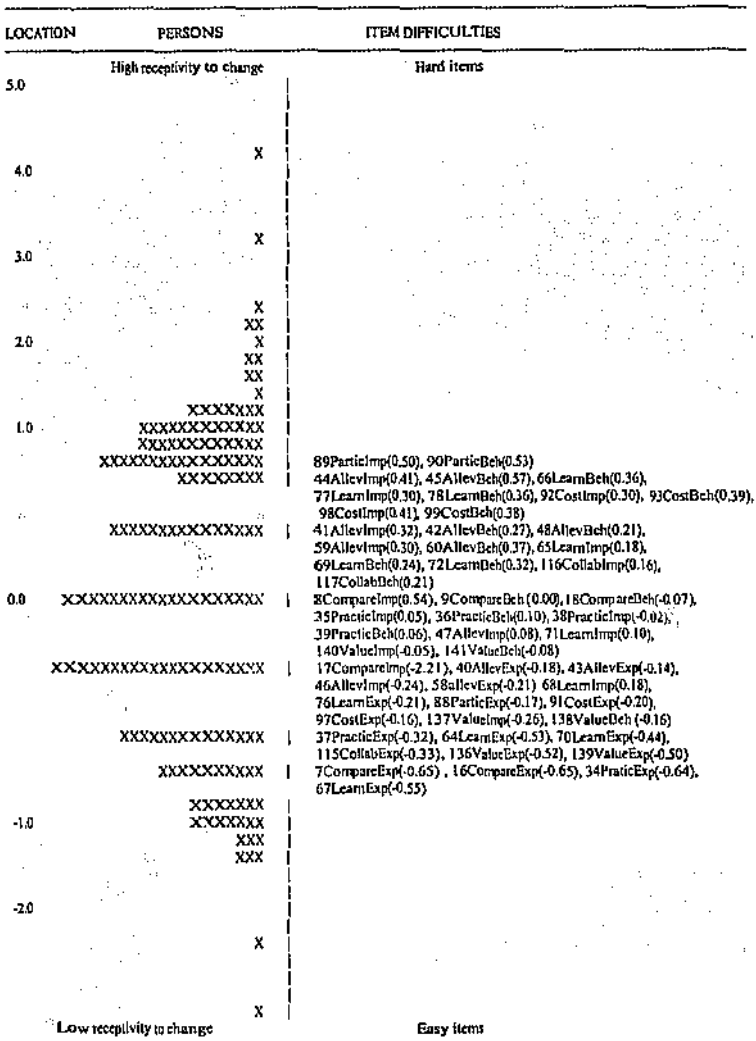


Figure 7.4 Scale of measures (LHS, N=659) and item difficulties (RHS, I=54).

Notes on Figure 7.4

1. The scale is in logits, the log odds of answering positively.
2. Measures of receptivity are calibrated on the same scale as the item difficulties.

3. Measures are ordered from low to high on the LHS and item difficulties are ordered from easy to hard on the RHS
4. Items at the easy end of the scale are answered positively by most lecturers. As the items become harder, lecturers need a higher receptivity to answer the items positively.
5. Each X represents 4 Rajabhat lecturers.
6. N = 659 lecturers
7. I = 54 items
9. CompareExp = Comparison with previous system (expectation)
10. CompareImp = Comparison with previous system (Implementation)
11. CompBeh = Comparison with previous system (Behaviour)
12. PracticeExp = Practicality in the classroom (expectation)
13. PracticeImp = Practicality in the classroom (Implementation)
14. PracticeBeh = Practicality in the classroom (Behaviour)
15. AllevExp = Alleviation of concerns (expectation)
16. AllevImp = Alleviation of concerns (Implementation)
17. AllevBeh = Alleviation of concerns (Behaviour)
18. LearnExp = Learning about the change (expectation)
19. LearnImp = Learning about the change (Implementation)
20. LearnBeh = Learning about the change (Behaviour)
21. ParticExp = Participation in decision-making (expectation)
22. ParticImp = Participation in decision-making (Implementation)
23. ParticBeh = Participation in decision-making (Behaviour)
24. CostExp = Personal cost appraisal (expectation)
25. CostImp = Personal cost appraisal (Implementation)
26. CostBeh = Personal cost appraisal (Behaviour)
27. CollabExp = Collaboration with other lecturers (expectation)
28. CollabImp = Collaboration with other lecturers (Implementation)
29. CollabBeh = Collaboration with other lecturers (Behaviour)
30. ValueExp = Value of the change for the students (expectation)
31. ValueImp = Value of the change for the students (Implementation)
32. ValueBeh = Value of the change for the students (Behaviour)

The items have been designed to have a conceptual ordering horizontally in the questionnaire, by perspectives. For example, *the new system was expected to provide for sufficient resources to allow them to implement the change in their classrooms* (item 37) should be easy to agree with. It should be harder for a Rajabhat lecturer to say that *the new system was really implemented to provide for sufficient resources to allow them to implement the change in their classrooms* (item 38) because implementation requires more than expectation. It should be harder still for Rajabhat lecturers to say that *their actual behaviour to the change involved better provision for sufficient resources to allow them to implement the change in their classrooms* (item39). This is because it involves the lecturers' behaviour rather than attitude. It requires the lecturers to actually do something in regard to the change and is conceptually harder. Hence, conceptually, items 37, 38 and 39 are ordered from easy to hard to harder still. The difficulty of item 37 is -0.32, item 38 is -0.02, and then item 39 is +0.06, and so the data support the conceptual ordering for these items. On the other hand, there were some items where horizontal ordering was not supported, such as items 7, 8, and 9, items 40, 41, and 42, and items 97, 98 and 99, but these items still fitted the measurement model.

Comments on the scale of receptivity

Equal differences on the scale between the measures of Lecturer Receptivity represent equal differences in item difficulty. However, there is no true zero point of item difficulty, or Lecturer Receptivity, and the scale is thus at the interval level. The 54 items of the scale are ordered from easy to hard (see figures 7.3 and 7.4). Nearly all lecturers answered the easy items positively for all their aspects (for example, items 16, 7, 34, 67, 64, 136, 142, 70, 115). As the item difficulties become positively higher on the scale, the lecturers need a corresponding higher receptivity measure to answer them positively. The hardest items are only answered positively by lecturers who have high receptivity measures (for example, items 45, 90, 89, 98, 44, 93, 99, 60). Lecturers with low measures of Lecturer Receptivity cannot answer these 'difficult' items positively for all their aspects.

Table 7.2 below shows the mean difficulties of items that fitted the measurement model for each aspect and ordered from easiest to hardest. For example, the aspect of comparison with the previous system is the easiest aspect (for the expectation perspective, the mean score is -0.75, for the implementation perspective, the mean score is -0.08, and for the behaviour perspective, the mean score is -0.04). In contrast, the aspect of participation in decision-making is the hardest aspect (for the expectation perspective, the mean score is -0.17, for the implementation perspective, the mean score is 0.51, and for the behaviour perspective, the mean score is 0.53).

Table 7.2

Mean item difficulty by aspect and perspectives from easiest to hardest

Lecturer receptivity scale	Mean score (by perspectives)		
	Expectation	Implementation	Behaviours
(easiest)			
Comparison with previous system	-0.75	-0.08	-0.04
Perceived value for students	-0.51	-0.15	-0.12
Practicality in the classroom	-0.48	0.02	0.08
Collaboration with other lecturers	-0.34	0.16	0.21
Learning about the change	-0.43	0.19	0.32
Alleviation of concerns	-0.19	0.28	0.35
Personal cost appraisal	-0.18	0.36	0.39
Participation in decision-making	-0.17	0.51	0.53
(hardest)			

Notes on Table 7.2

1. The aspect of opportunities for lecturer improvement did not fit the model of lecturer receptivity and was deleted.
2. The scores are the mean of the item difficulties in logits for the items that fit the measurement model and belong to the aspect indicated.
3. Negative values indicate the means are low on the scale (or easier). Positive values indicate that the means are high on the scale (or harder).

4. Mean scores are reported to 2 decimal places because errors are about 0.07.

For the purpose of describing the scale and interpreting general meaning, an arbitrary scale was determined with cut off relating to corresponding descriptive terms from very easy to very hard. More specifically, the descriptors and cut off points are detailed in Figure 7.5.

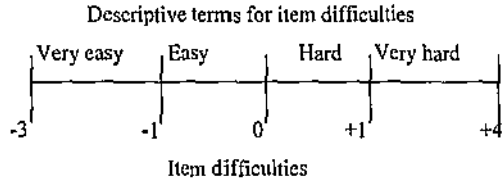


Figure 7.5: Arbitrary boundaries for descriptive terms
Source: devised by the author for this study

Item difficulties for each aspect

For each aspect, the items were conceptualised from a model involving the context of planned changes on the same scale in logits. In addition, the items were conceptualised in the context of three perspectives (*How I expect the change to be planned, How I think the change was really implemented,* and *My actual behaviour to the change).* The results supported the model in relation to increasing difficulty for the three perspectives. *How I expect the change to be planned* was easy, *How I think the change was really implemented* was harder, and *My actual behaviour to the change* was harder still. Also, the items were vertically ordered from easy to hard.

Comparison with the previous system (L=6 items, 2 stem-item)

Table 7.3

Item difficulties by perspectives for Comparison with the Previous System

Item No.	Item wording	Item difficulties by three perspectives		
		Expectation	Implementation	Behaviour
7-9	Providing for better classroom management than the previous system.	-0.65	0.05	0.00
16-18	Providing for the needs of students better than the previous system.	-0.85	-0.21	-0.07
	Mean item difficulty	-0.75	-0.08	-0.03

Table 7.3 shows item difficulties by perspectives for comparison with the previous system. For the two stem-items that fitted the measurement model, expectations were easier than actual behaviours as conceptualised. For example (stem-item 16-18), most Rajabhat lecturers found it easy to agree that the new educational system was expected to *provide for the needs of students better than the previous system* (item 16, difficulty is -0.85). It was harder for Rajabhat lecturers to say that the change actually *provided for the needs of students better than the previous system* (item 17, difficulty is -0.21). It was harder still for Rajabhat lecturers to say that their actual behaviour to the change *provided for the needs of students better than the previous system* (item 18, difficulty is -0.07). Conceptually, the perspectives of stem-item 16-18 were ordered from easy to hard to harder still, and the data supported this. The perspectives of the stem-item 7-9 were similarly ordered, except for item 8, which was harder than item 9. This was probably because the implementation of comparison with the previous system procedures were a little easier that the lecturer thought would be required in the new system.

Practicality in the classroom (L = 6 items, 2 stem-items)

Table 7.4

Item difficulties by perspectives for Practicality in the Classroom

Item No.	Item wording	Item difficulties by three perspectives		
		Expectation	Implementation	Behaviour
34-36	Providing sufficient flexibility in the changes to suit the needs of different students.	-0.64	0.05	0.10
37-39	Providing sufficient resources to allow me to implement the changes in my classroom.	-0.32	-0.02	0.06
	Mean item difficulty	-0.48	0.01	0.08

Table 7.4 shows item difficulties by perspectives for practicality in the classroom. For the two stem-items that fitted the measurement model, expectations were easier than actual behaviours as conceptualised. For example (stem-item 34-36), most Rajabhat lecturers found it easy to agree that the new educational system was expected *to provide sufficient flexibility in the changes to suit the needs of different students* (item 34, difficulty is -0.64). It was harder for Rajabhat lecturers to say that the change actually *provided sufficient flexibility in the changes to suit the needs of different students* (item 35, difficulty is 0.05). It was harder still for Rajabhat lecturers to say that their actual behaviour to the change involved *providing sufficient flexibility in the changes to suit the needs of different students* (item 36, difficulty is 0.10). Conceptually, the perspectives of stem-item 34-36 were ordered from easy to hard to harder still, and the data supported this. The perspectives of stem-item 37-39 were similarly ordered.

Alleviation of concerns (L=12 items, 4 stem-item)

Table 7.5

Item difficulties by perspectives for Alleviation of Concerns

Item No.	Item wording	Item difficulties by three perspectives		
		Expectation	Implementation	Behaviour
40-42	Contributing to regular Rajabhat meetings at which I can raise my concerns about the change.	-0.18	0.32	0.27
43-45	Being able to solve quickly any classroom problems in implementing the changes at my Rajabhat.	-0.14	0.41	0.57
46-48	Providing for specific concerns of lecturers to be raised with the Rajabhat administration and staff.	-0.24	0.09	0.21
58-60	Having the principal supporting the change at my Rajabhat in practical ways.	-0.21	0.30	0.37
	Mean item difficulty	-0.19	0.27	0.35

Table 7.5 shows item difficulties by perspectives for alleviation of concerns. For the four stem-items that fitted the measurement model, expectations were easier than actual behaviours as conceptualised. For example (stem-item 46-48), most Rajabhat lecturers found it easy to agree that the new educational system was expected *to provide for the specific concerns of lecturers to be raised with the Rajabhat administration and staff* (item 46, difficulty is -0.24). It was harder for Rajabhat lecturers to say that the change actually *provided for specific concerns of lecturers to be raised with the Rajabhat administration and staff* (item 47, difficulty is 0.09). It

was harder still for Rajabhat lecturers to say that their actual behaviour to the change involved *raising specific concerns of lecturers to be raised with the Rajabhat administration and staff* (item 48, difficulty is 0.21). Conceptually, the perspectives of stem-item 46-48 were ordered from easy to hard to harder still, and the data supported this. The perspectives of other stem-items were similarly ordered, except for item 41, which was harder than item 42, but the both items fitted the measurement model.

Learning about the change (L=12 items, 4 stem-items)

Table 7.6

Item difficulties by perspectives for Learning about the Change

Item No.	Item wording	Item difficulties by three perspectives		
		Expectation	Implementation	Behaviour
64-66	Providing how to learn best about implementing the changes.	-0.53	0.18	0.36
67-69	Providing information on adapting the change to the classroom.	-0.55	0.18	0.24
70-72	Providing information about the most important issues relating to the change.	-0.45	0.10	0.32
76-78	Providing for the Rajabhat staff and management to discuss the change.	-0.21	0.30	0.36
	Mean item difficulty	-0.43	0.18	0.31

Table 7.6 shows item difficulties by perspectives for learning about the change. For the four stem-items that fitted the measurement model, expectations were easier than actual behaviours as conceptualised. For example, most Rajabhat lecturers found it easy to agree that the new educational system involved *how to learn best about*

implementing the changes (item 64, difficulty is -0.53). It was harder for Rajabhat lecturers to say that the change actually involved *how to learn best about implementing the changes* (item 65, difficulty is 0.18). It was harder still for Rajabhat lecturers to say that their actual behaviour to the change involved *how to learn best about implementing the changes* (item 66, difficulty is 0.36). Conceptually, the perspectives of stem-item 64-66 were ordered from easy to hard to harder still, and the data supported this. The perspectives of other stem-items were similarly ordered.

Participation in decision-making (L=3 items, 1 stem-item)

Table 7.7

Item difficulties by perspectives for Participation in Decision-making

Item No.	Item wording	Item difficulties by three perspectives		
		Expectation	Implementation	Behaviour
88-90	Participating in Rajabhat decisions that are related to implementing the changes.	-0.17	0.51	0.53

Table 7.7 shows item difficulties by perspectives for participation in decision-making. For the one stem-item that fitted the measurement model, expectations were easier than actual behaviours as conceptualised. Most Rajabhat lecturers found it easy to agree that they expected the new educational system *would allow them to participate in Rajabhat decisions that are related to implementing the changes* (item 88, difficulty is -0.17). It was harder for Rajabhat lecturers to say that the change actually *provided for them to participate in Rajabhat decisions that are related to implementing the changes* (item 89, difficulty is 0.51). It was harder still for Rajabhat lecturers to say that their actual behaviour to the change involved *participating in Rajabhat decisions that are related to implementing the changes* (item 90, difficulty is 0.53). Conceptually, the perspectives of stem-item 88-90 were ordered from easy to hard to harder still, and the data supported this.

Personal cost appraisal (L=6 items, 2 stem-items)

Table 7.8

Item difficulties by perspectives for Personal Cost Appraisal

Item No.	Item wording	Item difficulties by three perspectives		
		Expectation	Implementation	Behaviour
91-93	Increasing my satisfaction with teaching which outweigh the extra work generated for me.	-0.20	0.30	0.39
97-99	Keeping the emotional strain of the change for lecturers to a minimum.	-0.16	0.41	0.38
	Mean item difficulty	-0.18	0.35	0.38

Table 7.8 shows item difficulties by perspectives for personal cost appraisal. For the two stem-items that fitted the measurement model, expectations were easier than actual behaviours as conceptualised. For example (stem-item 91-93), most Rajabhat lecturers found it easy to agree that the new educational system was expected *to increase lecturer satisfaction with teaching which outweighs the extra work generated for them* (item 91, difficulty is -0.20). It was harder for Rajabhat lecturers to say that the change actually *increased lecturer satisfaction with teaching which outweighed the extra work generated for them* (item 92, difficulty is 0.30). It was harder still for Rajabhat lecturers to say that their actual behaviour to the change resulted in *increased lecturer satisfaction with teaching which outweighed the extra work generated for them* (item 93, difficulty is 0.39). Conceptually, the perspectives of stem-item 91-93 were ordered from easy to hard to harder still, and the data supported this. For stem-item 97-99, the expectation perspective was easiest, as expected, but the implementation and behaviour perspectives were equal, within the error of measurement.

Collaboration with other lecturers (L=3 items, 1 stem-item)

Table 7.9

Item difficulties by perspectives for Collaboration with Other Lecturers

Item No.	Item wording	Item difficulties by three perspectives		
		Expectation	Implementation	Behaviour
115-117	Giving support to other lecturers at my Rajabhat when they need it to implement the change.	-0.34	0.16	0.21

Table 7.9 shows item difficulties by perspectives for collaboration with other lecturers. For the one stem-item that fitted the measurement model, expectations were easier than actual behaviours as conceptualised. Most Rajabhat lecturers found it easy to agree that they expected the new educational system *to give support to other lecturers at their Rajabhats when they need it to implement the change* (item 115, difficulty is -0.34). It was harder for Rajabhat lecturers to say that the change actually *gave support to other lecturers at their Rajabhats when they needed it to implement the change* (item 116, difficulty is 0.16). It was harder still for Rajabhat lecturers to say that their actual behaviour to the change involved *giving support to other lecturers at their Rajabhats when they needed it to implement the change* (item 117, difficulty is 0.21). Conceptually, the perspectives of stem-item 115-117 were ordered from easy to hard to harder still, and the data supported this.

Opportunities for lecturer improvement

No items fitted the measurement model with the other items.

Perceived value for students (L=6 items, 2 stem-items)

Table 7.10

Item difficulties by perspectives for Perceived Value for Students

Item No.	Item wording	Item difficulties by three perspectives		
		Expectation	Implementation	Behaviour
136-138	Providing value for my students.	-0.52	-0.26	-0.16
139-141	Providing for the needs of my students	-0.50	-0.05	-0.08
	Mean item difficulty	-0.51	-0.15	-0.12

Table 7.10 shows item difficulties by perspectives for perceived value for students. For the two stem-items that fitted the measurement model, expectations were easier than actual behaviours as conceptualised. For example (stem-item 136-138), most Rajabhat lecturers found it easy to agree that they expected the new educational system *to provide value for their students* (item 136, difficulty is -0.52). It was harder for Rajabhat lecturers to say that the change actually *provided value for their students* (item 137, difficulty is -0.26). It was harder still for Rajabhat lecturers to say that their actual behaviour to the change *provided value for their students* (item 138, difficulty is -0.16). Conceptually, the perspectives of stem-item 136-138 were ordered from easy to hard to harder still, and the data supported this. For stem-item 139-141, the expectation perspective was easiest, as expected, but the behaviour perspective was easier than the actual change, probably because lecturers 'always' believe they provide for good student learning.

Research questions

For this study, the major findings are stated within the framework of the research questions outlined in Chapter One.

Research question 1: *Can a proper linear scale of lecturer receptivity to change, involving nine aspects and three perspectives of the change, be created where the*

receptivity measures are calibrated on the same scale as the item difficulties, using a new Rasch computer program?

Yes, a proper linear scale of lecturer receptivity to change was created where the receptivity measures were calibrated on the same scale as the item difficulties, using a new Rasch computer program. But only eight aspects (out of nine) and 54 items (out of 150) fitted the measurement model. The aspect of opportunities for lecturer improvement did not fit the measurement model.

Research question 3: *Can the linear receptivity scale be used to interpret the expectations and behaviours of Rajabhat lecturers to the change?*

Yes, the linear receptivity scale could be used to interpret the expectations and behaviours of Rajabhat lecturers to the change. Generally, how lecturers expected the change to be planned was easy, how they thought it really was implemented was harder, and their actual behaviours in relation to the change were harder still, although there were some exceptions, especially where the latter two perspectives were equal within the measurement error.

For eight out of nine aspects that fitted the model of lecturer receptivity, the aspect of comparison with the previous system was the easiest and the aspect of participation in decision-making was the hardest.

The relevant hypotheses

The major findings are stated within the framework of the relevant hypotheses.

Hypothesis 1: *Lecturers are able to answer the items in the conceptually ordered-by difficulty patterns that they were designed for the nine aspects.*

It was found that 96 items out of 150 did not fit the measurement model and so their difficulty patterns, as initially conceptualised, were not supported. Generally, lecturers answered the items in the conceptually ordered-by difficulty patterns for the other 54 items. A major finding of this study was that for 8 aspects (out of 9) and for 54 items (out of 150) there was good, but not total support for the conceptualised model of receptivity. Only one aspect of lecture receptivity (opportunities for lecturer improvement) could not be ordered by difficulty patterns or fit into the conceptual structure, of lecturer receptivity to the change.

Summary

This chapter has described the process of data analysis for the model of lecturer receptivity, initially with 150 items, but reduced to 54 items that fitted the measurement model. A Rasch measurement model computer program was used to create a linear scale of Lecturer Receptivity to the change, for 54 items and 659 lecturers. Lecturer measures were calibrated from low to high receptivity on the same scale as the item difficulties were calibrated from easy to hard. The 54 items consisted of: (1) six items measuring receptivity compared with the previous system, (2) six items measuring receptivity in the classroom, (3) twelve items measuring alleviation of concerns, (4) twelve items measuring learning about the change, (5) three items measuring participation in decision-making, (6) six items measuring personal cost appraisal of the change, (7) three items measuring collaboration with other lecturers, and (8) six items measuring perceived value for students.

The 54 items were each influenced by a single trait, Lecturer Receptivity to the Change. The perspectives for each item were ordered from easy (*How I expected the change to be planned*), to harder (*How I think the change was really implemented*), and to harder still *(My actual behaviour to the change*), in line with the conceptual design of the questionnaire. The data supported the model behind the questionnaire for most of the 54 items and the evidence supported the view that the data were valid and reliable (Separation Index=0.95).

The next chapter continues the description of data analysis for the nine aspects of change (Part 2B).

CHAPTER EIGHT

DATA ANALYSIS: QUESTIONNAIRE (Part 2B)

This chapter presents the Rasch analysis results where the first five aspects (variables) are analysed separately. They are comparison with previous system, practicality in the classroom, alleviation of concerns, learning about the change, and participation in decision-making. The Rasch results for the other four variables, personal cost appraisal of the change, collaboration with other lecturers, opportunities for lecturer improvement, and value of the change for students, are described in the next chapter (Chapter 9). The presentation for each variable contains: (1) the psychometric properties, (2) meaning of the scale, (3) research questions, and (4) the relevant hypotheses. Finally, a summary is provided.

Comparison with the previous system

Final analysis with 12 items

The psychometric properties

There were originally 21 items, but 9 were deleted as not fitting the measurement model sufficiently well. The final accepted 12 items of the questionnaire (items 1-9 and items 16-18) formed a scale in which there is acceptable (but not good) agreement between all 659 Rajabhat lecturers to the different difficulties of the items along the scale. The Index of Lecturer Separability (akin to traditional reliability) for the 12 item scale is 0.90. This means that the proportion of observed variance considered true is 90 % (see Table 8.1). The items are well targeted against the receptivity measures. That is, the range of item thresholds match the range of receptivity measures of the lecturers on the same scale. The item threshold values range from –4.0 logits (standard error 0.06) to +3.6 logits (SE 0.06) and the lecturer measures range from –6.4 logits to +6.2 logits . There are only 24 lecturers whose receptivity measures are more than +3.6 logits and hence not 'matched' against an item threshold on the scale (see Figure 8.1). Taken together, these results indicate that a good measurement scale has been created, that the data are reliable and consistent,

that the errors are small in relation to the measures, and that the power of the tests-of-fit are excellent.

Table 8.1

Global fit statistics for Comparison with the Previous System (12 items)

	Items	Lecturers
Number	12	659
Location mean	0.00	0.78
Standard deviation	0.54	1.52
Fit statistic mean	0.04	-0.60
Standard deviation	1.37	1.83

Item-trait interaction chi square = 266.58

Probability of item-trait (p) = 0.00

Degree of freedom=108

Lecturer Separation Index = 0.90

Cronbach Alpha =0.88

Power of test-of fit: excellent

Notes on Table 8.1

1.The item means are constrained to zero by the measurement model.

2.When the data fit the model, the fit statistics approximate a distribution with a mean near zero and a standard deviation near one. The item fit and lecturer fit data are satisfactory, but not an excellent fit. Item fit is better than lecturer fit.

3. The item-trait interaction indicates the agreement displayed with all the items across all lecturers from different locations on the scale (In this case, the scale is not unidimensional, but there is a dominant trait present).

4. The Lecturer Separation Index is the proportion of observed lecturer receptivity variance considered true (in this scale, 90% and is high).

Thresholds

The item thresholds of the twelve good-fitting items (out of an original 21 items) range from – 4.0 to + 3.6 logits (see Figure 8.1). Figure 8.1 plots the thresholds of the twelve items (items 1-9 and items 16-18) for *comparison with the previous system* on a continuum showing the item thresholds. On figure 8.1, the measures are placed on the LHS of the scale and item thresholds are placed on the RHS scale.

Compare 1.1 refers to the threshold between the response categories 0 and 1 for item 1; Compare 1.2 refers to the threshold between the response categories 1 and 2; Compare 1.3 refers to the threshold between the response categories 2 and 3 for the same item. These thresholds are ordered: Compare 1.1 (threshold value = -3.92) is easiest, Compare 1.2 (threshold value = -0.51) is harder, and Compare 1.3 (threshold value = +1.32) is hardest in line with the ordering of the response categories. Other item thresholds are labeled similarly. Generally, the first threshold is towards the easy end of the scale (as expected), the second threshold is harder, and the third threshold is harder still (as expected). This supports the conceptual model of the response categories.

Ordering of perspectives

For the aspect comparison with the previous system, the items were conceptualised from a model involving providing for better students learning, providing for the needs of the students, and providing for better classroom management, in the context of three perspectives *(How I expect the change to be planned, How I think the change was really implemented, and My actual behaviour to the change involves)*. The results supported the model in relation to increasing difficulty for the three perspectives. *How I expect the change to be planned* was easy, *How I think the change was really implemented* was harder, and *My actual behaviour to the change* was harder still for all except one of the 3 stem-items. For stem-item 7-9, the difficulty of item 8 is harder than that of item 9 (see Table 8.2). This means that the provision of classroom management procedures was not implemented as well as lecturers would have liked.

For example, the new system was expected to be planned to provide for better student learning experiences than the previous system (item 1) and was easy to agree with. It was harder for Rajabhat lecturers to say that the new system was really implemented to provide for better student learning experiences than the previous system (item 2) because implementation requires more than expectation. It was harder still for Rajabhat lecturers to say that their actual behaviour to the change involved providing for better student learning experiences than the previous system (item3).

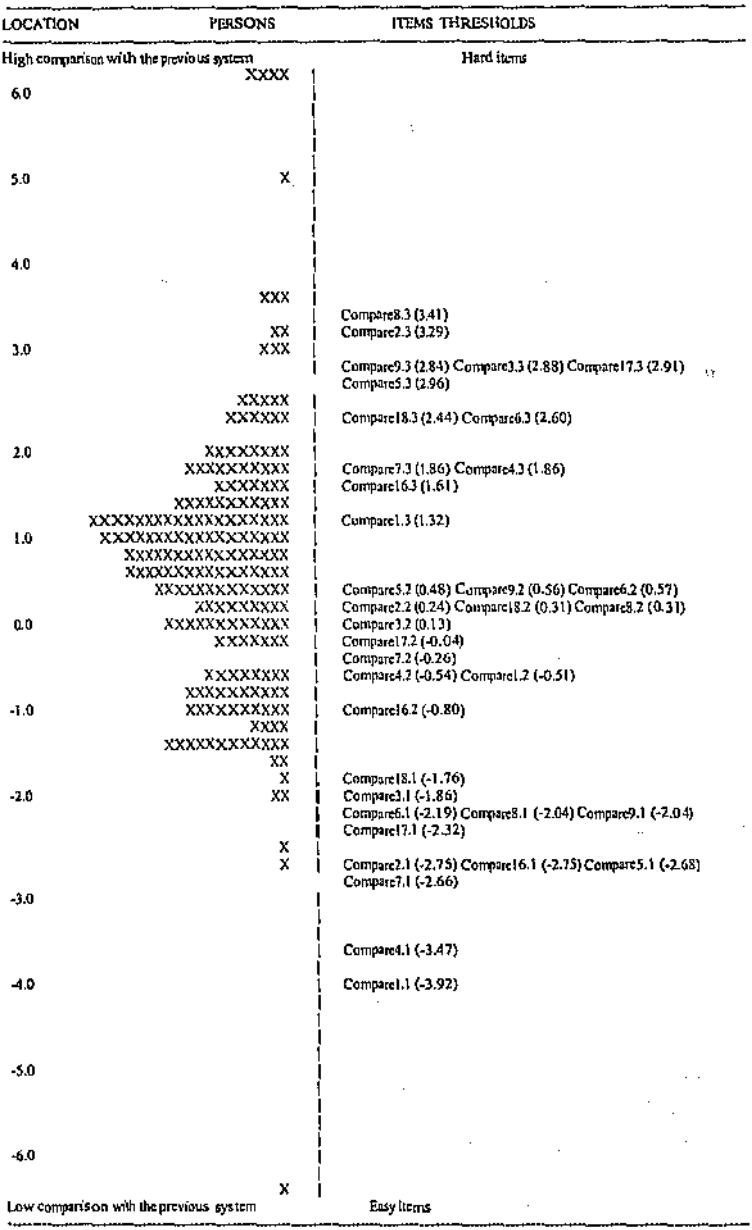


Figure 8.1 Scale of measures (N=659) and item thresholds for comparison with the previous system (3 thresholds for each of 12 items).

Notes on figure 8.1

1. Each X represents 3 Rajabhat lecturers
2. Compare = comparison with the previous system.
3. Compare 1.1 = item 1 threshold 1
4. Compare 1.2 = item 1 threshold 2
5. Compare 1.3 = item 1 threshold 3

This is because it involves the lecturers' behaviour rather than attitude. It requires the lecturers to actually do something in regard to the change and is conceptually harder. Hence, conceptually, items 1, 2, and 3 are ordered from easy to hard to harder still and the data supported this. The difficulty of item 1 is -1.04, item 2 is +0.26 and item 3 is +0.38.

Ordering of item difficulties

For comparison with the previous system, there were originally 21 items divided into three sub-aspects: (1) student learning (items 1- 6); (2) classroom management (items 7-12); and (3) student needs (items 13-21). Nine items did not fit the measurement model and were deleted. The items in each sub-aspect were conceptually ordered from easy to hard, vertically. For example, in the sub-aspect of student learning (see Table 8.2), it was expected that most lecturers would find it easy to say that the new educational system *provided for better student learning experiences than the previous system* (stem-item 1-3). It was expected that there would be some variation in lecturer responses around this. It was expected that most lecturers would find it harder to say that the new educational system *provided for better student achievement than the previous system* (stem-item 4-6) and there would be some variation in lecturer responses around this. This is because stem-item 4-6 involves 'a little bit more' practically and conceptually, than stem-item 1-3. So, as expected, these two stem-items form an ordered pattern of responses by difficulty on average, from easy to hard. The results supported this conceptual order for expectations and behaviour, but not for implementation (see Table 8.2). The difficulties of their two stem-items were the same (within the error of measurement) in the implementation perspective.

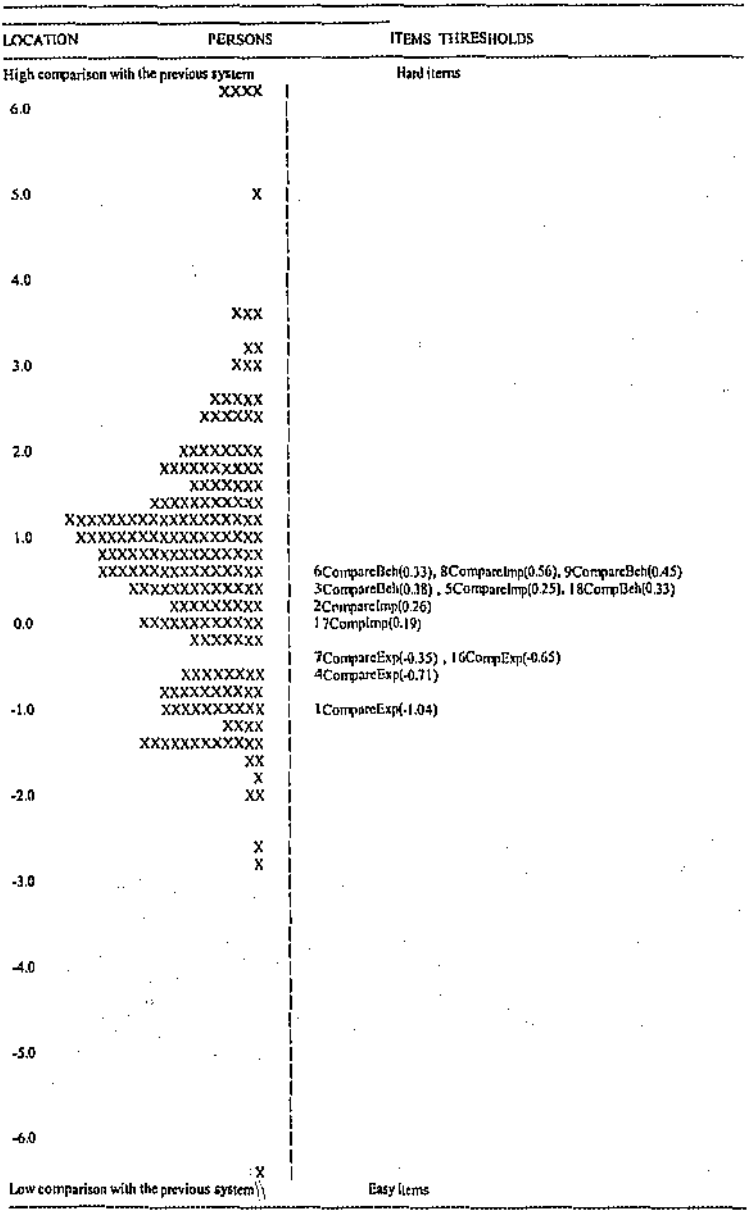


Figure 8.2 Scale of measures (LHS, N=659) and item difficulties for comparison with the previous system (RHS, I= 12).

Notes on figure 8.2

1. Each X represents 4 Rajabhat lecturers.
2. CompareExp = Comparison with the previous system (expectation)
3. CompareImp = Comparison with the previous system (Implementation)
4. CompBeh = Comparison with the previous system (Behaviour)

Meaning of the linear scale

Equal differences on the scale between the measures represent equal differences in item difficulty. However, there is no true zero point of item difficulty, or measures of comparison with the previous system and the scale is thus at the interval level. The 12 items of the scale are ordered from easy to hard (see figure 8.1 and 8.2). Nearly all lecturers answered the easy items positively, for example, items 1, 4, 16, and 7. As the item difficulties become higher on the scale, the lecturers need corresponding higher measures to answer them positively. The hardest items are only answered positively by lecturers who have high measures, for example, items 9, 3, 18, and 6. Lecturers with low measures cannot answer these difficult items positively.

Research questions in relation to the aspect of comparison with the previous system

For research questions relating to comparison with the previous system, the major findings are stated within the framework of the research questions outlined in Chapter One.

Research question 2 (1): *Can a proper linear scale be created for the aspect, comparison with the previous system, using a Rasch computer program?*

Yes, a proper linear scale was created for the aspect of comparison with the previous system, using a Rasch computer program. The findings indicated that the lecturer measures (N=659) and the item difficulties (I=12) were calibrated on the same linear scale where a dominant aspect influenced all the items. While the data for the 12 items were reliable, some revision to the item wording is needed to improve validity.

Table 8.2

Item difficulties by perspectives for Comparison with the Previous System

Item No.	Item wording	Item difficulties by three perspectives		
		Expectation	Implementation	Behaviour
	Student learning			
1-3	Providing for better student learning experiences than the previous system.	-1.04	+0.26	+0.38
4-6	Providing for better student achievement than the previous system.	-0.72	+0.25	+0.33
	Classroom management			
7-9	Providing for better classroom management than the previous system.	-0.35	+0.56	+0.45
	Student needs			
16-18	Providing for the needs of students better than the previous system.	-0.65	+0.19	+0.33
	Mean item difficulty	-0.53	+0.31	+0.37

Notes on Table 8.2

1. The scores are item difficulties in logits for the items that fit the measurement model and belong to the perspective indicated.
2. Negative values indicate the means are low on the scale (or easier). Positive values indicate that the means are high on the scale (or harder).
3. Item difficulties are reported to 2 decimal places because errors are about 0.07

Research question 4 (1): *Can the new scale for comparison with the previous system be used to interpret Rajabhat lecturer expectations, and behaviours towards a recently implemented planned educational change in Thailand?*

Yes, the new scale for comparison with the previous system was used to interpret Rajabhat lecturer expectations, and behaviours towards a recently implemented planned educational change in Thailand. For all the stem-items, expectations were easier than actual behaviours as conceptualised. For example, most Rajabhat lecturers found it easy to agree that *the new system was expected to be planned to provide for better student learning experiences than the previous system* (difficulty of item 1 is -1.04) It was harder for Rajabhat lecturers to say that the new system was actually *provided for better student learning experiences than the previous system* (difficulty of item 2 is +0.26). It was harder still for Rajabhat lecturers to say that their actual behaviour to the change *involved better provision for better student learning experiences than in the previous system* (difficulty of item 3 is +0.38). Hence, conceptually, the perspectives for stem-item 1-3 were ordered from easy to hard to harder still, and the data supported most of the conceptualisation of the scale for comparison with the previous system (see Table 8.2).

The relevant hypotheses

The major findings are stated within the framework of the relevant hypotheses outlined in Chapter Four. One relevant hypothesis was set up in order to achieve the purposes of the study for aspect, comparison with the previous system.

Hypothesis 2: *The expectations are easier than the behaviours for the measures of the new policy compared with the previous system.*

It was found that the expectations were easier than the behaviours for all the items relating to comparison with the previous system, except for items 8 and 9, where the behaviour perspective was easier than the implementation perspective.

Practicality in the classroom

Final analysis with 18 items

The psychometric properties

The final accepted 18 items of the questionnaire (items 22-39) formed a scale in which there is acceptable (but not good) agreement between all 659 Rajabhat lecturers to the different difficulties of the items along the scale. The Index of Lecturer

Separability (akin to traditional reliability) for the 18 item scale is 0.92. This means that the proportion of observed variance considered true is 92 % (see Table 8.3). The items are well targeted against the practicality measures. That is, the range of item thresholds matches the range of practicality measures of the lecturers on the same scale. The item threshold values range from –4.0 logits (standard error 0.06) to +3.0 logits (SE 0.06) and the lecturer measures range from –2.8 logits to +6.2 logits. There are only 24 lecturers whose practicality measures are more than +3.0 logits and hence not 'matched' against an item threshold on the scale (see Figure 8.3). Taken together, these results indicate that a good measurement scale of receptivity has been created, that the data are reliable and consistent, that the errors are small in relation to the measures, and that the power of the tests-of-fit are excellent.

Thresholds

The thresholds of the 18 items ranged from –4.0 to + 3.0 logits (see Figure 8.3). Figure 8.3 plots the 18 items for *practicality in the classroom* on a continuum showing the item thresholds from easy to hard, and the measures from low to high. On figure 8.3, the measures are placed on the LHS of the scale and item thresholds are placed on the RHS scale. Practic 35.1 refers to the threshold between the response categories 0 and 1 for item 35; Pratic 35.2 refers to the threshold between the response categories 1 and 2; Practic 35.3 refers to the threshold between the response categories 2 and 3 for the same item. These thresholds are ordered: Pratic 35.1 (threshold value = -2.52) is easy, Practic 35.2 (threshold value = +0.32) is harder, and Practic 35.3 (threshold value = +3.17) is harder still, in line with the ordering of the response categories. Other item thresholds are labeled similarly, and ordered similarly. Generally, the first threshold is towards the easy end of the scale (as expected), the second threshold is harder, and the third threshold is at the hard end of the scale (as expected). This supports the conceptual model of the response categories.

Ordering of perspectives

For the aspect of practicality in the classroom, the items were conceptualised from a model involving provision of sufficient resources, suitability to teaching style, suitability to student needs, and flexibility in the classroom management, in the context of the three perspectives (*How I expect the change to be planned, How I think*

Table 8.3

Global fit statistics for Practicality in the Classroom (18 items)

	Items	Lecturers
Number	18	659
Location mean	0.00	0.59
Standard deviation	0.46	1.36
Fit statistic mean	-0.28	-0.77
Standard deviation	1.50	2.27

Item-trait interaction chi square = 441.45

Probability of item-trait (p) = 0.00

Degree of freedom = 162

Lecturer Separation Index = 0.92

Cronbach Alpha = 0.92

Power of test-of fit: excellent

Notes on Table 8.3

1. The item means are constrained to zero by the measurement model.
2. When the data fit the model, the fit statistics approximates a distribution with a mean near zero and a standard deviation near one. The item fit and lecturer fit data are satisfactory, but not an excellent fit. Item fit is better than lecturer fit.
3. The item-trait interaction indicates the agreement displayed with the all items across all lecturers from different locations on the scale (an indicates a dominant trait is present).
4. The Lecturer Separation Index is the proportion of observed lecturer receptivity variance considered true (in this scale, 92% and is very high).

the change was really implemented, and My actual behaviour to the change involves). The results supported the model in relation to increasing difficulty of the three perspectives. *How I expect the change to be planned* was easy, *How I think the change was really implemented* was harder, and *My actual behaviour to the change* was harder still for all 18 items, except items 35 and 36 whose difficulties were equal within their error of measurement (see Table 8.4).

For example, *the new system was expected to provide changes that could be adapted to the educational philosophy which guides lecturer teaching* (item 22) and was easy to agree with. It was harder for a Rajabhat lecturer to say that *the new system is really implemented to provide changes that can be adapted to the educational philosophy which guides their teaching* (item 23) because implementation requires more than expectation. It was harder still for Rajabhat lecturers to say that *their actual behaviour to the change involve better provision for better adapting to the educational philosophy which guides their teaching than in the previous system* (item 25). This is because it involves the lecturers' behaviour rather than attitude. It requires the lecturers to actually do something in regard to the change and is conceptually harder. Hence, conceptually, items 22, 23, and 24 are ordered from easy to hard to harder still and the data supported this. The difficulty of item 22 is -0.49, item 23 is +0.18 and item 25 is +0.40 (a reader can see this trend for the other items in Table 8.4).

Ordering of item difficulties

For practicality in the classroom, there were originally 18 items and the items were divided into two sub-aspects: (1) classroom management (items 22-30); and (2) student needs (items 31-39). The items in each sub-aspect were vertically ordered from easy to hard (see Table 8.4). For example, in sub-aspect of student needs, it was expected that most lecturers would find it easy to say that the new educational system *provided changes that can be adapted to the needs of my students* (stem-item 31-33). It was expected that there would be some variation in lecturer responses around this. It was expected that most lecturers would find it harder to say that the new educational system *provided sufficient flexibility in the changes to suit the needs of different students* (stem-item 34-36) and there would be some variation in lecturer responses around this. This is because stem-item 34-36 involves 'a little bit more' practically and conceptually, than stem-item 31-33. It was expected that most lecturers would find it harder still to say that they expected the new educational system would *provide sufficient resources to allow them to implement the change in their classroom* (stem-item 37-39). This is because stem-item 37-39 involves 'a little bit more' practically and conceptually, than stem-item 34-36. So, as expected, these

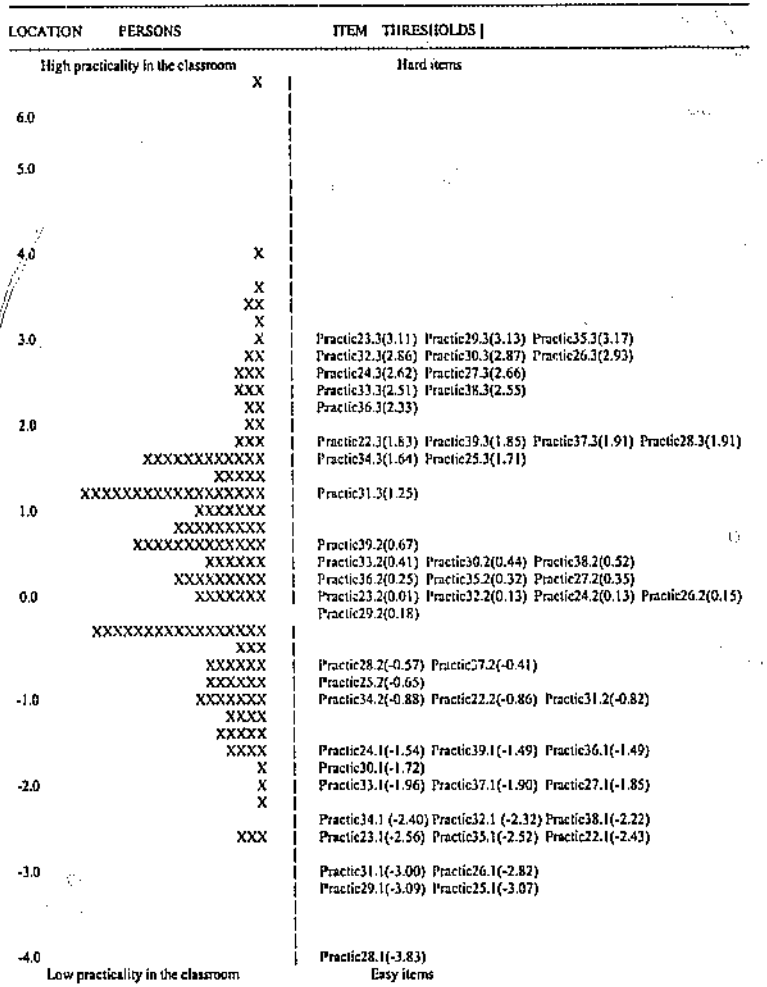


Figure 8.3 Scale of measures (N=659) and item thresholds for practicality in the classroom (3 thresholds for each of 18 items).

Notes on figure 8.3

1. Each X represents 4 Rajabhat lecturers
2. Practic = practicality in the classroom
3. Practic 22.1 = Item 22 threshold 1
4. Practic 22.2 = Item 22 threshold 2
5. Practic 22.3 = Item 22 threshold 3

three stem-items form an ordered pattern of responses by difficulty on average, from easy to hard on the expectation perspective. The data supported this for the expectation perspective, but not for the implementation and behaviuor perspectives, although all the 18 items fitted the measurement model (see Table 8.4).

For the vertical ordering of *classroom management*, flexibility for managing the day-to-day running of the classroom (stem-item 28-30) was easiest, adoption to classroom teaching style (stem-item 25-27) was harder, but still easy, and adapting philosophy to teaching was harder still, but still easy (stem-item 22-24). In the other perspectives, this vertical ordering does not hold (see Table 8.4).

Meaning of the linear scale

Equal differences on the scale between the measures represent equal differences in item difficulty. However, there is no true zero point of item difficulty or measure of practicality and the scale is thus at the interval level. The 18 items of the scale are ordered from easy to hard (see figures 8.3 and 8.4). Nearly all lecturers answered the easy items positively, for example, items 31, 28, 25, 34, 22, and 37. As the item difficulties become positively higher on the scale, the lecturers need corresponding higher measures to answer them positively. The hardest items are only answered positively by lecturers who have high measures, for example, items 30, 24, 27, 36, 39, and 33. Lecturers with low measures cannot answer these difficult items positively.

Research questions in relation to the aspect of practicality in the classroom

For the research questions in aspect of practicality in the classroom, the major findings are stated within the framework of the research questions outlined in Chapter One.

Research question 2 (2): *Can a proper linear scale be created for the aspect, practicality in the classroom, using a Rasch computer program?*

Yes, a proper linear scale was created for the aspect of practicality in the classroom, using a Rasch computer program. The findings indicated that the lecturer measures (N=659) and the item difficulties (I=18) were calibrated on the same linear scale where a dominant aspect influenced all the items. While the data for the 18 items were reliable, some revision to the item wording is needed to improve validity.

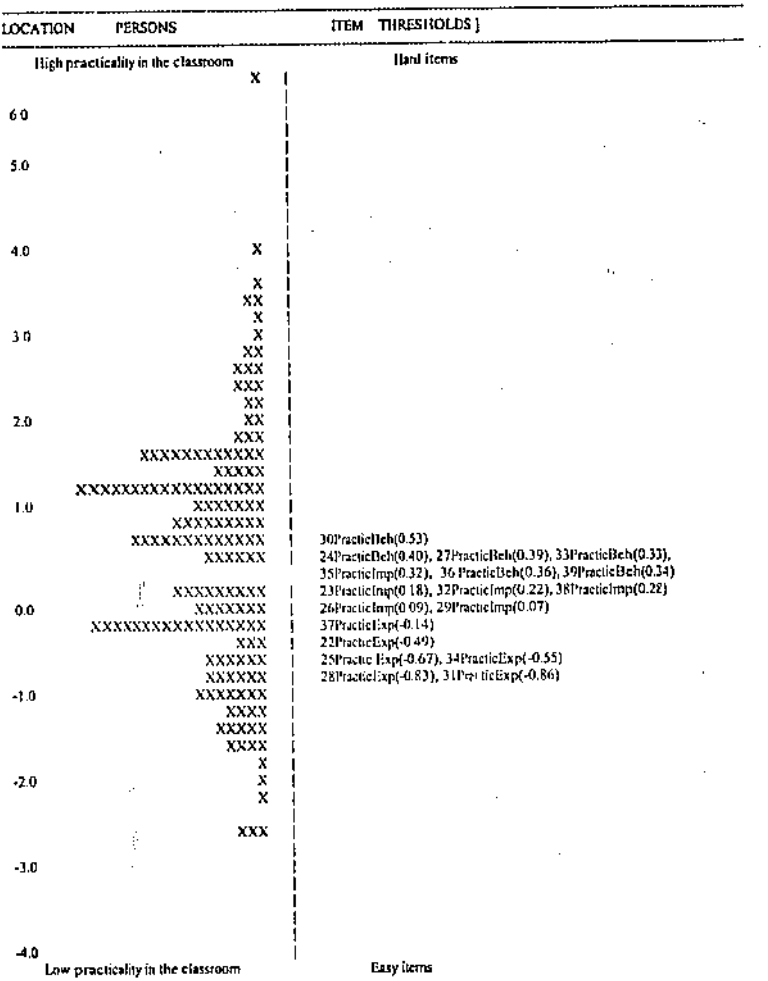


Figure 8.4 Scale of measures (LHS, N=659) and item difficulties for practicality in the classroom (RHS, I= 18).

Notes on figure 8.4

1. Each X represents 4 Rajabhat lecturers
2. Practic = practicality in the classroom
3. 22PracticExp = item 22 (Expectation)
4. 23PracticImp = item 23 (Implementation)
5. 24PracticBeh 24 = item 24 (Behaviour)

Table 8.4

Item difficulties by perspectives for Practicality in the Classroom

Item No.	Item wording	Item difficulties by three perspectives		
		Expectation	Implementation	Behaviour
	Classroom management			
22-24	Providing changes that can be adapted to the educational philosophy which guides my teaching	-0.49	+0.18	+0.40
25-27	Providing changes that can be adapted to my classroom teaching style.	-0.67	+0.09	+0.39
28-30	Providing changes that are sufficiently flexible for managing the day-to-day running of the classroom	-0.83	+0.07	+0.53
	Student needs			
31-33	Providing changes that can be adapted to the needs of my students.	-0.86	+0.22	+0.33
34-36	Providing sufficient flexibility in the changes to suit the needs of different students	-0.55	+0.32	+0.36
37-39	Providing sufficient resources to allow me to implement the change in my classroom.	-0.14	+0.28	+0.34
	Mean item difficulty	-0.59	+0.19	+0.39

Notes on Table 8.4

1. The scores are the mean of the item difficulties in logits for the items that fit the measurement model and belong to the aspect indicated.
2. Negative values indicate the means are low on the scale (or easier). Positive values indicate that the means are high on the scale (or harder).
3. Item difficulties are reported to 2 decimal places because errors are about 0.07.

Research question 4 (2): *Can the new scale for practicality in the classroom be used to interpret Rajabhat lecturer expectations, and behaviours towards a recently implemented planned educational change in Thailand?*

Yes, the new scale for practicality in the classroom was used to interpret Rajabhat lecturer expectations, and behaviours towards a recently implemented planned educational change in Thailand. For all the stem-items, expectations were easier than actual behaviours as conceptualised. For example, most Rajabhat lecturers found it easy to agree that they expected *the new educational system could be adapted to the needs of their students* (difficulty of item 31 is -0.86). It was harder for Rajabhat lecturers to say that *the changes were actually adapted to the needs of their students* (difficulty of item 32 is +0.22). It was harder still for Rajabhat lecturers to say that *they adapted their actual behaviour to cater for the needs of their students* (difficulty of item 33 is +0.33). Hence, conceptually, the perspectives for stem-item 31-33 were ordered from easy to hard to harder still, and the data supported this part of the conceptualisation of the scale for practicality in the classroom (see Table 8.4).

The relevant hypotheses

The major findings are discussed within the framework of the relevant hypotheses outlined in Chapter Four. One relevant hypothesis was set up in order to achieve the purposes of the study for aspect, practicality in the classroom.

Hypothesis 3: *The expectations are easier than the behaviours for the measures of practicality in the classroom.*

It was found that the expectations were easier than the behaviours for all the items relating to practicality in the classroom.

Alleviation of concerns

Final analysis with 12 items

The psychometric properties

There were originally 24 items, but 12 were deleted as not fitting the measurement model sufficiently well. The final accepted 12 items of the questionnaire (items 40-48 and items 58-60) formed a scale in which there is acceptable (but not

good) agreement between all 659 Rajabhat lecturers to the different difficulties of the items along the scale. The Index of Lecturer Separability (akin to traditional reliability) for the 12 item scale is 0.92. This means that the proportion of observed variance considered true is 92 % (see Table 8.5). The items are well targeted against the receptivity measures. That is, the range of item thresholds match the range of receptivity measures of the lecturers on the same scale. The item threshold values range from –2.8 logits (standard error 0.06) to +2.8 logits (SE 0.06) and the lecturer measures range from –6.0 logits to +5.8 logits. There are only 15 lecturers whose receptivity measures are more than +2.8 logits and hence not 'matched' against an item threshold on the scale (see Figure 8.5). Taken together, these results indicate that a good measurement scale of receptivity has been created, that the data are reliable and consistent, that the errors are small in relation to the measures, and that the power of the tests-of-fit are excellent.

Thresholds

The thresholds of the 12 items ranged from -2.8 to +2.8 logits (see Figure 8.5). Figure 8.5 plots the 12 items for *alleviation of concerns* on a continuum showing the item thresholds from easy to hard, and the measure from low to high. On figure 8.5, the measures are placed on the LHS of the scale and item thresholds are placed on the RHS scale. Alley 47.1 refers to the threshold between the response categories 0 and 1 for item 47; Alley 47.2 refers to the threshold between the response categories 1 and 2; Alley 47.3 refers to the threshold between the response categories 2 and 3 for the same item. These thresholds are ordered: Alley 47.1 (threshold value = -2.79) is easiest, Alley 47.2 (threshold value = -0.04) is harder, and Alley 47.3 (threshold value = +2.46) is hardest, in line with the ordering of the response categories. Other item thresholds are labeled similarly. Generally, the first threshold is towards the easy end of the scale (as expected), the second threshold is harder, and the third threshold is at the hard end of the scale (as expected). This supports the conceptual model of the response categories.

Ordering of perspectives

For the aspect, alleviation of concerns, the items were conceptualised from a model involving solving classroom problems, having support for the change, and

Table 8.5

Global fit statistics for Alleviation of Concerns (12 items)

	Items	Lecturers
Number	12	659
Location mean	0.00	0.59
Standard deviation	0.46	1.36
Fit statistic mean	-0.28	-0.77
Standard deviation	1.50	2.27
Item-trait interaction chi square=441.45		
Probability of item-trait (p) =0.00		
Degree of freedom=162		
Lecturer Separation Index =0.92		
Cronbach Alpha =0.92		
Power of test-of fit: excellent		

Notes on Table 8.5

1. The item means are constrained to zero by the measurement model.
2. When the data fit the model, the fit statistics approximates a distribution with a mean near zero and a standard deviation near one. The item fit and lecturer fit data are satisfactory, but not an excellent fit. Item fit is better than lecturer fit.
3. The item-trait interaction indicates that, while this is not a unidimensional scale, there is a dominant trait present.
4. The Lecturer Separation Index is the proportion of observed lecturer receptivity variance considered true (in this scale, 90% and is very high).

having meetings to discuss the change, in the context of three perspectives *(How I expect the change to be planned, How I think the change was really implemented, and My actual behaviour to the change involves).* The results supported the model in relation to increasing difficulty of the three perspectives. *How I expect the change to be planned* was easy, *How I think the change was really implemented* was harder, and *My actual behaviour to the change* was harder still for all 4 stem-items, except items 41 and 42 whose difficulties were equal with their error of measurement (see Table 8.6).

For example, *the new system was expected to contribute to solving quickly any classroom problems in implementing the change at their Rajabhats* (item 43) was easy to agree with. It was harder for a Rajabhat lecturer to say that *the new system is really implemented to contribute to solving quickly any classroom problems in implementing the change at their Rajabhats* (item 44) because implementation requires more than expectation. It was harder still for Rajabhat lecturers to say that *their actual behaviour to the change involves solving quickly any classroom problems in implementing the change at their Rajabhats* (item 45). This is because it involves the lecturers' behaviour rather than attitude. It requires the lecturers to actually do something in regard to the change and is conceptually harder. Hence, conceptually, item 43, item 44, and item 45 are ordered from easy to hard to harder still and the data support this. The difficulty of item 43 is -0.39, item 44 is +0.34 and item 45 is +0.55. However, the conceptualised horizontal ordering was not supported for items 41 and 42, but both items fitted the measurement model. It is probable that the implementation of raising concerns about the change procedures was a little easier than lecturers thought would be required in the new system.

Ordering of item difficulties

For alleviation of concerns, there were originally 24 items and these were divided into two aspects: (1) concerns about the change (items 40-51); and (2) supporting the change (item 52-63). Only 12 items fitted the measurement model (items 40-48, and items 58-60), and other 12 items did not fit the measurement model and they were deleted. The items in each sub-aspect were conceptually ordered from easy to hard, vertically. For example, in the sub-aspect of *concerns about the change* (see Figure 8.6), it was expected that most lecturers would find it easy to say that the new educational system *was planned to involve regular Rajabhat meetings at which lecturers can raise their concerns about the change* (stem-item 40-42). It was expected that there would be some variation in lecturer responses around this. It was expected that most lecturers would find it harder to say that the new educational system *was planned to enable classroom problems to be solved quickly during implementing of the change at their Rajabhats* (stem-item 43-45) and there would be some variation in lecturer responses around this. This is because stem-item 43-45 involves 'a little bit more' practically and conceptually, than stem-item 40-42. It was expected that most lecturers would find it harder still to say that they expected the

new educational system would *provide for specific concerns of lecturers to be raised with the Rajabhat administration and staff* (stem-item 46-48). This is because stem-item 46-48 involves 'a little bit more' practically and conceptually, than stem-item 43-45. However, this vertical ordering was not supported and the four stem-items were all about the same difficulty in the expectation perspective, and varied somewhat in the other perspectives (see Table 8.6).

Meaning of the linear scale

Equal differences on the scale between the measures represent equal differences in item difficulty. However, there is no true zero point of item difficulty or measure of alleviation of concerns and the scale is thus at the interval level. The 12 items of the scale are ordered from easy to hard (see figures 8.5 and 8.6). Nearly all lecturers answered the easy items positively, for example, items 46, 40, 58, and 43. As the item difficulties become positively higher on the scale, the lecturers need a corresponding higher measure to answer them positively. The hardest items are only answered positively by lecturers who have high measures, for example, items 45, 60, 42, and 48. Lecturers with low measures cannot answer these difficult items positively.

Research questions in relation to the aspect of alleviation of concerns

For the research questions in relating to alleviation of concerns, the major findings are stated within the framework of the research questions outlined in Chapter One.

Research question 2 (3): *Can a proper linear scale be created for the aspect, Alleviation of concerns, using a Rasch computer program?*

Yes, a proper linear scale was created for the aspect of alleviation of concerns, using a Rasch computer program. The findings indicated that the lecturer measures (N=659) and the item difficulties (I=12) were calibrated on the same scale linear scale where a dominant aspect influenced all the items. While the data for the 12 items were reliable, some revision to the item wording is needed to improve validity.

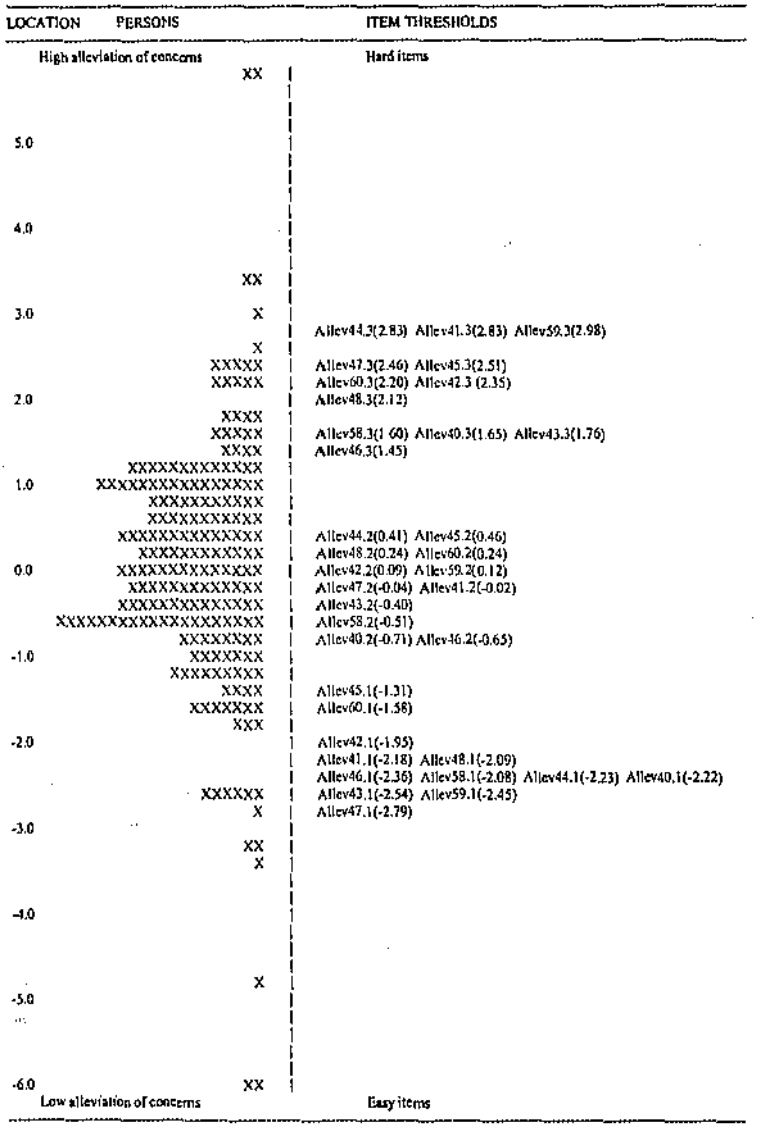


Figure 8.5 Scale of measures (N=659) and item thresholds for alleviation of concerns (3 thresholds for each of 12 items).

Notes of figure 8.5

1. Each X represents 3 Rajabhat lecturers

2. Allev = alleviation of concerns.
3. Allev 47.1 = item 47 threshold 1
4. Allev 47.2 = item 47 threshold 2
5. Allev 47.3 = item 47 threshold 3

Research question 4 (3): *Can the new scale for alleviation of concerns be used to interpret Rajabhat lecturer expectations, and behaviours towards a recently implemented planned educational change in Thailand?*

Yes, the new scale for alleviation of concerns was used to interpret Rajabhat lecturer expectations and behaviours towards a recently implemented planned educational change in Thailand. For all the stem-items, expectations were easier than actual behaviours as conceptualised. For example, most Rajabhat lecturers found it easy to agree that they expected *to be planned so the principal would support it in practical ways at their Rajabhats* (difficulty of this item is –0.40). It was harder for Rajabhat lecturers to say that *the change was actually supported in practical ways by the principal* (difficulty of this item is +0.22). It was harder still for Rajabhat lecturers to say that *their behaviour towards the change was related to having the principal support the change* (difficulty of this item is +0.29). Conceptually, the perspectives for stem-item 58-60 were ordered from easy to hard to harder still, and the data supported this.

The relevant hypotheses

The major findings are stated within the framework of the relevant hypotheses outlined in Chapter Four. One relevant hypothesis was set up in order to achieve the purposes of the study in the aspect of alleviation of concerns.

Hypothesis 4: *The expectations are easier than the behaviours for the measures of alleviation of concerns.*

It was found that the expectations were easier than the behaviours for all the items relating to alleviation of concerns, except for items 41, and 42, where the behaviour perspective was easier than the implementation perspective.

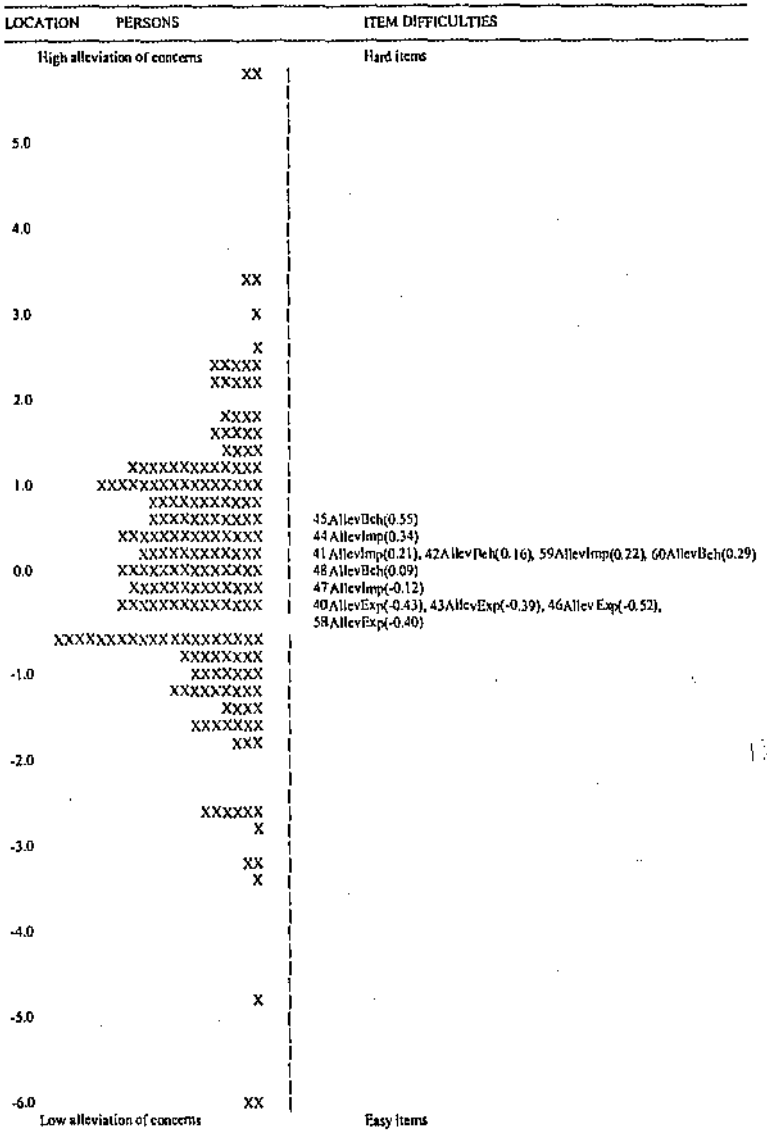


Figure 8.6 Scale of measures (LHS, N=659) and item difficulties for alleviation of concerns (RHS, I= 12).

Notes of figure 8.6

1. Each X represents 3 Rajabhat lecturers

2. Allev = alleviation of concerns.

3. 47AllevExp = item 47 (Expectation)

4. 48AllevImp = item 48 (Implementation)

5. 49AllevBeh = item 49 (Behaviour)

Table 8.6

Item difficulties by perspectives for Alleviation of Concerns

Item No.	Item wording	Item difficulties by three perspectives		
		Expectation	Implementation	Behaviour
	Concerns about the change			
40-42	Contributing to regular Rajabhat meetings at which I can raise my concerns about the change.	-0.42	+0.21	+0.16
43-45	Being able to solve quickly any classroom problems in implementing the change at my Rajabhat.	-0.39	+0.34	+0.55
46-48	Providing for specific concerns of lecturers to be raised with the Rajabhat administration and staff.	-0.52	-0.12	+0.09
	Supporting the change			
58-60	Having the principal supporting the change at my Rajabhat in practical way.	-0.40	+0.22	+0.29
	Mean item difficulty	-0.43	+0.21	+0.27

Notes on Table 8.6

1. The scores are the mean of the item difficulties in logits for the items that fit the measurement model and belong to the aspect indicated.
2. Negative values indicate the means are low on the scale (or easier). Positive values indicate that the means are high on the scale (or harder).
3. Item difficulties are reported to 2 decimal places because errors are about 0.07.

Learning about the change

Final analysis with 15 items

The psychometric properties

The final accepted 15 items of the questionnaire (items 64-78) formed a scale in which there is acceptable (but not good) agreement between all 659 Rajabhat lecturers to the different difficulties of the items along the scale. The Index of Lecturer Separability (akin to traditional reliability) for the 15 item scale is 0.92. This means that the proportion of observed variance considered true is 92 % (see Table 8.7). The items are well targeted against the receptivity measures . That is, the range of item thresholds match the range of receptivity measures of the lecturers on the same scale. The item threshold values range from -3.0 logits (standard error 0.06) to +3.0 logits (SE 0.06) and the lecturer measures range from –6.4 logits to +6.0 logits (see Figure 8.7). There are only 20 lecturers whose receptivity measures are more than +3.0 logits, and 5 lecturers whose receptivity measures are less than -3.0 logits, and hence not 'matched' against an item threshold on the scale (see Figure 8.7). Taken together, these results indicate that a good scale of receptivity has been created, that the data are reliable and consistent, that the errors are small in relation to the measures, and that the power of the tests-of-fit are excellent.

Thresholds

The item thresholds of these 15 items range from – 3.0 to + 3.0 logits (see Figure 8.7). Figure 8.7 plots the thresholds of the 15 items (items 64-78) from *learning about the change* on a continuum showing the item difficulty, or order of items from easy to hard, and the measures from low to high. On Figure 8.7, the measures are placed on the LHS of the scale and item thresholds (item difficulties) are placed on the RHS scale. Learn 64.1 refers to the threshold between the response categories 0 and 1 for item 64; Learn 64.2 refers to the threshold between the response categories 1 and 2; Learn 64.3 refers to the threshold between the response categories 2 and 3 for the same item. These thresholds are ordered Learn 64.1 (threshold value = -3.03) is easiest, Learn 64.2 (threshold value = -0.69) is harder, and Learn 64.3 (threshold value = 1.59) is hardest, in line with the ordering of the response categories. Other item thresholds are labeled similarly. Generally, the first threshold is towards the easy end of the scale (as expected), the second threshold is harder, and the

third threshold is harder (as expected). This supports the conceptual model of the response categories.

Table 8.7

Global fit statistics for Learning about the Change (15 items)

	Items	Lecturers
Number	15	659
Location mean	0.00	0.29
Standard deviation	0.42	1.51
Fit statistic mean	-0.35	-0.92
Standard deviation	1.33	2.41
Item-trait interaction chi square=316.41		
Probability of item-trait (p) =0.00		
Degree of freedom=135		
Lecturer Separation Index =0.92		
Cronbach Alpha =0.91		
Power of test-of fit: excellent		

Notes on Table 8.7

1. The item means are constrained to zero by the measurement model.
2. When the data fit the model, the fit statistics approximates a distribution with a mean near zero and a standard deviation near one. The item fit and lecturer fit data are satisfactory, but not an excellent fit. Item fit is better than lecturer fit.
3. The item-trait interaction indicates that, while a unidimensional scale is not present, a dominant trait is present.
4. The Lecturer Separation Index is the proportion of observed lecturer receptivity variance considered true (in this scale, 92% and is very high).

Ordering of perspectives

For the aspect, learning about the change, the items were conceptualised from a model involving gaining information about the change and learning how best to implement the change, in the context of three perspectives *(How I expect the change to be planned, How I think the change was really implemented, and My actual*

behaviour to the change involves). The results support the model in relation to increasing difficulty of the three perspectives. *How I expect the change to be planned* was easy, *How I think the change was really implemented* was harder, and *My actual behaviour to the change* was harder still for all the 15 items.

For example, *the new system was expected to be planned to provide information about how to learn best about implementing the change* (item 64) and was easy to agree with. It was harder for a Rajabhat lecturer to say that *the new system is really implemented to provide information about how best to learn about the change* (item 65) because implementation requires more than expectation. It was harder still for Rajabhat lecturers to say that *their actual behaviour involved learning how best to implement the change* (item 66). This is because it involves the lecturers' behaviour rather than attitude. It requires the lecturers to actually do something in regard to the change and is conceptually harder. Conceptually, items 64, 65, and 66 are ordered from easy to hard to harder still, and the data supported this. The difficulty of item 64 is -0.71, item 65 is +0.19 and item 66 is +0.40 (a reader can see this trend for the other items in Table 8.8).

Ordering of item difficulties

For learning about the change there were originally 15 items and the items were divided into two sub-aspects: (1) learning about the change (items 64-72); and (2) discussion about the change (items 73-78). All 15 items fitted the measurement model (items 64-78). The items in each sub-aspect were conceptually ordered from easy to hard, vertically. For example, in the sub-aspect of *learning about the change* (see Table 8.8), it was expected that most lecturers would find it easy to say that *the new educational system would be planned to provide information on how best to learn about implementing the change* (stem-item 64-66). It was expected that the most lecturers would find it harder to say that *the new educational system would be planned to provide information on how to adapt the change to the classroom* (stem-item 67-69) and there would be some variation in lecturers' responses around this. This is because stem-item 67-69 involves 'a little bit more' practically and conceptually, than

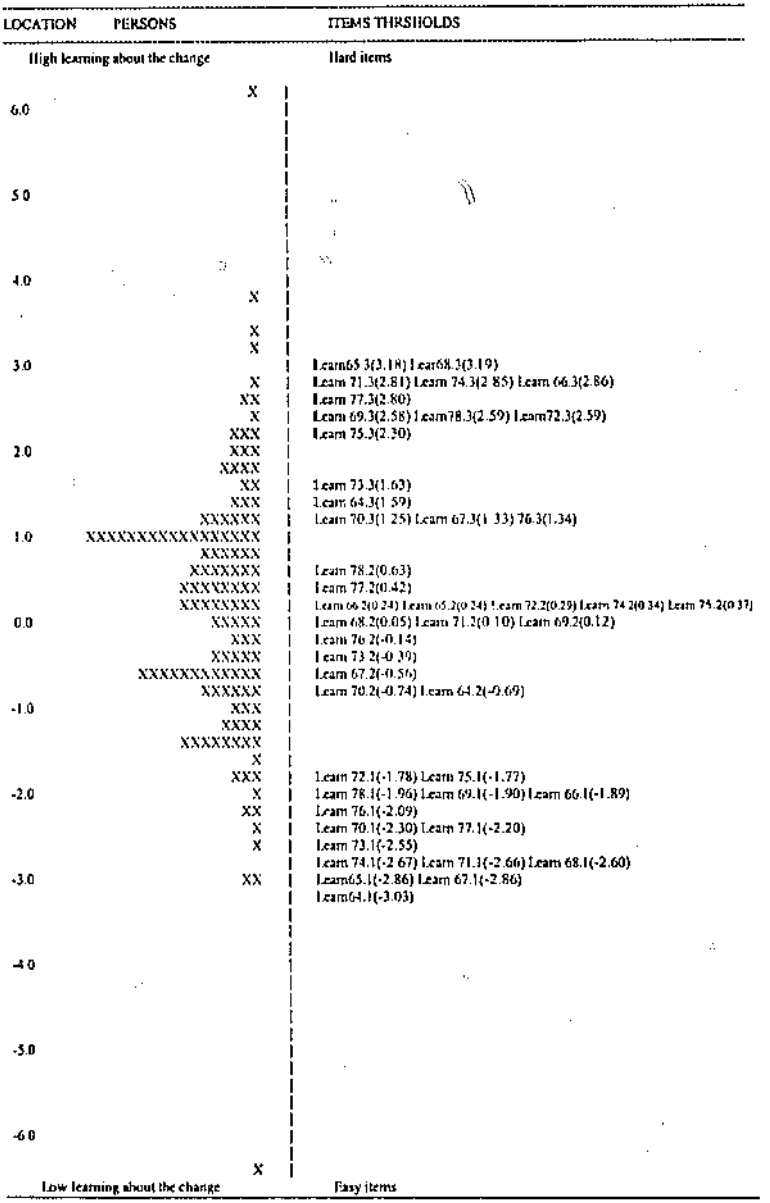


Figure 8.7 Scale of measures (N=659) and item thresholds for learning about the change (3 thresholds for each of 15 items).

Notes on figure 8.7

1. Each X represents 5 Rajabhat lecturers
2. Learn = learning about the change.
3. Learn 64.1 = item 64 threshold 1
4. Learn 64.2 = item 64 threshold 2
5. Learn 64.3 = item 64 threshold 3

stem-item 64-66. It was expected that most lecturers would find it harder still to say that *they expected the new educational system would be planned to provide information about the most important issues relating to the change* (stem-item 70-72). This is because stem-item 70-72 involves 'a little bit more' practically and conceptually, than stem-item 67-69. However, these three stem-items all had about the same difficulty for the expectation perspective and, separately, for the implementation, and behaviour perspectives (see Table 8.8)

For *learning about the change*, providing how to learn best about implementing the change (stem-item 64-66) was very easy, adapting the change to the classroom (stem-item 67-69) was also very easy, and providing information about the most important issues relating to the change (stem-item 70-72) was again very easy. This is not in agreement with the conceptual order. For the implementation perspective, the item difficulties were moderately hard and not ordered as conceptualised. For the behaviour perspective, the item difficulties were hard and not ordered as conceptualised (see Table 8.8).

Meaning of the linear scale

Equal differences on the scale between the measures represent equal differences in item difficulty. However, there is no true zero point of item difficulty or measure of learning about the change and the scale is thus at the interval level. The 15 items of the scale are ordered from easy to hard (see figures 8.7 and 8.8). Nearly all lecturers answered the easy items positively, for example, items 64, 67, 70, 73, and 76. As the item difficulties become positive higher on the scale, the lecturers need a corresponding higher measure to answer them positively. The hardest items are only answered positively by lecturers who have high measures, for example, items 78, 66,

72, 75, and 69. Lecturers with low measures cannot answer these difficult items positively.

Research questions in relation to the aspect of learning about the change

For the research questions in relation to learning about the change, the major findings are stated within the framework of the research questions outlined in Chapter One.

Research question 2 (4): *Can a proper linear scale be created for the aspect, learning about the change, using a Rasch computer program?*

Yes, a proper linear scale was created for the aspect, learning about the change, using a Rasch computer program. The findings indicated that the lecturer measures (N=659) and the item difficulties (I=15) were calibrated on the same linear scale where a dominant aspect influenced all the items. While the data for the 15 items were reliable, some revision to the item wording is needed to improve validity.

Research question 4 (4): *Can a new scale for learning about the change be used to interpret Rajabhat lecturer expectations and behaviours towards a recently implemented planned educational change in Thailand?*

Yes, the new scale for learning about the change was used to interpret Rajabhat lecturers' expectations, and behaviours towards a recently implemented planned educational change in Thailand. For all the stem-items, expectations were easier than actual behaviours as conceptualised. For example, most Rajabhat lecturers found it easy to agree that they expected *the new educational system would provide information about how best to learn to implement the change* (difficulty of item 64 is -0.71). It was harder for Rajabhat lecturers to say that *the new educational system actually provided information about how best to learn to implement the change* (difficulty of item 65 is +0.19). It was harder still for Rajabhat lecturers to say that *their actual behaviours to the change involved learning how best to implement the change* (difficulty of item 66 is +0.40). Conceptually, the perspectives of stem-item 64-66 are ordered from easy to hard to harder still, and the data supported this.

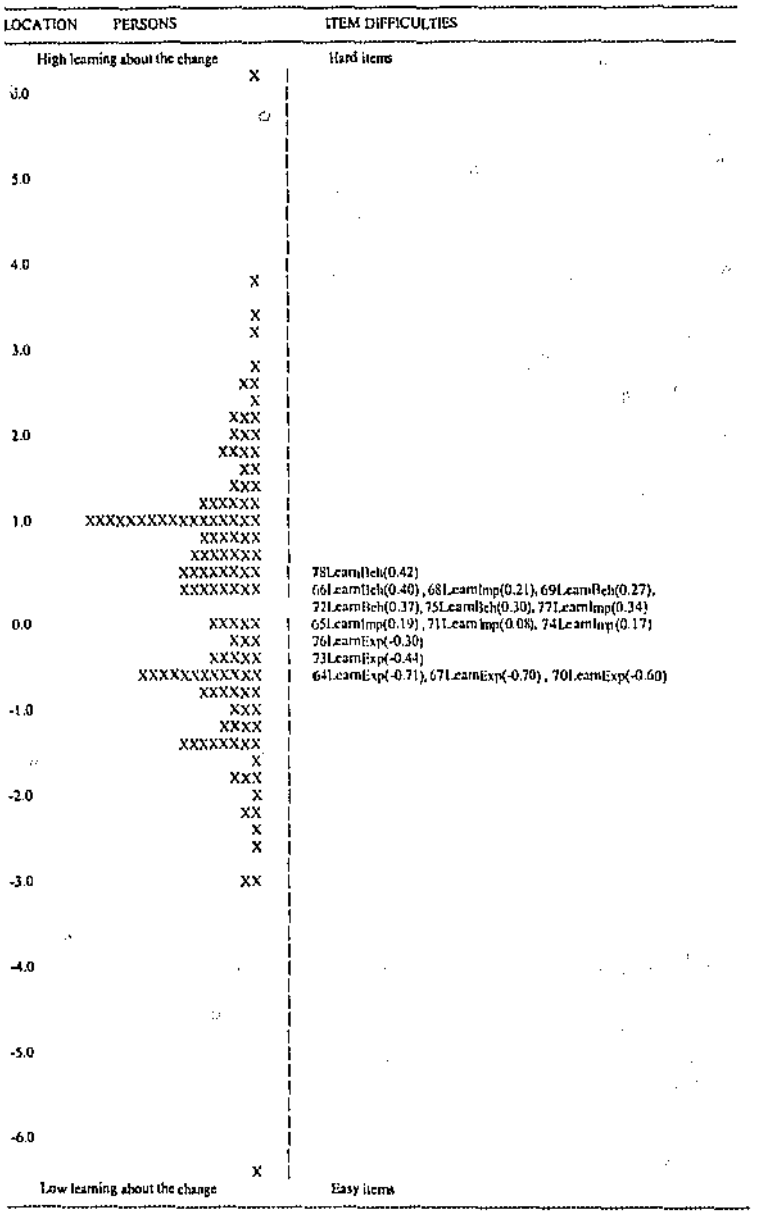


Figure 8.8 Scale of measures (LHS, N=659) and item difficulties for learning about the change (RHS, I= 15).

Notes on figure 8.8

1. Each X represents 5 Rajabhat lecturers
2. Learn = learning about the change.
3. 64LearnExp = item 64 (expectation)
4. 64LearnImp = item 64 (Implementation)
5. 64LearnBeh = item 64 (Behaviour)

Table 8.8

Item difficulties by perspectives for Learning about the Change

Item No.	Item wording	Item difficulties by three perspectives		
		Expectation	Implementation	Behaviour
	Learning about the change			
64-66	Providing how to learn best about implementing the changes.	-0.71	+0.19	+0.40
67-69	Providing information on adapting the change to the classroom.	-0.70	+0.21	+0.27
70-72	Providing information about the most important issues relating to the change.	-0.60	+0.08	+0.37
	Discussion about the change			
73-75	Providing regular forums to discuss the most important issues of the change.	-0.44	+0.17	+0.30
76-78	Providing for the Rajabhat staff and management to discuss the change.	-0.30	+0.34	+0.42
	Mean item difficulty	-0.55	+0.19	+0.35

Notes on Table 8.8

1. The scores are the mean of the item difficulties in logits for the items that fit the measurement model and belong to the aspect indicated.
2. Negative values indicate the means are low on the scale (or easier). Positive values indicate that the means are high on the scale (or harder).
3. Item difficulties are reported to 2 decimal places because errors are about 0.07.

The relevant hypotheses

The major findings are discussed within the framework of the relevant hypotheses outlined in Chapter Four. One relevant hypothesis was set up in order to achieve the purposes of the study for the aspect, learning about the change.

Hypothesis 5: *The expectations are easier than the behaviours for the measures of learning about the change.*

It was found that the expectations were easier than the behaviours for all the items relating to learning about the change. For each of the five stem-items, the expectation perspective was easiest, the implementation perspective was harder, and lecturer behaviour was harder still.

Participation in decision-making

Final analysis with 9 items

The psychometric properties

There were originally 12 items, but 3 were deleted as not fitting the measurement model sufficiently well. The final accepted 9 items of the questionnaire (items 79-81 and items 85-90) formed a scale in which there is acceptable (but not good) agreement between all 659 Rajabhat lecturers to the different difficulties of the items along the scale. The Index of Lecturer Separability (akin to traditional reliability) for the 9 item scale is 0.91. This means that the proportion of observed variance considered true is 91 % (see Table 8.9). The items are well targeted against the receptivity measures. That is, the range of item thresholds match the range of receptivity measures of the lecturers on the same scale (see Figure 8.9). The item threshold values range from –3.1 logits (standard error 0.06) to +3.1 logits (SE 0.06) and the lecturer measures range from –5.8 logits to +5.6 logits. There are only eight lecturers whose receptivity measures are more than +3.0 logits and hence not 'matched' against an item threshold on the scale (see Figure 8.9). Taken together, these results indicate that an acceptable scale has been created, that the data are reliable and consistent, that the errors are small in relation to the measures, and that the power of the tests-of-fit are excellent.

Thresholds

The thresholds of the nine good fitting items range from –3.2 to + 3.0 logits (see Figure 8.9). Figure 8.9 plots the 9 items for *practicality in the classroom* on a continuum showing the item thresholds from easy to hard, and the measures from low to high. On Figure 8.9, the measures are placed on the LHS of the scale and item thresholds are placed on the RHS scale. Partic 79.1 refers to the threshold between the response categories 0 and 1 for item 79; Partic 79.2 refers to the threshold between the response categories 1 and 2; Partic 79.3 refers to the threshold between the response categories 2 and 3 for the same item. These thresholds are ordered: Partic 79.1 (threshold value = -2.73) is easiest, Partic 79.2 (threshold value = -0.65) is harder, and Partic 79.3 (threshold value = +1.13) is hardest, in line with the ordering of the response categories. Other item thresholds are labeled similarly. Generally, the first threshold is towards the easy end of the scale (as expected), the second threshold is harder, and the third threshold is at the hard end of the scale (as expected). This supports the conceptual model of the response categories.

Ordering of perspectives

For the aspect, participation in decision-making, the items were conceptualised from a model involving selecting resources, determining course content, and participating in classroom decision, in the context of three perspectives *(How I expect the change to be planned, How I think the change was really implemented, and My actual behaviour to the change involves). How I expect the change to be planned* was easy and *My actual behaviour to the change* was harder for all 3 stem-items.

Lecturers expected that it was easy to say that *the new system was planned to allow lecturers to participate in selecting teaching resources associated with the change* (item 79). It was harder for Rajabhat lecturers to say that *the new system is really implemented to allow them to participate in selecting teaching resources associated with the change* (item 80). It was harder still for Rajabhat lecturers to say that *their actual behaviour to the change involves participating in selecting teaching resources associated with the change* (item 81). This is because it involves the lecturers' behaviour rather than attitude. It requires the lecturers to actually do

Table 8.9

Global fit statistics for Participation in Decision-making (9 items)

	Items	Lecturers
Number	9	659
Location mean	0.00	0.003
Standard deviation	0.46	1.77
Fit statistic mean	0.17	-0.72
Standard deviation	2.46	1.87
Item-trait interaction chi square=170.52		
Probability of item-trait (p) =0.00		
Degree of freedom=81		
Lecturer Separation Index =0.91		
Cronbach Alpha =0.88		
Power of test-of fit: excellent		

Notes on Table 8.9

1. The item means are constrained to zero by the measurement model.
2. When the data fit the model, the fit statistics approximates a distribution with a mean near zero and a standard deviation near one. The item fit and lecturer fit data are satisfactory, but not an excellent fit.
3. The item-trait interaction indicates that, while a unidimensional trait is not present, a dominant trait is present for participation.
4. The Lecturer Separation Index is the proportion of observed lecturer receptivity variance considered true (in this scale, 91% and is very high).

something in regard to the change and is conceptually harder. Conceptually, the perspectives of stem-items 79-81 were ordered from easy to hard to harder still, and the data supported this. The difficulty of item 79 is -0.75, item 80 is -0.07 and item 81 is +0.21. However, the conceptualised horizontal ordering was not supported for items 86 and 87, and for items 89 and 90, but they fitted the measurement model. It is possible that the implementation of participating in determining the content of the professional sessions was a little easier than lecturers thought that it would be in the new system (a reader can see the difficulties in Table 8.10).

Ordering of item difficulties

For participation in decision-making, there were originally 12 item (items 79-item 90) and they were placed in one sub-aspect (discussion about the change). Only 9 items fitted the measurement model (stem-item 79-81, and stem-items 85-90). The other three items did not fit the measurement model and they were deleted. The items were conceptually ordered from easy to hard, vertically. For example, in the sub-aspect of *discussion about the change*, it was expected that most lecturers would find it easy to say that they expected *the new educational system to be planned to allow them to participate in selecting teaching resources associated with the change* (stem-item 79-81). It was expected that there would be some variation in lecturer responses around this. It was expected that most lecturers would find it harder to say that *the new educational system allowed them to participate in determining the content of professional sessions* (stem-item 85-87) and there would be some variation in lecturer responses around this. This is because stem-item 85-87 involves 'a little bit more' practically and conceptually, than stem-item 79-81. It was expected that most lecturers would find it harder still to say that *their behaviour allowed them to participate in Rajabhat decisions that were related to implementing the changes* (stem-item 88-90). This is because stem-item 88-90 involves 'a little bit more' practically and conceptually, than stem-item 85-87. The results show that the data did not support this conceptual order for any of the three perspectives.

Meaning of the linear scale

Equal differences on the scale between the measures represent equal differences in item difficulty. However, there is no true zero point of item difficulty or measure of participation in decision-making and the scale is thus at the interval level. The 12 items of the scale are ordered from easy to hard (see figures 8.9 and 8.10). Nearly all lecturers answered the easy items positively, for example, items 79, 88, 85. As the item difficulties become positively higher on the scale, the lecturers need a corresponding higher measure to answer them positively. The hardest items are only answered positively by lecturers who have high measures, for example, items 90, 87, and 81. Lecturers with low measures cannot answer these difficult items positively.

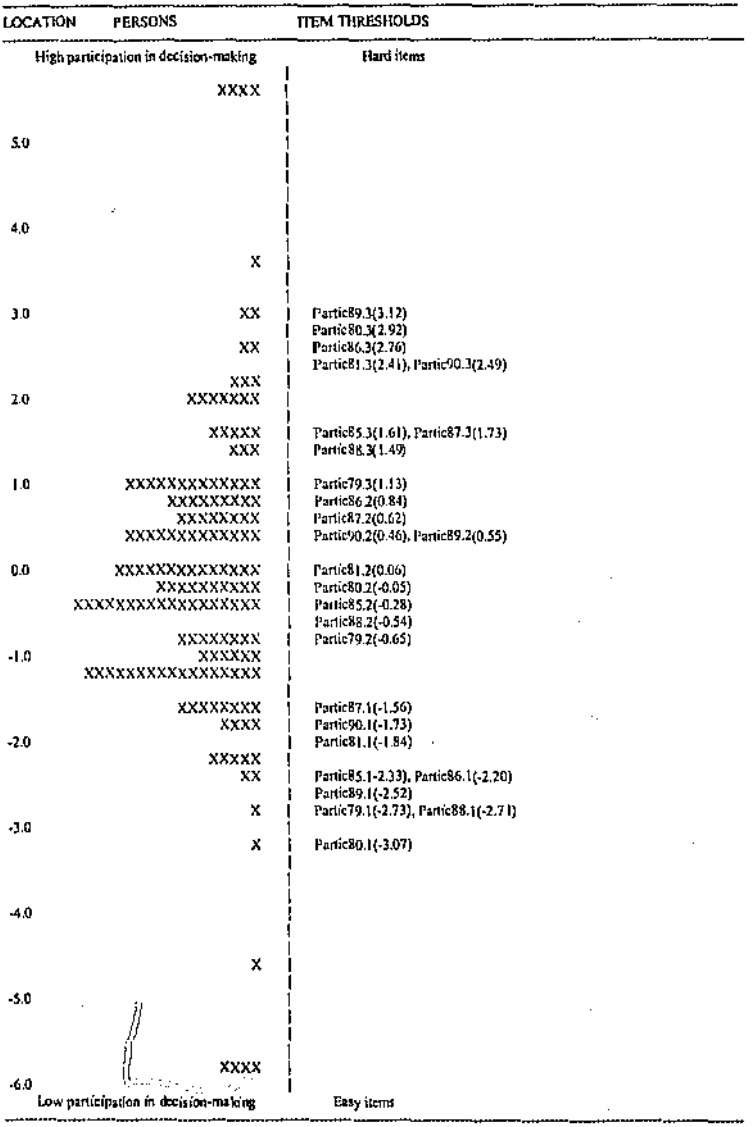


Figure 8.9 Scale of measures (N=659) and item thresholds for participation in decision-making (3 thresholds for each of 9 items).

Notes on figure 8.9

1. Each X represents 4 Rajabhat lecturers

2. Partic = participation in decision-making.

3. Partic 88.1 = item 88 threshold 1

4. Partic 88.2 = item 88 threshold 2

5. Partic 88.3 = item 88 threshold 3

Research questions in relation to the aspect of participation in decision-making

For participation in decision-making, the major findings are stated within the framework of the research questions outlined in Chapter One.

Research question 2 (5): *Can a proper linear scale be created for the aspect participation in decision-making, using a Rasch computer program?*

Yes, a proper linear scale was created for the aspect of participation in decision-making, using a Rasch computer program. The findings indicated that the lecturer measures (N=659) and the item difficulties (I=9) were calibrated on the same linear scale where a dominant aspect influenced all the items. While the data for the 9 items were reliable, some revision to the item wording is needed to improve validity.

Research question 4 (5): *Can the new scale for participation in decision-making be used to interpret Rajabhat lecturer expectations, and behaviours towards a recently implemented planned educational change in Thailand?*

Yes, the new scale for participation of decision-making was used to interpret Rajabhat lecturer expectations, and behaviours towards a recently implemented planned educational change in Thailand. For example, most Rajabhat lecturers found it easy to agree that they expected *the new educational system to allow them to participate in selecting teaching resources associated with the change* (difficulty of this item is -0.75). It was harder for Rajabhat lecturers to say that *the change was implemented to actually allow them to participate in selecting teaching resources associated with the change* (difficulty of this item is -0.07). It was harder still for Rajabhat lecturers to say that *their actual behaviour to the change involved participating in selecting teaching resources associated with the change* (difficulty of this item is +0.21). Hence, conceptually, the perspectives of stem-item 79-81 were ordered from easy to hard to harder still, and data supported this.

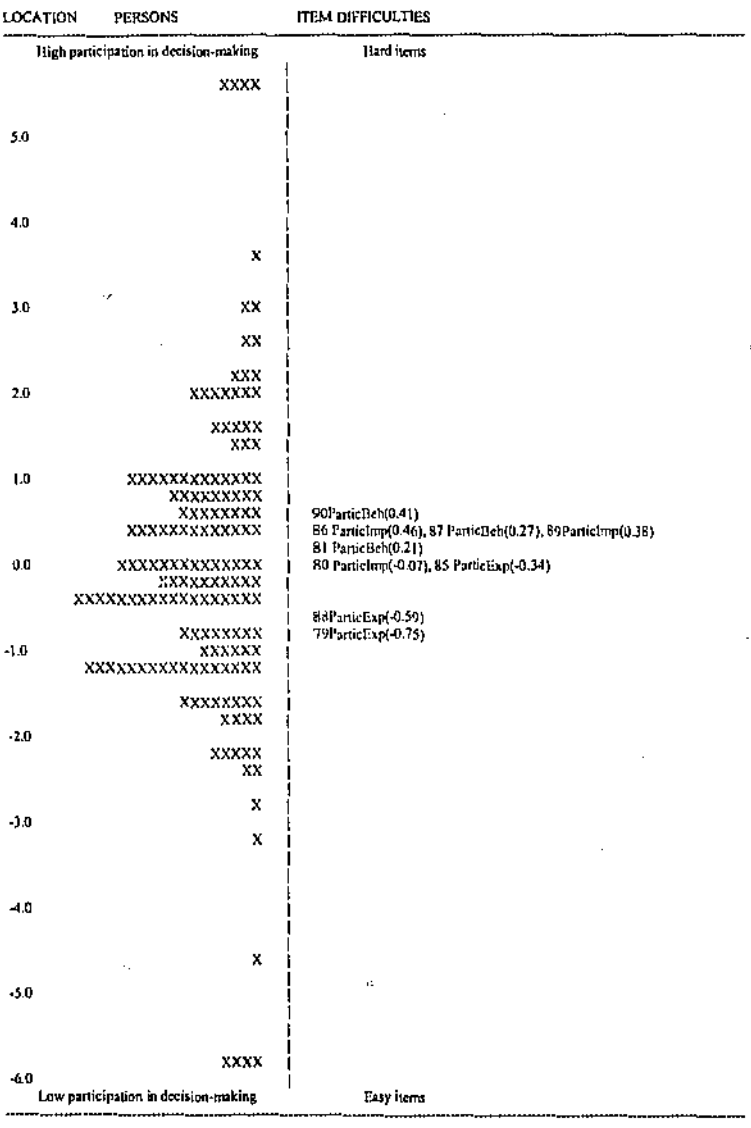


Figure 8.10 Scale of measures (LHS, N=659) and item difficulties for participation in decision-making (RHS, I=9).

Notes on figure 8.10

1. Each X represents 4 Rajabhat lecturers

2. Partic = participation in decision-making.

3. 88ParticExp = item 88 (Expectation)

4. 89ParticImp = item 89 (Implementation)

5. 90ParticBeh = item 90 (Behaviour)

Table 8.10

Item difficulties by perspectives for Participation in Decision-Making

Item No.	Item wording	Item difficulties by three perspectives		
		Expectation	Implementation	Behaviour
	Discussion about the change			
79-81	Participating in selecting teaching resources associated with the change.	-0.75	-0.07	+0.21
85-87	Participating in determining the content of professional sessions.	-0.34	+0.47	+0.27
88-90	Participating in Rajabhat decisions that are related to implementing the changes.	-0.59	+0.38	+0.41
	Mean item difficulty	-0.55	+0.26	+0.29

Notes on Table 8.10

1. The scores are the mean of the item difficulties in logits for the items that fit the measurement model and belong to the aspect indicated.
2. Negative values indicate the means are low on the scale (or easier). Positive values indicate that the means are high on the scale (or harder).
3. Item difficulties are reported to 2 decimal places because errors are about 0.07.

The relevant hypotheses

The major findings are stated within the framework of the relevant hypotheses outlined in Chapter Four. One relevant hypothesis was set up in order to achieve the purposes of the study for the aspect of participation in decision-making.

Hypothesis 6: *The expectations are easier than the behaviours for the measures of participation in decision-making.*

It was found that the expectations were easier than the behaviours for all the items relating to participation in decision-making.

Summary

This chapter has described the process of data analysis for the model of lecturer receptivity and presented the results with an explanation of each of the five aspects of lecturer receptivity to the change (comparison with the previous system, practicality in the classroom, alleviation of concerns, learning about the change, and participation in decision-making). A Rasch computer program was used to create a linear scale for each aspect. For each aspect, the measures were calibrated from low to high on the same scale as the item difficulties were calibrated from easy to hard. For each measure, the data were valid and reliable and the items were each influenced by a dominant trait. Most of the perspectives for each stem-item were ordered from easy to hard, and to harder, in line with the conceptual design of the questionnaire, but not all. The data supported most of the model behind the questionnaire (but not all), and the evidence supports the view that the data are valid and reliable.

The data for these five aspects came from 659 Rajabhat lecturers. For comparison with the previous system, there were originally 21 items, but only 12 items fitted the measurement model (Separation Index is 0.90). The expectations were easier than actual behaviours for all items. For practicality in the classroom, there were originally 18 items, all of them fitted the measurement model (Separation Index is 0.92). The expectations were easier than actual behaviours for all the items. For alleviation of concerns, there were originally 24 items, but only 12 items fitted the measurement model (Separation Index is 0.92). The expectations were easier than actual behaviours. For learning about the change, there were originally 15 items and all of them fitted the measurement model (Separation Index is 0.92). The expectations were easier than actual behaviours for all the items. For participation in decision-making, there were originally 12 items, but only 9 items fitted the measurement model (Separation Index is 0.91). The expectations were easier than actual behaviours.

The next chapter continues the description of data analysis: questionnaire (Part 2C).

CHAPTER NINE

DATA ANALYSIS: QUESTIONNAIRE (Part 2C)

This chapter presents the Rasch analysis results where the last four aspects (variables) are analysed separately. They are: (1) personal cost appraisal of the change, (2) collaboration with other lecturers, (3) opportunities for lecturer improvement, and (4) perceived value for students. The presentation of each aspect contains: (1) the psychometric properties, (2) meaning of the scale, (3) research questions, and (4) the relevant hypotheses. Finally, a summary is provided.

Personal cost appraisal

Final analysis with 15 items

The psychometric properties

There were originally 18 items, but 3 were deleted as not fitting the measurement model sufficiently well. The final accepted 15 items of the questionnaire (items 91-102 and items 106-108) formed a scale in which there is acceptable (but not good) agreement between all 659 Rajabhat lecturers to the different difficulties of the items along the scale. The Index of Lecturer Separability (akin to traditional reliability) for the 15 item scale is 0.91. This means that the proportion of observed variance considered true is 91 % (see Table 9.1). The items are well targeted against the receptivity measures. That is, the range of item thresholds matches the range of receptivity measures of the lecturers on the same scale. The item threshold values range from –2.8 logits (standard error 0.06) to +3.2 logits (SE 0.06) and the lecturer measures range from –6.2 logits to +6.0 logits. There are only 12 lecturers whose receptivity measures are more than +3.2 logits and hence not 'matched' against an item threshold on the scale (see Figure 9.1). Taken together, these results indicate that a good measurement scale of receptivity has been created, that the data are reliable and consistent, that the errors are small in relation to the measures, and that the power of the tests-of-fit are excellent.

Table 9.1

Global fit statistics for Personal Cost Appraisal (15 items)

	Items	Lecturers
Number	15	659
Location mean	0.00	0.15
Standard deviation	0.39	1.34
Fit statistic mean	-0.08	-0.80
Standard deviation	1.45	2.24

Item-trait interaction chi square=366.41

Probability of item-trait (p) =0.00

Degree of freedom=135

Lecturer Separation Index =0.91

Cronbach Alpha =0.88

Power of test-of fit: excellent

Notes on Table 9.1

1. The item means are constrained to zero by the measurement model.
2. When the data fit the model, the fit statistics approximate a distribution with a mean near zero and a standard deviation nears one. The item fit and lecturer fit data are satisfactory, but not an excellent fit. The item fit is better than lecturer fit.
3. The item-trait interaction indicates while, a unidimensional trait is not present, a dominant trait is present for personal cost appraisal.
4. The Lecturer Separation Index is the proportion of observed lecturer receptivity variance considered true (in this scale, 91% and is high).

Thresholds

The thresholds of the 15 items ranged from - 2.8 to + 3.2 logits (see Figure 9.1). Figure 9.1 plots the 15 items for *personal cost appraisal* on a continuum showing the item thresholds from easy to hard, and the measures from low to high. On figure 9.1, the measures are placed on the LHS of the scale and item thresholds are placed on the RHS scale. Cost 92.1 refers to the threshold between the response categories 0 and 1 for item 92; Cost 92.2 refers to the threshold between the response categories 1 and 2; Cost 92.3 refers to the threshold between the response categories 2 and 3 for the same item. These thresholds are ordered: Cost 92.1 (threshold value =-2.35) is easiest, Cost

92.2 (threshold value = +0.04) is harder, and Cost 92.3 (threshold value = +2.89) is hardest, in line with the ordering of the response categories. Other item thresholds are labeled similarly. Generally, the first threshold is towards the easy end of the scale (as expected), the second threshold is harder, and the third threshold is harder (as expected). This supports the conceptual model of the response categories.

Ordering of perspectives

For the aspect, personal cost appraisal, the items were conceptualised from a model involving providing for lecturer's satisfaction with teaching and home life, better student learning in the classroom, and better classroom management, in the context of three perspectives *(How I expect the change to be planned, How I think the change was really implemented, and My actual behaviour to the change involves)*. The results supported the model in relation to increasing difficulty for the three perspectives. *How I expect the change to be planned* was easy, *How I think the change was really implemented* was harder, and *My actual behaviour to the change* was harder still for all 15 items, except for items 95 and 96, items 98 and 99, and items 101 and 102 where difficulties were equal within their error of measurement (see Table 9.2).

For example, *the new system was expected to be planned to increase lecturer satisfaction with teaching which outweighs the extra work generated for them* (item 91) was easy to agree with. It was harder for a Rajabhat lecturer to say that *the new system was really implemented to increase lecturer satisfaction with teaching which outweighs the extra work generated for them* (item 92) because implementation requires more than expectation. It was harder still for Rajabhat lecturers to say that *their actual behaviour to the change increased lecturer satisfaction with teaching which outweighs the extra work generated for them* (item 93). This is because it involves the lecturers' behaviour rather than attitude. It requires the lecturers to actually do something in regard to the change and is conceptually harder. Hence, conceptually, items 91, 92, and 93 are ordered from easy to hard to harder still, and the data supported this. The difficulty of item 91 is -0.36, item 92 is +0.20 and item 93 is +0.29. The conceptualised horizontal ordering was supported for items 95 and 96, 98 and 99, and 101 and 102, for the first two perspectives but the second and third

perspectives were equal, within their error of measurement (a reader can see this trend for the items in Table 9.2).

Ordering of item difficulties

For personal cost appraisal, there were originally 18 items and the items were divided into two sub-aspects: (1) concerns of lecturers (item 91-99); and (2) concerns of students (item 100-108). Only 15 items fitted the measurement model (items 91-102, and items 106-108). The other 3 items did not fit the measurement model, and were deleted. The items in each sub-aspect were vertically ordered from easy to hard (see Table 9.2). For example, in sub-aspect of *concerns of lecturers*, it was expected that most lecturers would find it easy to say that the new educational system was planned to *increased lecturer satisfaction with teaching which outweighs the extra work generated for them* (stem-item 91-93). It was expected that there would be some variation in lecturer responses around this. It was expected that most lecturers would find it harder to say that, in the new educational system, *lecturer satisfaction with home life outweighed the extra work generated for them* (stem-item 94-96) and there would be some variation in lecturer responses around this. This is because stem-item 94-96 involves 'a little bit more' practicality and conceptually, than stem-item 91-93. It was expected that most lecturers would find it harder still to say that they expected the new educational system *kept the emotional strain of the change for lecturers to a minimum* (stem-item 97-99). This is because stem-item 97-99 involves 'a little bit more' practically and conceptually, than stem-item 94-96. So, as expected, these three stem-items formed an ordered pattern of responses by difficulty on average, from easy to hard on the expectation perspective. The data did not support this vertical ordering of item difficulties (see Table 9.2), but the items still fit the measurement model.

Meaning of the linear scale

Equal differences on the scale between the measures represent equal differences in item difficulty. However, there is no true zero point of item difficulty or measure of personal cost appraisal and the scale is thus at the interval level. The 15 items of the scale are ordered from easy to hard (see figures 9.1 and 9.2). Nearly all lecturers

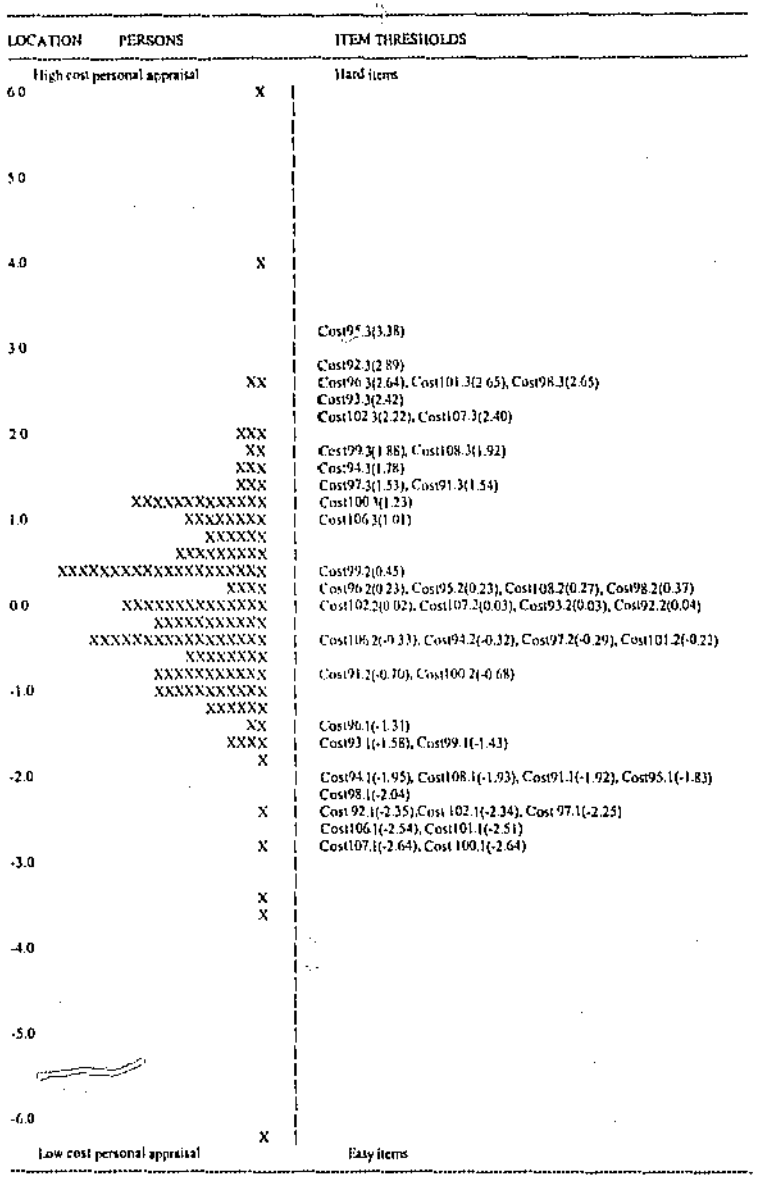


Figure 9.1 Scale of measures (N=659) and item thresholds for personal cost appraisal (3 thresholds for each of 15 items).

Notes on figure 9.1

1. Each X represents 4 Rajabhat lecturers
2. Cost = personal cost appraisal.
3. Cost 92.1 = Item 92 threshold 1
4. Cost 92.2 = Item 92 threshold 2
5. Cost 92.3 = Item 92 threshold 3

answered the easy items positively, for example, items 100, 106, 91, 97, and 94. As the item difficulties become positively higher on the scale, the lecturers need a corresponding higher measure to answer them positively. The hardest items are only answered positively by lecturers who have high measures, for example, items 95, 96, 99, and 93. Lecturers with low measures cannot answer these difficult items positively.

Research questions in relation to the aspect of personal cost appraisal

For the research questions relating to personal cost appraisal, the major findings are stated within the framework of the research questions outlined in Chapter One.

Research question 2 (6): *Can a proper linear scale be created for the aspect of personal cost appraisal, using a Rasch computer program?*

Yes, a proper linear scale was created for the aspect of personal cost appraisal, using a Rasch computer program. The findings indicated that the lecturer measures (N=659) and the item difficulties (I=15) were calibrated on the same linear scale where a dominant aspect influenced all the items. While the data for the 15 items were reliable, some revision to the item wording is needed to improve validity.

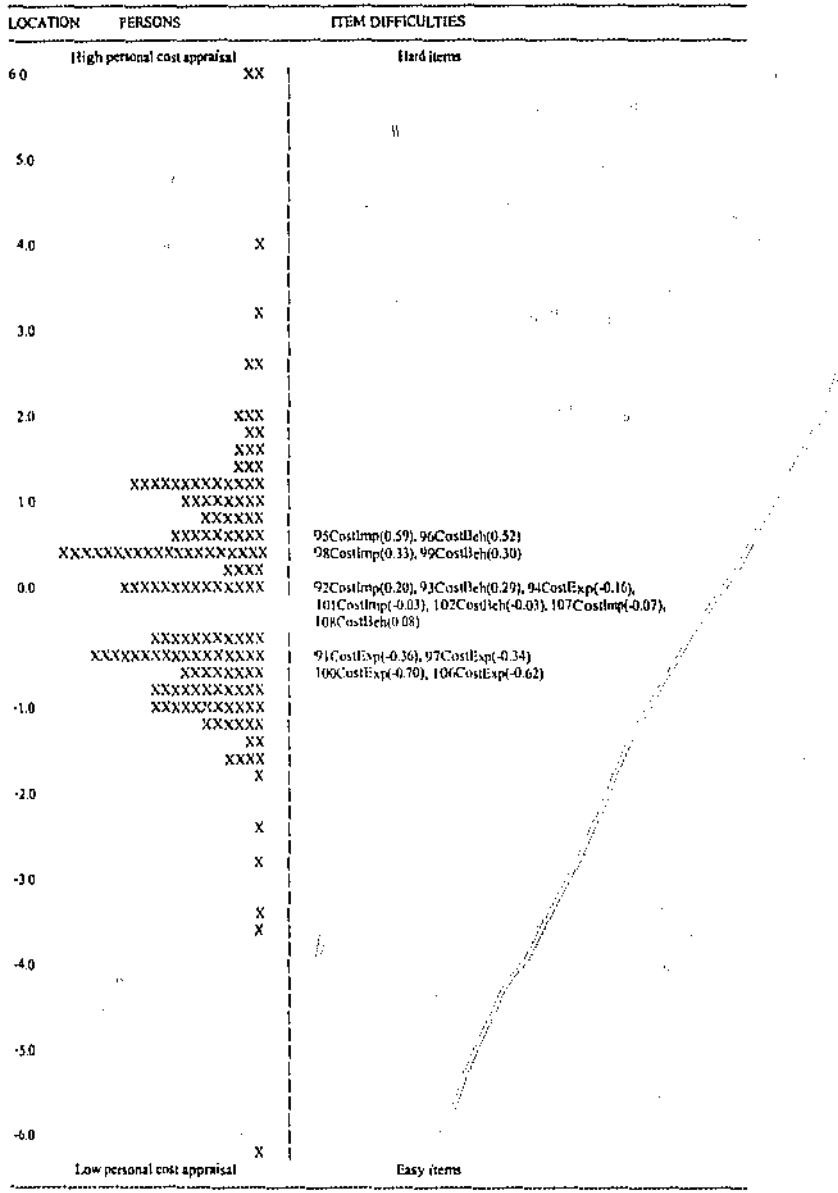


Figure 9.2 Scale of measures (LHS, N=659) and items difficulties for personal cost appraisal (RHS, I=15).

Notes on figure 9.2

1. Each X represents 4 Rajabhat lecturers
2. 92CostExp = Item 92 (Expectation)
3. 93CostImp = Item 93 (Implementation)
4. 94CostBehaviour = Item 94 (Behaviour)

Research question 4 (6): *Can the new scale for personal cost appraisal be used to interpret Rajabhat lecturer expectations, and behaviours towards a recently implemented planned educational change in Thailand?*

Yes, the new scale for personal cost appraisal was used to interpret Rajabhat lecturer expectations, and behaviours towards a recently implemented planned educational change in Thailand. For all the stem-items, expectations were easier than actual behaviours as conceptualised. For example, most Rajabhat lecturers found it easy to agree that the new educational system *was planned to increase lecturer satisfaction with teaching which outweighs the extra work generated for them* (difficulty of this item is -0.36). It was harder for Rajabhat lecturers to say that the change actually *increased lecturer satisfaction with teaching which outweighs the extra work generated for them* (difficulty of this item is +0.20). It was harder still for Rajabhat lecturers to say that their actual behaviour to the change involved *increasing lecturer satisfaction with teaching which outweighs the extra work generated for them* (difficulty of this item is +0.29). Conceptually, the perspectives for stem-item 91-93 were ordered from easy to hard to harder still, and the data supported this.

The relevant hypotheses

The major findings are discussed within the framework of the relevant hypotheses outlined in Chapter Four. One relevant hypothesis was set up in order to achieve the purposes of the study for the aspect, personal cost appraisal.

Hypothesis 7: *The expectations are easier than the behaviours for the measures of personal cost appraisal.*

It was found that the expectations were easier than the behaviours for all the items relating to personal cost appraisal.

Table 9.2

Item difficulties by perspectives for Personal Cost Appraisal

Item No.	Item wording	Item difficulties by three perspectives Expectation	Implementation	Behaviour
	Concerns of lecturers			
91-93	Increasing my satisfaction with teaching which outweighs the extra work generated for me.	-0.36	+0.20	+0.29
94-96	Making my satisfaction with home life outweigh the extra work generated for me.	-0.16	+0.59	+0.52
97-99	Keeping the emotional strain of the change for lecturers to a minimum.	-0.34	+0.33	+0.30
	Concerns of students			
100-102	Making for better student classroom learning to outweigh the extra work generated for me.	-0.69	-0.03	-0.03
106-108	Making for better classroom management which outweighs the extra work generated for me.	-0.62	-0.07	+0.08
	Mean item difficulty	-0.43	+0.20	+0.23

Notes on table 9.2

1. The scores are the item difficulties in logits for the items that fit the measurement model and belong to the perspective indicated.
2. Negative values indicate the means are low on the scale (or easier). Positive values indicate that the means are high on the scale (or harder).
3. The difficulties are reported to 2 decimal places because errors are about 0.07

Collaboration with other lecturers

Final analysis with 9 items

The psychometric properties

There were originally 15 items, but 6 were deleted as not fitting the measurement model sufficiently well. The final accepted 9 items of the questionnaire (items 115-123) formed a scale in which there is acceptable (but not good) agreement between all 659 Rajabhat lecturers to the different difficulties of the items along the scale. The Index of Lecturer Separability (akin to traditional reliability) for the 9 item scale is 0.91. This means that the proportion of observed variance considered true is 91 % (see Table 9.3). The items are well targeted against the receptivity measures. That is, the range of item thresholds match the range of receptivity measures of the lecturers on the same scale. The item threshold values range from –3.0 logits (standard error 0.06) to +2.9 logits (SE 0.06) and the lecturer measures range from –6.0 logits to +5.6 logits. There are only 30 lecturers whose receptivity measures are more than +2.9 logits and 18 lecturers whose measures are below -3.0,and hence not 'matched' against an item threshold on the scale (see Figure 9.3). Taken together, these results indicate that an acceptable scale of receptivity has been created, that the data are reliable and consistent, that the errors are small in relation to the measures, and that the power of the tests-of-fit are excellent.

Thresholds

The thresholds of the nine good-fitting items range from – 3.0 to + 2.9 logits (see Figure 9.3). Figure 9.3 plots the 9 items for *collaboration with other lecturers* on a continuum showing the item thresholds from easy to hard, and the measures from low to high. On Figure 9.3, the measures are placed on the LHS of the scale and item thresholds are placed on the RHS scale. Collab 116.1 refers to the threshold between the response categories 0 and 1 for item 116; Collab 116.2 refers to the threshold between the response categories 1 and 2; Collab 116.3 refers to the threshold between the response categories 2 and 3 for the same item. These thresholds are ordered: Collab 116.1 (threshold value = -2.21) is easiest, Collab 116.2 (threshold value = -0.05) is harder, and Collab 116.3 (threshold value = +2.95) is hardest, in line with the ordering of the response categories. Other item thresholds are labeled similarly.

Generally, the first threshold is towards the easy end of the scale (as expected), the second threshold is harder, and the third threshold is harder (as expected). This supports the conceptual model of the response categories.

Table 9.3

Global fit statistics for Collaboration with Other Lecturers (9 items)

	Items	Lecturers
Number	9	659
Location mean	0.00	0.40
Standard deviation	0.38	1.76
Fit statistic mean	-0.20	-0.86
Standard deviation	1.96	2.07
Item-trait interaction chi square = 234.85		
Probability of item-trait (p) = 0.00		
Degree of freedom = 81		
Lecturer Separation Index = 0.91		
Cronbach Alpha = 0.88		
Power of test-of fit: excellent		

Notes on Table 9.3

1. The item means are constrained to zero by the measurement model.
2. When the data fit the model, the fit statistics approximates a distribution with a mean near zero and a standard deviation near one. The item fit and lecturer fit data are satisfactory, but not an excellent fit. Item fit is better than lecturer fit.
3. The item-trait interaction indicates while, a unidimensional trait is not present, a dominant trait is present for collaboration with other lecturers.
4. The Lecturer Separation Index is the proportion of observed lecturer receptivity variance considered true (in this scale, 91% and is high).

Ordering of perspectives

For the aspect, collaboration with other lecturers, the items were conceptualised from a model involving providing for sharing knowledge of the change with other lecturers, and advice and support from others relating to the change, in the context of

three perspectives *(How I expect the change to be planned, How I think the change was really implemented, and My actual behaviour to the change involves)*. The results supported the model in relation to increasing difficulty of the three perspectives. *How I expect the change to be planned* was easy, *How I think the change was really implemented* was harder, and *My actual behaviour to the change* was harder still for all 15 items.

For example, *the new system was expected to be planned to give support to other lecturers at their Rajabhats when they need it to implement the change* (item 115) and was easy to agree with. It was harder for a Rajabhat lecturer to say that the new educational system is really implemented as planned *to give support to other lecturers at their Rajabhats when they need it to implement the change* (item 116) because implementation requires more than expectation. It was harder still for Rajabhat lecturers to say that their actual behaviour to the change involved *giving support to other lecturers at their Rajabhats when they need it to implement the change* (item 117). This is because it involves the lecturers' behaviour rather than attitude. It requires the lecturers to actually do something in regard to the change and is conceptually harder. Conceptually, the perspectives for items 115, 116, and 117 are ordered from easy to hard to harder still, and the data supported this. The item difficulty of item 115 is -0.41, item 116 is +0.26 and item 117 is +0.33 (a reader can see this trend for the other items in Table 9.4).

Ordering of item difficulties

For collaboration with other lecturers, there were originally 15 items and the items were divide into two sub-aspects: (1) sharing knowledge of the change (items 109-114); and (2) advice and support from others (items 115-123). Only 9 items fitted the measurement model (items 115-123). The other 6 items did not fit the measurement model and they were deleted. The items in each sub-aspect were vertically ordered from easy to hard (see Table 9.4). For example, in sub-aspect of *advice and support from others*, it was expected that most lecturers would find it easy to say that the in new educational system *they were adapted to give support to other*

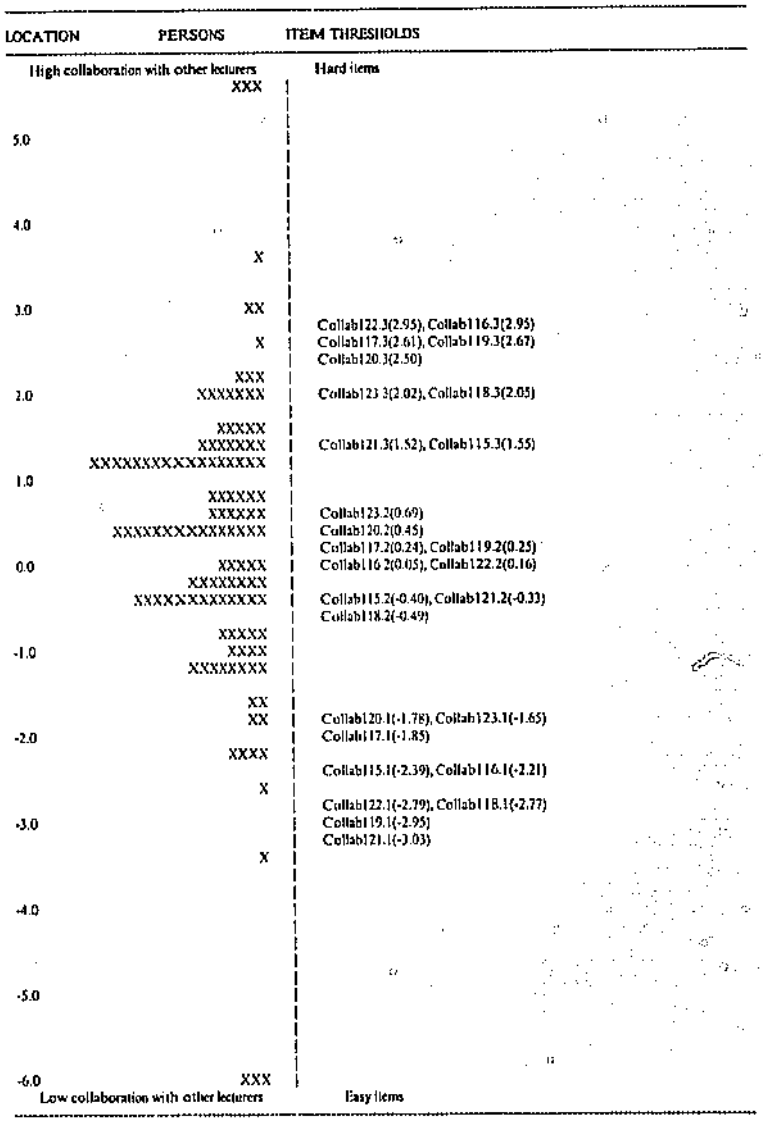


Figure 9.3 Scale of measures (N=659) and item thresholds for collaboration with other lecturers (3 thresholds for each of 9 items).

Notes on figure 9.3

1. Each X represents 5 Rajabhat lecturers
2. Collab = collaboration with other lecturers.
3. Collab 116.1 = Item 116 threshold 1
4. Collab 116.2 = Item 116 threshold 2
5. Collab 116.3 = Item 116 threshold 3

lecturers at their Rajabhats when they need it to implement the change (stem-item 115-117). It was expected that most lecturers would find it harder to say that in the new educational system *they were expected to ask for advice from others in their Rajabhats when they had problems with the change* (stem-item 118-120) and there would be some variation in lecturer responses around this. This is because stem-item 118-120 involves 'a little bit more' practically and conceptually, than stem-item 115-117. It was expected that most lecturers would find it harder still to say that they were expected in the new educational system *they were expected to provide advice to other lecturers about the change when requested* (stem-item 121-123). This is because stem-item 121-123 involves 'a little bit more' practically and conceptually, than stem-item 118-120. The data show that these three stem-items are not ordered by difficulty from easy to hard on any of the three perspectives (see Table 9.4).

Meaning of the linear scale

Equal differences on the scale between the measures represent equal differences in item difficulty. However, there is no true zero point of item difficulty or measure of collaboration of other lecturers and the scale is thus at the interval level. The 9 items of the scale are ordered from easy to hard (see figures 9.3 and 9.4). Nearly all lecturers answered the easy items positively, for example, items 121, 118, and 115. As the item difficulties become higher on the scale, the lecturers need a corresponding higher measure to answer them positively. The hardest items are only answered positively by lecturers who have high measures, for example, items 120, 123, and 117. Lecturers with low measures cannot answer these difficult items positively.

Research questions in relation to the aspect of collaboration with other lecturers

For the research questions in relation to collaboration with other lecturers, the major findings are stated within the framework of the research questions outlined in Chapter One.

Research question 2 (7): *Can a proper linear scale be created for the aspect, collaboration with other lecturers, using a Rasch computer program?*

Yes, a proper linear scale was created for the aspect of collaboration with other lecturers, using a Rasch computer program. The findings indicated that the lecturer measures (N=659) and the item difficulties (I=9) were calibrated on the same linear scale where a dominant aspect influenced all the items. While the data for the 9 items were reliable, some revision to the item wording is needed to improve validity.

Research question 4 (7): *Can the new scale for collaboration with other lecturers be used to interpret Rajabhat lecturer expectations, and behaviours towards a recently implemented planned educational change in Thailand?*

Yes, the new scale for collaboration with other lecturers was used to interpret Rajabhat lecturer expectations, and behaviours towards a recently implemented planned educational change in Thailand. For all the stem-items, expectations were easier than actual behaviours as conceptualised. For example, most Rajabhat lecturers found it easy to agree that the new educational system *was planned to give support to other lecturers at their Rajabhats when they need it to implement the change* (difficulty of this item is -0.41). It was harder for Rajabhat lecturers to say that the change *actually implemented to give support to other lecturers at their Rajabhats when they need it to implement the change* (difficulty of this item is +0.26). It was harder still for Rajabhat lecturers to say that their actual behaviour to the change involved *giving support to other lecturers at their Rajabhats when they needed it to implement the change* (difficulty of this item is +0.33).

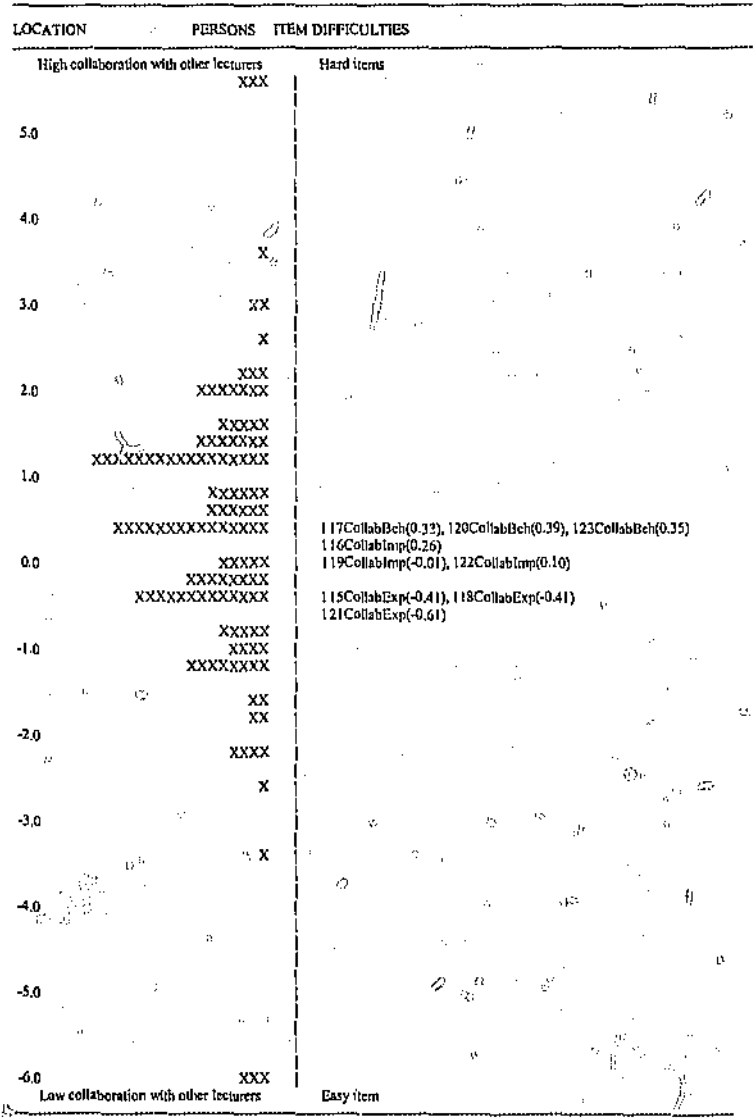


Figure 9.4 Scale of measurers (LHS, N=659) and item difficulties for collaboration with other lecturers (RHS, I=9)

Notes on figure 9.4

1. Each X represents 5 Rajabhat lecturers

2. 115CollabExp = Item 115 (Expectation)

3. 116CollabImp = Item 116 (Implementation)

4. 117CollabBeh = Item 117 (Behaviour)

Table 9.4

Item difficulties by perspectives for Collaboration with Other Lecturers

Item No.	Item wording	Item difficulties by three perspectives		
		Expectation	Implementation	Behaviour
	Advice and support from others			
115-117	Giving support to other lecturers at my Rajabhat when they need it to implement the change.	-0.41	+0.26	+0.33
118-120	Asking for advice from others in my Rajabhat when I have problems with the change.	-0.41	-0.01	+0.39
121-123	Providing advice to other lecturers about the change when requested.	-0.61	+0.11	+0.35
	Mean item difficulty	-0.47	+0.11	+0.35

Notes on Table 9.4

1. The scores are the item difficulties in logits for the items that fit the measurement model and belong to the perspective indicated.
2. Negative values indicate the means are low on the scale (or easier). Positive values indicate that the means are high on the scale (or harder).
3. Item difficulties are reported to 2 decimal places because errors are about 0.07

The relevant hypotheses

The major findings are stated within the framework of the relevant hypotheses outlined in Chapter Four. One relevant hypothesis was set up in order to achieve the purposes of the study in the aspect of collaboration with other lecturers.

Hypothesis 8: *The expectations are easier than the behaviours for the measures of collaboration with other lecturers.*

It was found that the expectations were easier than the behaviours for all the items relating to collaboration with other lecturers.

Opportunities for lecturer improvement

Final analysis with 9 items

The psychometric properties

There were originally 12 items, but 3 were deleted as not fitting the measurement model sufficiently well. The final accepted 9 items of the questionnaire (items 124-133) formed a scale in which there is acceptable (but not good) agreement between all 659 Rajabhat lecturers to the different difficulties of the items along the scale. The Index of Lecturer Separability (akin to traditional reliability) for the 9 item scale is 0.88. This means that the proportion of observed variance considered true is 88 % (see Table 9.5). The items are well targeted against the receptivity measures. That is, the range of item thresholds match the range of receptivity measures of the lecturers on the same scale. The item threshold values range from –2.6 logits (standard error 0.06) to +2.9 logits (SE 0.06) and the lecturer measures range from –5.6 logits to +5.6 logits. There are forty-four lecturers whose receptivity measures are more than +2.9 logits, and 8 lecturers with measures less than -2.6, and hence not 'matched' against an item threshold on the scale (see Figure 9.5). Taken together, these results indicate that a scale has been created, but improvements need to be made for a future use of the scale.

Thresholds

The thresholds of the nine items ranged from - 2.6 to + 2.9 logits (see Figure 9.5). Figure 9.5 plots the 9 items for *opportunities for lecturer improvement* on a continuum showing the item thresholds from easy to hard, and the measure from low to high. On figure 9.5, the measures are placed on the LHS of the scale and item thresholds are placed on the RHS scale. Op124.1 refers to the threshold between the response categories 0 and 1 for item 124; Op124.2 refers to the threshold between the response categories 1 and 2; Op124.3 refers to the threshold between the response categories 2 and 3 for the same item. These thresholds are ordered: Op124.1 (threshold value =-2.11) is easiest, Op124.2 (threshold value = -0.42) is harder, and Op124.3 (threshold value = +1.45) is hardest, in line with the ordering of the response categories. Other item thresholds are labeled similarly. Generally, the first threshold is towards the easy end of the scale (as expected), the second threshold is harder, and the third threshold is harder still (as expected). This supports the conceptual model of the response categories.

Ordering of perspectives

For the aspect, opportunities for lecturer improvement, the items were conceptualised from a model involving providing opportunities for lecturers to improve their education knowledge and work with other lecturers for lecturer improvement, providing opportunities for lecturers to improve their teaching, and providing opportunities for lecturers to do better for their students, in the context of three perspectives *(How I expect the change to be planned, How I think the change was really implemented, and My actual behaviour to the change involves)*. The results supported the model in relation to increasing difficulty of the three perspectives. *How I expect the change to be planned* was easy, *How I think the change was really implemented* was harder, and *My actual behaviour to the change* was harder still for 9 items, except for item 134 where difficulty was equal to that of item 135, within the error of measurement.

Table 9.5

Global fit statistics for Opportunities for Lecturer Improvement (9 items)

	Items	Lecturers
Number	9	659
Location mean	0.00	0.57
Standard deviation	0.30	1.56
Fit statistic mean	-0.20	-0.96
Standard deviation	2.00	2.26
Item-trait interaction chi square=221.19		
Probability of item-trait (p) =0.00		
Degree of freedom = 81.00		
Lecturer Separation Index = 0.88		
Cronbach Alpha =0.86		
Power of test-of fit: excellent		

Notes on Table 9.5

1. The item means are constrained to zero by the measurement model.
2. When the data fit the model, the fit statistics approximates a distribution with a mean near zero and a standard deviation near one. The item fit and lecturer fit data indicate that improvements in item wording are needed.
3. The item-trait interaction indicates while, a unidimensional trait is not present, a dominant trait is present for opportunities for lecturer improvement.
4. The Lecturer Separation Index is the proportion of observed lecturer receptivity variance considered true (in this scale, 88% and is good).

For example, *the new system was expected to be planned to provide opportunities for management and lecturer staff to work together for lecturer improvement* (item 127) was easy to agree with. It was harder for a Rajabhat lecturer to say that *the new system is really implemented to provide opportunities for management and lecturer staff to work together for lecturer improvement* (item 128) because implementation requires more than expectation. It was harder still for Rajabhat lecturers to say that *their actual behaviour to the change involves providing opportunities for management and lecturer staff to work together for lecturer improvement* (item 129). This is because it involves the lecturers' behaviour rather

than attitude. It requires the lecturers to actually do something in regard to the change and conceptually harder. Hence, conceptually, items 127, 128 and 129 are ordered from easy to hard to harder still and the data supported this. The difficulty of item 127 is –0.23, item 128 is +0.34 and item 129 is +0.46.

Ordering of item difficulties

For Opportunities for lecturer improvement, there were originally 12 items and the items were divided into two sub-aspects: (1) teaching improvement (items 124-129); (2) student improvement (items 130-135). Only 9 items fitted the measurement model (items 124-129, and items 133-135)(see Table 9.6). The other 3 items did not fit the measurement model, and they were deleted. The items in each sub-aspect were vertically ordered from easy to hard. For example, in sub-aspect of *teaching improvement*, it was expected that most lecturers would find it easy to say that the new educational system *was planned to provide opportunities for them to improve their educational knowledge and understanding* (stem-item 124-126). It was expected that there would be some variation in lecturer responses around this. It was expected that most lecturers would find it harder to say that the new educational system actually *provided opportunities for management and lecturer staff to work together* (stem-item 127-129), and that there would be some variation in lecturer responses around this. This is because stem-item 127-129 involves 'a little bit more' practically and conceptually, than stem-item 124-126. So, as expected, these two stem-items form an ordered pattern of responses by difficulty on average, from easy to hard on the expectation perspective.

Meaning of the linear scale

Equal differences on the scale between the measures represent equal differences in item difficulty. However, there is no true zero point of item difficulty or measure of opportunities for lecturer improvement and the scale is thus at the interval level. The 9 items of the scale are ordered from easy to hard (see figures 9.5 and 9.6). Nearly all lecturers answered the easy items positively, for example, items 124, 133, 127. As the

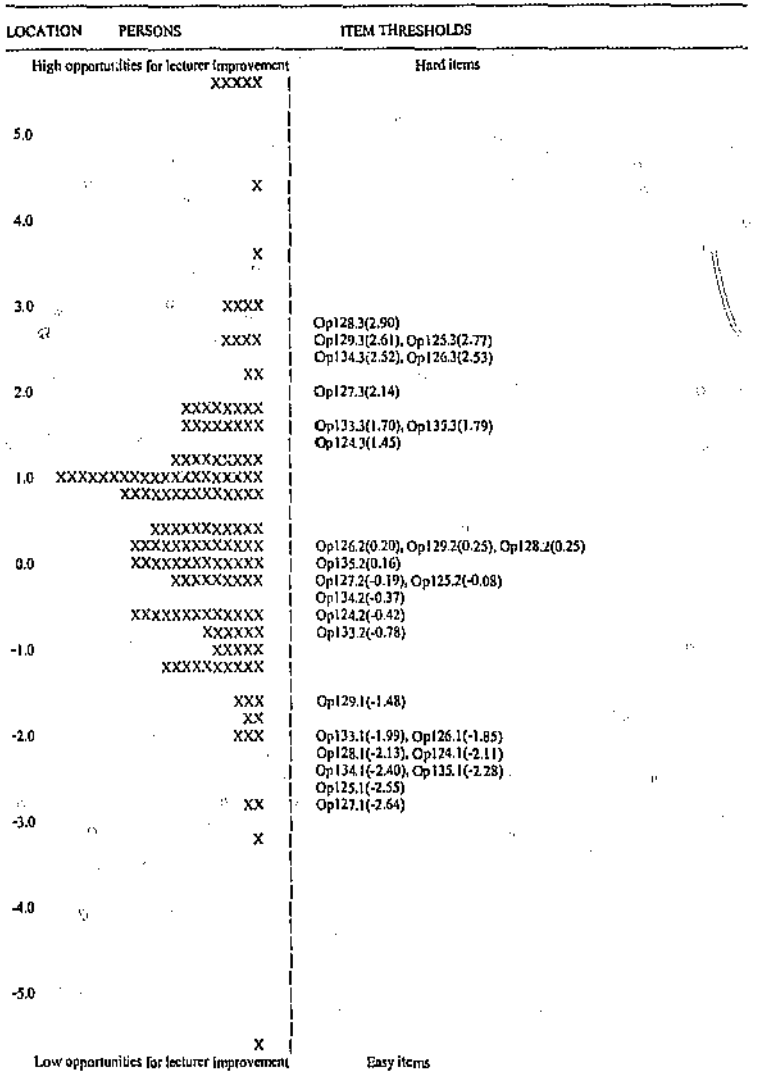


Figure 9.5 Scale of measures (N=659) and item thresholds for opportunities for lecturer improvement (3 thresholds for each of 9 items).

Notes on figure 9.5

1. Each X represents 4 Rajabhat lecturers

2. Op = opportunities for lecturer improvement.

3. Op 124.1 = Item 124 threshold 1
4. Op 124.2 = Item 124 threshold 2
5. Op 124.3 = Item 124 threshold 3

item difficulties become higher on the scale, the lecturers need a corresponding higher measure to answer them positively. The hardest items are only answered positively by lecturers who have high measures, for example, items 129, 126, and 128. Lecturers with low measures cannot answer these difficult items positively.

Research questions in relation to the aspect of opportunities for lecturer improvement

For the research questions relating to opportunities for lecturer improvement, the major findings are stated within the framework of the research questions outlined in Chapter One.

Research question 2 (8): *Can a proper linear scale be created for the aspect, opportunities for lecturer improvement, using a Rasch computer program?*

Yes, a proper linear scale can be created for the aspect of opportunities for lecturer improvement, using a Rasch computer program. The findings indicated that the lecturer measures (N=659) and the item difficulties (I=9) were calibrated on the same linear scale where a dominant aspect influenced all the items. While the data for the 9 items were reliable, some revision to the item wording is needed to improve validity.

Research question 4 (8): *Can the new scale for opportunities for lecturer improvement be used to interpret Rajabhat lecturer expectations, and behaviours towards a recently implemented planned educational change in Thailand?*

Yes, the new scale for opportunities for lecturer improvement was used to interpret Rajabhat lecturer expectations, and behaviours towards a recently implemented planned educational change in Thailand. For all the stem-items, expectations were easier than actual behaviours as conceptualised, except for items 134 and 135. For example, most Rajabhat lecturers found it was easy to agree that they expected the new educational system *to be planned to provide opportunities for*

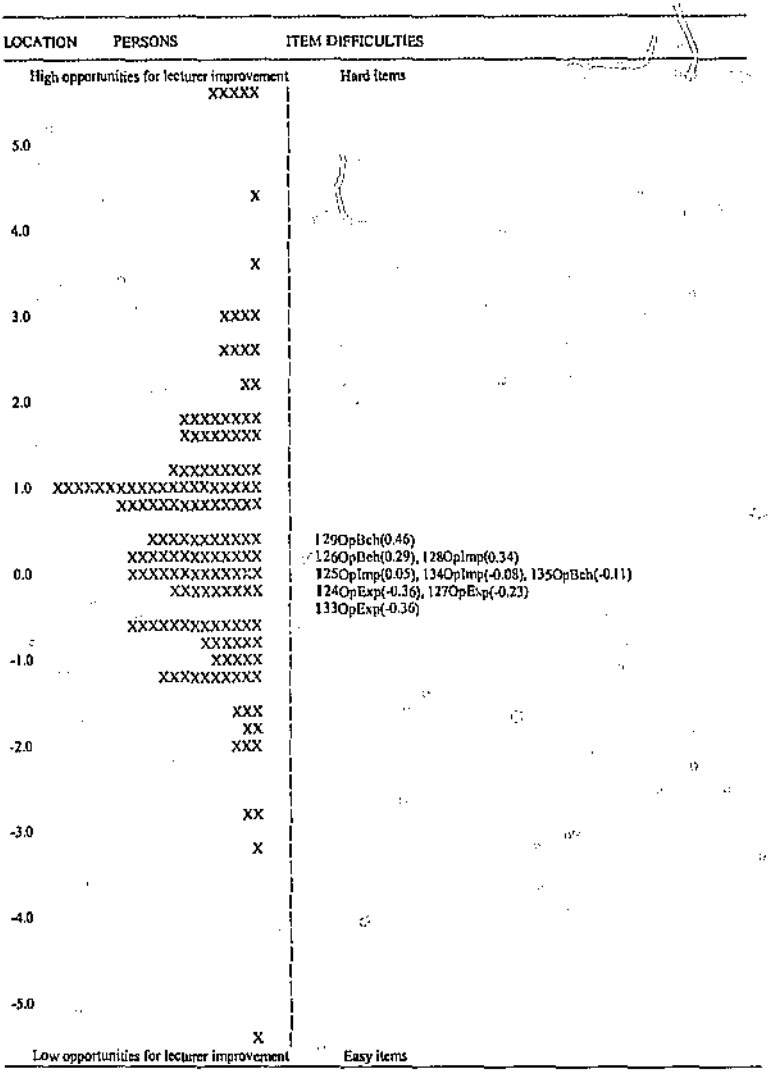


Figure 9.6 Scale of measures (LHS, N=659) and item difficulties for opportunities for lecturer improvement (RHS, I=9).

Notes on figure 9.6

1. Each X represents 4 Rajabhat lecturers
2. 124OpExp = Item 124 (Expectation)

3. 125OpImp = Item 125 (Implementation)

4. 126OpBehaviour = Item 126 (Behaviour)

Table 9.6

Item difficulties by perspectives for Opportunities for Lecturer Improvement

Item No.	Item wording	Item difficulties by three perspectives		
		Expectation	Implementation	Behaviour
	Teaching improvement			
124-126	Providing opportunities for me to improve my educational knowledge and understanding.	-0.36	+0.05	+0.29
127-129	Providing opportunities for management and lecturer staff to work together for lecturer improvement.	-0.23	+0.34	+0.46
	Student improvement			
133-135	Providing opportunities for me to do better for my students.	-0.36	-0.08	-0.11
	Mean item difficulty	-0.30	+0.15	+0.28

Notes on Table 9.6

1. The scores are the item difficulties in logits for the items that fit the measurement model and belong to the perspective indicated.
2. Negative values indicate the means are low on the scale (or easier). Positive values indicate that the means are high on the scale (or harder).
3. Item difficulties are reported to 2 decimal places errors because errors are about 0.07

them to improve their educational knowledge and understanding (difficulty of this item is -0.36). It was harder for Rajabhat lecturers to say that the change actually *provided opportunities for them to improve their educational knowledge and understanding* (difficulty of this item is +0.05). It was harder still for Rajabhat

lecturers to say that their actual behaviour to the change involved *taking part in activities to improve their educational knowledge and understanding* (difficulty of this item is +0.29). Hence, conceptually, items 124, 125, and 126 are ordered from easy to hard to harder still, and the data supported this.

The relevant hypotheses

The major findings are stated within the framework of the relevant hypotheses outlined in Chapter Four. One relevant hypothesis was set up in order to achieve the purposes of the study for the aspect, opportunities for lecturer improvement.

Hypothesis 9: *The expectations are easier than the behaviours for the measures of opportunities for lecturer improvement.*

It was found that the expectations were easier than the behaviours for all the items relating to opportunities for lecturer improvement, except for items 134 and 135, where the behaviour perspective was equal to the implementation perspective, within the error of measurement.

Perceived value for students

Final analysis with 12 items

The psychometric properties

There were originally 15 items, but 3 were deleted as not fitting the measurement model sufficiently well. The final accepted 12 items of the questionnaire (items 136-147) formed a scale in which there is acceptable (but not good) agreement between all 659 Rajabhat lecturers to the different difficulties of the items along the scale. The Index of Lecturer Separability (akin to traditional reliability) for the 12 item scale is 0.93 This means that the proportion of observed variance considered true is 93 % (see Table 9.7). The items are well targeted against the receptivity measures. That is, the range of item thresholds matches the range of receptivity measures of the lecturers on the same scale. The item threshold values range from –2.9 logits (standard error 0.06) to +2.8 logits (SE 0.06) and the lecturer measures range from –6.0 logits to +6.0 logits. There are forty lecturers whose receptivity measures are more than +2.8 logits and 16 lecturers with measures less than -2.9, and hence not

'matched' against an item threshold on the scale (see Figure 9.7). Taken together, these results indicate that, while a scale has been created, improvements are needed to be made in a future use of the scale.

Thresholds

The thresholds of the 12 items range from –2.9 to + 2.8 logits (see Figure 9.7). Figure 9.7 plots thresholds of the 12 items (items 136-147) *for perceived value for students* on a continuum showing the item difficulty from easy to hard, and the measures from low to high. On figure 9.7, the measures are placed on the LHS of the scale and item thresholds are placed on the RHS scale. Value 138.1 refers to the threshold between the response categories 0 and 1 for item 138; Value 138.2 refers to the threshold between the response categories 1 and 2; Value 138.3 refers to the threshold between the response categories 2 and 3 for the same item. These thresholds are ordered: Value 138.1 (threshold value = -2.87) is easiest, Value 138.2 (threshold value =+0.08) is harder, and Value 138.3 (threshold value =+2.70) is hardest, in line with the ordering of the response categories. Other item thresholds are labeled similarly. Generally, the first threshold is towards the easy end of the scale (as expected), the second threshold is harder, and the third threshold is harder (as expected). This supports the conceptual model of the response categories.

Ordering of perspectives

For the aspect, perceived value for students, the items were conceptualised from a model involving providing for the needs of students, discussing the change with students, and discussing the change with parents, in the context of three perspectives (*How I expect the change to be planned, How I think the change was really implemented, and My actual behaviour to the change involves*). The results supported the model in relation to increasing difficulty of the three perspectives. *How I expect the change to be planned* was easy, *How I think the change was really implemented* was harder, and *My actual behaviour to the change* was harder still) for 12 items, except for items 140 and 141 whose difficulties in the implementation perspectives and behaviour perspectives are equal, within the error of measurement (see Table 9.8).

Table 9.7

Global fit statistic for Perceived Value for Students (12 items)

	Items	Lecturers
Number	12	659
Location mean	0.00	0.57
Standard deviation	0.38	1.76
Fit statistic mean	-0.28	-0.96
Standard deviation	-2.08	2.32

Item-trait interaction chi square = 314.22

robability of item-trait (p) = 0.00

Degree of freedom = 108.00

Lecturer Separation Index = 0.93

Cronbach Alpha = 0.91

Power of test-of fit: excellent

Notes on Table 9.7

1. The item means are constrained to zero by the measurement model.
2. When the data fit the model, the fit statistics approximate a distribution with a mean near zero and a standard deviation near one. The item fit and lecturer fit data are not as good as they could be and items need to be revised.
3. The item-trait interaction indicates that, while this is not a unidimensional scale, there is a dominant trait present.
4. The Lecturer Separation Index is the proportion of observed lecturer receptivity variance considered true (in this scale, 93% and is high).

For example, *the new system was expected to be planned to provide value for their students* (item 136) was easy to agree with. It was harder for a Rajabhat lecturer to say that *the new system is really implemented to provide value for their students* (item 137) because implementation requires more than expectation. It was harder still for Rajabhat lecturers to say that *their actual behaviour to the change involve providing value for their students* (item 138). This is because it involves the lecturers' behaviour rather than attitude. It requires the lecturers to actually do something in regard to the change and is conceptually harder. Conceptually, items 136, 137,and 138

are ordered from easy to hard to harder still and the data supported this. The difficulty of item 136 is –0.53, item 137 is –0.17 and item 138 is –0.03 (a reader can see this trend for the other items in Table 9.8).

Ordering of item difficulties

For perceived value for students, there were originally 15 items and these items were divided into two sub-aspects: (1) value of the change for students (items 136-144); and (2) discussion of the change (items 145-150). Only 12 items fitted the measurement model (items 136-147). The other 3 items (items 148-150) did not fit the measurement model and they were deleted. The items in each sub-aspect were vertically ordered from easy to hard (see Table 9.8). For example, in sub-aspect of *value of the change for students*, it was expected that most lecturers would find it easy to say that the new educational system *was planned to provide value for their students* (stem-item 136-138). It was expected that there would be some variation in lecturer responses around this. It was expected that most lecturers would find it harder to say that the new educational system *was implemented to provide for the needs of their students* (stem-item 139-141) and there would be some variation in lecturer responses around this. This is because stem-item 139-141 involves 'a little bit more' practically and conceptually, than stem-item 136-138. It was expected that most lecturers would find it harder still to say that their behaviour involved *providing for good student learning* (stem-item 142-144). This is because stem-item 142-144 involves 'a little bit more' practicality and conceptually, than stem-item 139-141). So, as expected, these three stem-items form an ordered pattern of responses by difficulty on average, from easy to hard on the expectation perspective. The data mostly supported this conceptualisation for the three perspectives (see Table 9.8).

Meaning of the linear scale

Equal differences on the scale between the measures represent equal differences in item difficulty. However, there is no true zero point of item difficulty or measure of perceived value for students and the scale is thus at the interval level. The 12 items of the scale are ordered from easy to hard (see figures 9.7and 9.8). Nearly all lecturers

LOCATION	PERSONS	ITEM THRESHOLDS
High perceived value for students		Hard items
6.0	XXXXX	
5.0		
	X	
4.0	X	
	XX	
3.0	X	
	X	Value144.3(2.82)
		Value147.3(2.62), Value138.3(2.70), Value140.3(2.79)
	XXXXX	Value143.3(2.56)
	XXXX	Value146.3(2.28), Value141.3(2.38), Value137.3(2.40)
2.0	XXXXX	Value142.3(2.06)
	XXXXXXXXX	Value145.3(1.99)
		Value139.3(1.70)
	XXXXXX	Value136.3(1.56)
	XXXXXXX	
1.0	XXXXXXXXXXXXXX	
	XXXXXXXX	
	XXXXXX	
	XXXXXXXXXX	Value146.2(0.45)
	XXXXXXXX	Value147.2(0.24), Value143.2(0.28), Value144.2(0.35)
0.0	XXXXXXXX	Value138.2(0.08), Value141.2(0.10)
	XXXXXXXX	Value140.2(-0.14)
	XXXXX	Value137.2(-0.28)
	XXXXXXXX	Value145.2(-0.48)
	XXXXXX	Value136.2(-0.70), Value142.2(-0.67)
-1.0	XXXXXXXX	Value139.2(-0.88)
	XXXXXXXX	Value147.1(-1.20)
	XX	
		Value144.1(-1.48)
	X	Value146.1(-1.74), Value145.1(-1.71)
-2.0		
	X	
	X	Value143.1(-2.30), Value140.1(-2.26), Value141.1(-2.24)
	XXX	Value139.1(-2.51), Value136.1(-2.45)
		Value142.1(-2.78), Value137.1(-2.65)
-3.0		Value138.1(-2.87)
	X	
	X	
-4.0		
-5.0		
-6.0	XX	
Low perceived value for students		Easy items

Figure 9.7 Scale of measures (N=659) and item thresholds for perceived value for students (3 thresholds for each of 12 items).

Notes on figure 9.7

1. Each X represents 4 Rajabhat lecturers
2. Value = perceived value for students
3. Value 138.1 = Item 138 threshold 1
4. Value 138.2 = Item 138 threshold 2
5. Value 138.3 = Item 138 threshold 3

answered the easy items positively, for example, items 139, 136, and 142. As the item difficulties become positively higher on the scale, the lecturers need a corresponding higher measure to answer them positively. The hardest items are only answered positively by lecturers who have high measures, for example, items 144, 147, and 146. Lecturers with low measures cannot answer these difficult items positively.

Research questions in relation to the aspect of perceived value for students

For the research questions relating to perceived value for students, the major findings are stated within the framework of the research questions outlined in Chapter One.

Research question 2 (9): *Can a proper linear scale be created for the aspect, perceived value for students, using a Rasch computer program?*

Yes, a proper linear scale was created for the aspect of perceived value for students, using a Rasch computer program. The findings indicated that the lecturer measures (N=659) and the item difficulties (I=12) were calibrated on the same linear scale where a dominant aspect influenced all the items. While the data for the 12 items were reliable, some revision to the item wording is needed to improve validity.

Research question 4 (9): *Can the new scale for perceived value for students be used to interpret Rajabhat lecturer expectations, and behaviours towards a recently implemented planned educational change in Thailand?*

Yes, the new scale for perceived value for students was used to interpret Rajabhat lecturer expectations, and behaviours towards a recently implemented planned educational change in Thailand. For all the stem-items (except 139-141),

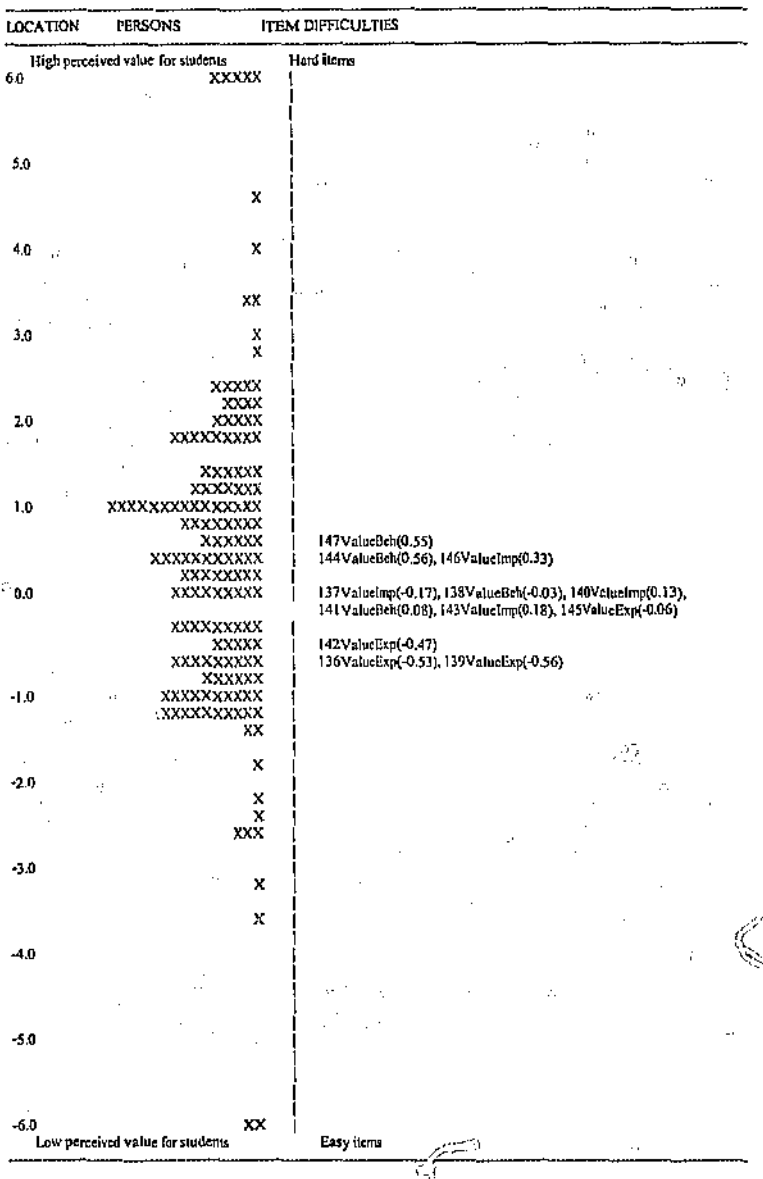


Figure 9.8 Scale of measures (LHS, N=659) and item difficulties for perceived value for students (RHS, I=12).

Notes on figure 9.8

1. Each X represents 4 Rajabhat lecturers
2. Value = perceived value for students
3. 136ValueExp = Item 136 (Expectation)
4. 137ValueImp = Item 137 (Implementation)
5. 138ValueBeh = Item 138 (Behaviour)

expectations were easier than actual behaviours as conceptualised. For example, most Rajabhat lecturers found it was easy to agree that the new educational system *provided value for their students* (difficulty of this item is -0.53). It was harder for Rajabhat lecturers to say that the change actually *provided value for their students* (difficulty of this item is -0.17). It was harder still for Rajabhat lecturers to say that their actual behaviour to the change *provided value for their students* (difficulty of this item is -0.03). Hence, conceptually, the perspectives for stem-tem 136-138 were ordered from easy to hard to harder still and the data supported the conceptualisation of the scale for perceived value for students.

The relevant hypotheses

The major findings are stated within the framework of the relevant hypotheses outlined in Chapter Four. One relevant hypothesis was set up in order to achieve the purposes of the study in the aspect, perceived value for students.

Hypothesis 10: *The expectations are easier than the behaviours for the measures of perceived value for students.*

It was found that the expectations were easier than the behaviours for all the items relating to perceived value for students, except for items 140 and 141, where the behaviour perspective was easier than the implementation perspective.

Table 9.8

Item difficulties by perspectives for Perceived Value for Students

Item No.	Item wording	Item difficulties by three perspectives		
		Expectation	Implementation	Behaviour
	Value of the change for students			
136-138	Providing value for my students.	-0.53	-0.17	-0.03
139-141	Providing for the needs of my students.	-0.56	+0.13	+0.08
142-144	Providing for good student learning.	-0.47	+0.18	+0.56
	Discussion of the change			
145-147	Discussing the change with students.	-0.07	+0.33	+0.55
	Mean item difficulty	-0.40	+0.11	+0.28

Notes on Table 9.8

1. The scores are the mean of the item difficulties in logits for the items that fit the measurement model and belong to the perspective indicated.
2. Negative values indicate the means are low on the scale (or easier). Positive values indicate that the means are high on the scale (or harder).
3. Item difficulties are reported to 2 decimal places because errors are about 0.07.

Summary

This chapter has described the process of data analysis for the model of lecturer receptivity and presented the results with an explanation of each of the four aspects of lecturer receptivity to the change (personal cost appraisal, collaboration with other lecturers, opportunities for lecturer improvement, and perceived value for students). A Rasch computer program was used to create a linear scale for each aspect. For each aspect, the measures were calibrated from low to high on the same scale as the item

difficulties were calibrated from easy to hard. For all of the 9 measures, the data were valid and reliable and the items of each measure were influenced by a separate dominant trait. The perspectives for each item were generally (but not in every case) ordered from easy, to hard, and to harder, in line with the conceptual design of the questionnaire. The data supported most of the model behind the questionnaire (but not all).

The data for these four aspects came from 659 Rajabhat lecturers. For personal cost appraisal, there were originally 18 items, but only 15 items fitted the measurement model (Separation Index is 0.91). For all the items, the expectations were easier than actual behaviours, except for items 95 and 96, 98 and 99, and 101 and 102, where the behaviour perspective was easier than the implementation perspective. For collaboration with other lecturers, there were originally 15 items, but only 9 items fitted the measurement model (Separation Index is 0.91). For all the items, the expectations were easier than actual behaviours. For opportunities for lecturer improvement, there were originally 12 items, but only 9 items fitted the measurement model (Separation Index is 0.88). For all the items, the expectations were easier than actual behaviours, except for items 134 and 135, where the behaviour perspective was easier than the implementation perspective. For perceived value for students, there were originally 15 items, but only 12 items fitted the measurement model (Separation Index is 0.93). For all the items, the expectations were easier than actual behaviours, except for items 140 and 141, where the two perspectives were equal within their error of measurement.

The next chapter continues the description of data analysis: interviews (Part 3).

CHAPTER TEN

DATA ANALYSIS: INTERVIEWS (Part 3)

This chapter investigates lecturers' interview comments on the change to the educational system in Thailand, and addresses research question five identified at chapter one. That is, What are the reasons that lecturers give for holding their expectations of, and behaviours towards, the recently implemented planned educational change?

The source of the information in this chapter is interviews with 30 Rajabhat lecturers: 8 lecturers from Nakhon Ratchasima Rajabhat University; 7 lecturers from Buriram Rajabhat University; 7 lecturers from Surin Rajabhat University and 8 lecturers from Ubon Ratchathani Rajabhat University. The lecturers were asked 18 questions covering nine lecturer-change aspects, in relation to the major new educational policy change. These aspects are: 1) attitudes to the new system compared to the previous system; 2) practicality in the classroom; 3) alleviation of concerns; 4) learning about the change; 5) participation in decision-making; 6) personal cost appraisal; 7) collaboration with other lecturers; 8) opportunities for lecturer improvement; and 9) perceived value for students. The interview questions are given in Appendix X.

For the 30 interviewees, there were 26.70 percent from Nakhon Ratchasima Rajabhat University, 23.30 percent from Buriram Rajabhat University, 23.30 percent from Surin Rajabhat University, and 26.70 percent from Ubon Ratchathani Rajabhat University (see Table 10.1). These were more or less representative of the 660 lecturers from the four Rajabhat Universities involved in answering the questionnaire on receptivity and for whom Rasch measures were described in the previous chapter.

The interviews were recorded and transcribed, and each transcription was numbered by person and paragraph. For each aspect of receptivity, the reasons given by each person were categorised under the general heading and collated. These are now reported for each aspect of receptivity.

Table 10.1

Number of lecturers by Rajabhat for interviews (N=30)

Rajabhat Universities	Number of the interviewees	
	Lecturers	Percentage
Nakhon Ratchasima Rajabhat University	8	26.67
Buriram Rajabhat University	7	23.33
Surin Rajabhat University	7	23.33
Ubon Ratchathani Rajabhat University	8	26.67
Total	30	100.00

Lecturer comments by receptivity aspect

The lecturer comments have been categorised according to the nine aspects of receptivity, in line with the aims of the study. References after interview comments refer to interviewee number and paragraph number of records of interviews. The lecturers' comments give an indication, or a reason why data from many items did not fit a Rasch measurement model during analysis. Lecturers answered the questions from different perspectives and gave different types of responses. For example, in the aspects of alleviating concerns, some lecturers commented on how they would adapt to the new system, whereas others commented on their participation with others to help solve problems of implementation. There was little to suggest that administrators should be adapting to help alleviate concerns of lecturers.

Note: The percentage recorded in the following pages of chapter 10 do not all add to 100% because some lecturers gave more than one response to each question.

Comments on comparison with the previous system

Nearly all the interviewees accepted that the new system was better than the previous system. The lecturers' reasons for saying this were grouped into seven

categories. These are: (1) alignment with the present economic, societal, and globalisation aims for Thailand (90.00% of 30); (2) providing educational unity (70.00% of 30); (3) providing standards and quality assurance for Thai education (73.33% of 30); (4) implementing a new culture of learning (76.67% of 30); (5) providing for equal rights and opportunities for learning (66.67% of 30); (6) providing for lecturer development and support (76.67% of 30); and (7) implementing educational decentralisation (66.67% of 30). Some examples of lecturer comments are provided.

Two lecturers suggested that the new system is better than the previous system because it is in line with the present economic, societal, and globalisation aims. They commented as follows.

> ...I think the new educational system is better than the previous educational system because the new educational system is in the line with the present economic, society, and the progression of technology...(sic) (interview 3: 2).

> ... Because of globalisation, lecturers have to adapt themselves for catching it (sic). The new educational system helps lecturers to find new knowledge from globalisation...(interview 7:2).

Two other lecturers commented that the educational system helps to encourage unity among higher education staff. They stated:

> I think that the new educational system make higher education become unity (sic) for education management because the Ministry of Education and the Ministry of University Affairs are merged to the ministry of Education (interview 8: 2).

> ...According to new educational system, higher education institutes every where in Thailand are changed into the same system for administration (sic). This will be effected the standard quality of higher education in Thailand (sic) (interview 16:2)

Three lecturers believed that the new educational system promoted a standard of education and quality assurance for higher education. They commented:

> I think that the new educational system is better than the previous educational system because it would enhance educational standards and quality assurance (interview 19:2).

> ...The new educational system is stipulated educational audit that would be effected the standard of education...(sic) (interview 21:2).

> I think that the education will be up-graded for the implementation of the new educational system from implementation (sic) (interview 23:2).

Two lecturers stated that the new educational system has brought a new culture of learning to higher education in Thailand. They commented:

> I think that the new educational system is better than the previous educational system because all learners are capable of learning and self–development is regarded as being most important. To ensure desirable characteristics of future learners, child–centred learning has been promoted by all agencies concerned. Both lecturers and learners are currently encouraged changing their roles. Lecturers must change themselves from 'tellers' to 'facilitators', while learners are encouraged to learn by themselves with the help of lecturers (interview 6:2).

> I think the results of implementing the new educational system would be to gain the production and development of manpower in the areas of science and technology and social sciences (interview 24:2).

One of the interviewees gave his opinion that the new educational system would make equal rights and opportunity for learning available to all students, not just in higher education.

> ...I think all individuals have equal rights and opportunities to receive basic education provided by the State free of charge for at least 12 years. Furthermore, education is compulsory for 9 years, requiring children aged 7 to enrol in basic education institutions until the age of 16 with the exception of those who have already completed grade 9 (interview 20:2).

One of the interviewees gave his idea that the new educational system would help to develop the professionalism of lecturers. He commented:

> ...I think the new educational system supports the development of the lecturer education system and process, and the development of in-service lecturer education (interview 18:2).

One lecturer suggested that the new educational change helps decentralise the education system in Thailand and improves the efficiency of administration and the quality of teaching and learning.

> ...There will be some better aspects from such change, for example, the reconstruct of organisation structure (sic), decentralisation of administration, improvement and efficiency of teaching and quality assurance (interview 27:2).

Comments on practicality in the classroom

Most of the interviewees thought that the new educational system is practical in the classroom (93.33% of 30). That is, they believed that they could implement the change in their classrooms in line with the objectives of the change and the Act. They were not being asked to do things that they could not implement in their teaching. They commented as follows.

> I think that the new educational system is practical in my classroom. In the initial stage, the changes would make me confused because there are various approaches to implement in the classroom. However, I can adapt myself to the changes (interview 1:4).
>
> The new educational system is emphasised on student thinking and practicing which would have various approaches for teaching. I should have trained the new approaches before the new educational system is implemented (sic) ... I think it is practical in the classroom... (interview 7:4).
>
> I think that the new educational system is practical in the classroom if multi-media and various kinds of learning are supplied. The chances of the students to learn from are not only in the classroom but also multi-media and various kinds of learning is one of the objectives of the Act (sic) (interview 10:4).
>
> I think that the new educational system is practical in the classroom but lecturers must change themselves from 'tellers' to 'facilitators', while learners are encouraged to learn by themselves with the help of lecturers (interview 13:4).
>
> I think the lecturers have to be developed for new knowledge and technology (sic) before the new educational system is implemented. Especially, the lectures must search the new knowledge from new technology (sic) (interview 18:4).
>
> I think that the new educational system is practical in the classroom but lecturers have to change the ways of teaching. They must prepare the lesson for the students such packages of learning including Computer Instructor Assistance (sic) (interview 24:4).

Comments on alleviation of concerns

Nearly all the interviewees stated that when the new educational system is implemented, their concerns would be alleviated, at least to some extent. The lecturers' reasons for saying this were grouped into three categories. These are: (1) adapting in the line with the Act (86.67% of 30); (2) preparing before working

(80.00% of 30); (3) and participating with other members in the organisation (73.33% of 30). Most of the comments referred to how the lecturers were alleviating their concerns, not how the administrators alleviated their concerns, although from comments on other aspects administrators did try to alleviate concerns.

One lecturer thought that when the new educational system is implemented, his concerns would be alleviated because he would adapt himself in the line with the Act and the main aspects of the change. He commented:

> When the new educational system is implemented, all my concerns would be alleviated. I would adapt myself in the line with the organisation and the new educational system (interview 2:6).

Four lecturers stated that when the new educational system is implemented, their concerns would be alleviated because they would prepare themselves before working in line with the main aspects of the change. They commented:

> All my concerns would be alleviated when the new educational system is implemented. Before working, planning and preparing for work are necessary, because these are the basic steps of working. I think I would adapt myself like these (sic)... (interview 7:6)

> ...Before the new educational system is implemented, I would study the new educational system in order to be alleviated from all concerns (sic)... (interview 13:6).

> ...Before the new educational system is implemented, I would join the seminar that is related (sic) to the new educational system. I think that we could be alleviated from all concerns (sic)... (interview 22:6).

> ...To be alleviated of all concerns, I think that we should have three approaches. Firstly, we should fix the period of time for implementing the new educational system. Then, the new system's documents would be provided for lecturers. Secondly, the seminar would be set up for the lectures in order to prepare for adapting themselves to the new educational system. Thirdly, the government must support all materials that are important used for implementing the new education system (sic)... (interview 26:6).

One lecturer stated that when the new educational system is implemented, her concerns would be alleviated because she would participate with other members in the organisation and discuss any concerns that she had. She commented:

> For participating with other members in the organisation, my concerns would be alleviated when the new educational system is implemented. I think that when one gets along with other members in the organisation they would be alleviated from every thing that are concerns (sic)... (interview 11:6).

Comments on learning about the change

Nearly all the interviewees stated that they learnt about the new educational system through three main aspects. These are: (1) mass media (70.00% of 30); (2) visual education (specially designed videos) and making a tour of inspection (60.00% of 30); (3) and communicating with other persons (73.33% of 30). They commented as follows.

Three lecturers commented that they learnt about the new educational system through the mass media or government documents provided to the Rajabhat Universities. They stated:

> ...I often read the documents that are provided by Rajabhat Universities and the Office of Educational Reform...and I have chances to join the seminars on the new education system in many places (sic)... (interview 10:7).
>
> ...I learn about the new educational system from the mass media such as newspapers, radio, television, including inter-net working... (interview 17:7).
>
> ...I learn about the new educational system from the government's documents...(interview 23:7).

One lecturer commented that she learnt about the new educational system through the visual education (specially designed videos) and making a tour of inspection. She stated:

> I learn about the new educational system through visual education and making a tour of inspection before the new educational system is implemented... (interview 21:7).

Comments on participation in decision-making

Nearly all the interviewees said that they would be participating in decision-making at their Rajabhats, as the new educational system is implemented (73.33% of 30). The primary reason that they gave for participating was to present their opinions about the new educational system to the concerned organisations. They commented as follows.

> ...I used to give my opinion about the new educational system at the assembly of Rajabhat University (sic)...(interview 7:8)
>
> I participate in decision-making at public opinion for the Act of Rajabhat University (sic)...(interview 19:8).

> I participate in decision-making to the head of my program for the practicality of the new educational system before it is implemented in the classroom (sic)...(interview 27:8).

Comments on the personal cost appraisal

Most of the interviewees said that the new educational system brought a high personal cost appraisal. That is, they believed that bringing the new educational system into line with the objectives of the change and the Act would involve a lot of work on their part, and that the change was good. The reasons that they gave were grouped into five categories. These are: (1) alignment with the present economic, societal, and globalisation aims for Thailand (90.00% of 30); (2) providing educational unity (70.00% of 30); (3) implementing a new culture of learning (76.67% of 30); (4) reconstructing organisations and implementing educational decentralisation (66.67% of 30); and (5) in the line with the needs of local communities (70.00% of 30).

One lecturer suggested that the new system will make him work harder to bring it into in line with present economic, societal, and globalisation aims, because this is a good for Thailand and the Thai people. For example, a high personal cost to me will help:

> ...The new educational system accord with the globalisation changes, which energise people (interview 9:12).

Another lecturer commented that the new educational system has brought a high cost appraisal because it helps to encourage unity among higher education staff.

> The new system will provide us the same standard in higher education throughout the country which, in turn, results in educational and learning quality and opportunity to the students (sic) (interview 17:12).

Two other lecturers commented that the new educational system has brought a high cost appraisal because it aims to implement a new culture of learning. They stated:

> The new system changed will encourage more student participation in classrooms. Also, new innovation and technology will be employed in teaching and learning... (interview 23:12).

> The system will give more room for lecturers to design and construct a variety of learning activities while students have more choices to choose the means that meet their needs and interests. The new system focuses on participatory learning and group working (interview 15:12).

Another lecturer commented that the new educational system has brought a high cost appraisal because educational organisations will be re-constructed and decentralisation will be implemented. Although this is better for Thai people, it will require more work for lecturers.

> There will be somewhat better aspects from such a change, for example, the reconstruction of organisation structure, decentralisation of administration, improvement and efficiency of teaching, and quality assurance (interview 25:12).

Another lecturer commented that the new educational system has brought a high cost appraisal but it is in line with the needs of local communities.

> The new educational system can serve the needs of locality (sic). It benefits the majority of nation's manpower, who consequently improve their quality in many aspects that, in turn, result in problem solution of the entire country (sic) (interview 29:12).

Comments on collaboration with other lecturers

Nearly all the interviewees thought that collaboration with other lecturers is necessary to implement the new educational system. The reasons that they gave were grouped into two main categories. These are: (1) administrative system in the line with the objectives of the change and the Act (76.67% of 30); and (2) a new culture of learning (73.33% of 30).

Four lecturers stated that the collaboration with other lecturers is necessary to implement the new educational system because this would help bring the administrative system in the line with the objectives of the change and the Act. They commented:

> The new educational system in relation to higher education reflects the proficiency and potential of administrators in collaboration and participation, and cooperation from all members of an organisation... (interview 5:13).

> I think that the administration of the new educational system aims for the same goal in the organisations (sic). To achieve the goal set, every member must be cooperative, supportive of one another in all aspects... (interview 16:13).

> Other instructions are important and valuable resource personnel who will implement the policy and the Act; their cooperation is severely (sic) needed (interview 23:13).

> The new educational system concentrates on resources personnel to make the system succeed; failure in the establishment of people's cooperation can make the system reformation impossible (interview 27:13).

Five lecturers thought that collaboration with other lecturers is necessary to implement the new educational system because of the new culture of learning. They commented:

> ...According to the new educational system, the trend of education in Thailand should be interdisciplinary. Therefore, collaboration with other lecturers is necessary to implement the new educational system... (interview 8:13)

> I believe that the new educational system values a variety of learning/teaching activities. Implementing these activities means collaborating with different networks of society (interview 11:13).

> The new educational system enhances the holistic, instead of one single subject achievement. Hence, it needs to have cooperation from other instructors to completely fulfil the goals (interview 18:13).

> The variety of activities and complexity of work performance of the new educational system requires the cooperation and support of everyone in the organisation (interview 21:13).

> The need for cooperation within the new educational system is vital, since the new curriculum centres on learners/students (or it is student centred); team work is, therefore, very important (interview 25:13).

Comments on opportunities for lecturer improvement

Nearly all the interviewees accepted that the new educational system provides opportunities for gaining educational knowledge and for the professional improvement of lecturers (76.67% of 30). They stated that, in order to implement the new educational system in line with the Act, the lecturers must be provided opportunities for educational knowledge and professional improvement, because the new system cannot be implemented without them.

Four lecturers gave more comments as follows:

> ...Yes, I am quite certain that I will have more opportunities to improve myself both academically and professionally. Since the new system requires high standards and better quality assurance as its ultimate goal, to fulfil such goal, better quality of resources and people are needed. So the Rajabhat Universities have no other way but to develop their lecturers and staff to meet such requirements... (interview 8:15).

According to the Act, the lecturers will be able to widely gain knowledge and skills from the new educational system (interview 13:15).

According to the new educational system, the lecturers have the opportunities to launch, and experiment with, new teaching methods and activities (interview 18:15).

... Not only will the lecturers improve academically but also they have the chance to practice teaching and learning skills they have constructed (sic)...(interview 21:15).

Comments on perceived value for students

Nearly all the interviewees agreed that the new educational system would advantage their students. The reasons that they gave were grouped into four categories. These are: (1) providing more learning activities for students (76.67% of 30); (2) providing standards and quality assurance for Thai education (73.33% of 30); (3) providing for equal rights and opportunities for learning (66.67% of 30); and (4) higher education in the line with the needs of local communities (66.67% of 30).

Seven lecturers thought that the new educational system would advantage their students because it provides more learning activities for students. They commented as follows:

...Certainly, the new educational system benefits students...Since the new educational system centres on the development of approaches, quality of life, ideas of students, their attitudes and ideas will change after they are educated through the new system. They will be more creative and self-dependent...(interview 7:16).

The new educational system will encourage and give room for students to work in-groups, demonstrate their individual abilities and appreciate more in the Thai identity (sic) (interview16:16).

By implementing the new educational system, students can apply the knowledge and skills to their daily life greatly (sic) (interview17:16).

By implementing the new educational system, the students will be able to adjust themselves more with the changes of economy, politics and technology, nationally and internationally (interview 21:16).

By implementing the new educational system, there will be educational quality assurance in respect to learning and teaching, and instructors. The learner-centred approach will be focused. The development of teaching will be established for the students' growth in all aspects (interview 23:16).

> The new educational system promotes life-long education. The students will appreciate learning and be able to easily access new learning centres. They will also be able to improve themselves, think and solve their own problems. They will sustain and survive well in the midst of social changes inside and outside their society (interview 25:16).

> The education will centre more on students' needs, as they are the centres of learning. They will, subsequently, have more chances to learn, not only from the classroom but also with multi-media and various kinds of learning materials (interview 26:16).

> By implementing the new educational system, the curriculum meets the students' needs. There are various means to learn and the learned skills are applicable to their daily life (interview 27:16).

One lecturer thought that the new educational system would advantage his students because it provides standards and quality assurance for all Thai education.

> The new educational system will allow the Higher Education Committee to supervise and inspect the standard of tertiary education, which will result in the similar standardisation of the student's learning achievement (interview 10:16).

Another lecturer stated that the new educational system would advantage his students because it provides equal rights and opportunities for learning.

> The new educational system enhances equity of educational opportunities. The disadvantaged, the poor and the disabled will be treated more fairly (interview 19:16).

Another lecturer thought that the new educational system would advantage his students because it provides higher education in the line with the needs of local communities.

> In according with the expectation of the new educational system in requiring the Rajabhat Universities to be the higher educational institutions for local development, students will be motivated to learn and know their locality more and better. This will hopefully inspire them to develop their communities (interview 24:16).

Research Questions

This chapter reports the investigation of 30 lecturers' views of the change in the educational system in Thailand, covering nine aspects of the change. This was done to answer research question 5: *What are the reasons that lecturers give for holding their expectations of, and behaviours towards, the recently implemented planned educational change?*

Nearly all the lecturers commented that the new system was better than the previous system because the new educational system: (1) was aligned with the present economic, societal, and globalisation aims for Thailand; (2) provided educational unity (that is, it brought Thai people together in a common cause for good); (3) provided standards and quality assurance for Thai education; (4) implemented a new and better culture of learning; (5) provided for equal rights and opportunities for learning; (6) provided for lecturer development and support; and (7) implemented educational decentralisation to some extent, to improve the Rajabhat Universities.

For the practicality in the classroom, they believed that they could implement the change in their classroom, in line with the objectives of the change of the Act because they could adapt and they had training.

For the alleviation of concerns, the lecturers stated that when the new educational system is implemented, their concerns would be alleviated because they would adapt themselves in line with the Act, prepare themselves before working, and participate with other members in the organisation.

For learning about the change, they learnt about the new educational system through three main ways. These are: (1) learning from mass media; (2) learning from visual education (specially designed videos) and from tours of inspection; and (3) communicating with other persons.

For participation in decision-making, the lecturers thought that they would participate in decision-making at their Rajabhats, when the new educational system is implemented. The reasons that they gave for participating were to give their opinions about the new educational system to the concerned organisations.

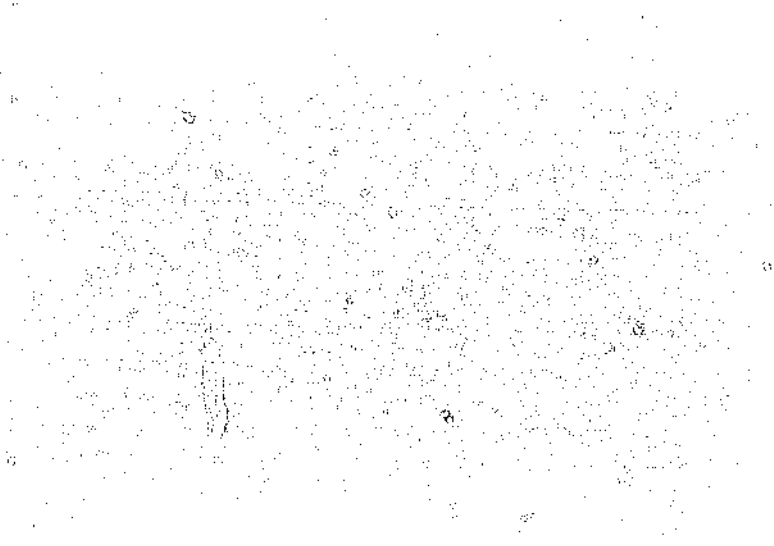
For the personal cost appraisal, the lecturers believed that implementing the new educational system in the line with the objectives of the change and the Act involved a high personal cost appraisal, but it was worth it. The reasons that they gave were: (1) alignment with the present economic, societal, and globalisation aims for Thailand; (2) providing educational unity; (3) implementing a new culture of learning; (4) reconstructing organisations and implementing educational decentralisation; and (5) in the line with the needs of local communities.

For the collaboration with other lecturers, the lecturers thought that the collaboration with other lecturers is necessary to implement the new educational system. The reasons that they gave were to ensure that the new system was implemented in line with the objectives of the change and the Act, and to provide a new culture of learning.

For opportunities for lecturer improvement, the lecturers accepted that the new educational system provides opportunities for educational knowledge and professional improvement to lecturers, and that the lecturers must be provided opportunities for educational knowledge and professional improvement in order to implement the change.

For perceived value for the students, the lecturers agreed that the new educational system would advantage their students. The reasons that they gave were that the change: (1) provides more learning activities for students; (2) provides standards and quality assurance for Thai education; (3) provides for equal rights and opportunities for learning; and (4) implements higher education in the line with the needs of local communities.

The next and final chapter provides a summary of the study and draws together the major findings, conclusions and implications of the study.



CHAPTER ELEVEN

SUMMARY, DISCUSSION, CONCLUSIONS AND IMPLICATIONS

This chapter provides a summary of the study. Then the conclusions are presented including the major findings involving lecturer receptivity towards the nine aspects of the new educational system. Then, the implications of the study for administrations, lectures, and research on change at Rajabhats in Thailand are discussed.

In accordance with the National Education Act of 1999, the educational system in Thailand has been changed since 1999 (Office of National Education Commission, 1999a). This is the largest educational change in Thailand during the last 50 years. The achievable aims of the change were divided into eight main aspects. These were: 1) ensuring access to basic education for all; 2) reform of the curriculum and learning process; 3) encouraging participation and partnership in education; 4) restructuring of educational administrative structure; 5) enhancing educational standards and quality assurance; 6) reform of teachers; faculty staff, and educational personnel; 7) mobilisation of resources and investment for education; and 8) utilisation of technologies for education (Office of National Education Commission 1999b). The planned implementation of the change was divided into five stages: (1) actions taken by 20 August 1999, (2) actions taken within the enactment date of 20 August 2000, (3) actions taken within three years of enactment date (by 20 August 2002), (4) actions to be taken within five years of enactment date (20 August 2004), and (5) actions to be taken within six years of the enactment date (by 20 August 2005).

The present study is concerned with Rajabhat university lecturers' receptivity to the change two years after implementation of the change.

SUMMARY

There were three main aims. These were: (i) to investigate lecturer receptivity to a major educational change in the context of planned educational change at Rajabhats

in Thailand; (II) to investigate the relationships between lecturer receptivity and nine lecturer-change aspects: (1) comparison with the previous system, (2) practicality in the classroom, (3) alleviation of concerns, (4) learning about the change, (5) participation in decision-making, (6) personal cost appraisal, (7) collaboration with other lecturers, (8) opportunities for lecturer improvement, and (9) perceived value for students, in the context of three perspectives: – (1) How I expect the change to be planned, (2) How I think the change was really implemented, and (3) My actual behaviour to the change; and (III) to investigate why Thai lecturers at Rajabhats hold the attitudes towards the change that they do, and help understand their behaviour towards the change.

Data collection was conducted in two parts. Part one was collecting data using a survey questionnaire. The population was 952 lecturers from four Rajabhat Universities: Nakhon Ratchasima Rajabhat University; Buriram Rajabhat University; Surin Rajabhat University; and Ubon Ratchathani Rajabhat University. Data were obtained from 659 lecturers through a questionnaire that involved responding to items of lecture receptivity towards the new educational system. The questionnaire was based on a model of receptivity and consisted of 50 stem-items that were answered in three perspectives (50x3 items).

Part two was face-to-face interviews. Thirty lecturers from four Rajabhat Universities, in the southern part of the northeastern region of Thailand (Nakhon Ratchasima Rajabhat University, Rajabhat Buriram University, Surin Rajabhat University, and Ubon Ratchathani Rajabhat University), voluntarily took part in the interviews. The questions of the interviews were concerned about lecturer receptivity to the major educational change at Rajabhats in Thailand (see Appendix X). Most of them preferred to set the interview at their working room in their office. All interview data were recorded with a code number. No names were used in this study.

There were five research questions: (1) can a proper linear scale of lecturer receptivity to change, involving nine aspects and three perspectives of the change, be created where the receptivity measures are calibrated on the same scale as the item difficulties, using a new Rasch Measurement Model computer program? (2) can a proper linear scale be created separately for each of the nine aspects of change, using the Rasch computer program? (3) can the linear receptivity scale involving all aspects

together be used to interpret the expectations and behaviours of Rajabhat lecturers to the change? (4) can the nine new scales be used to interpret Rajabhat lecturer expectations of, and behaviours towards, a recently implemented planned educational change in Thailand? and (5) what are the reasons that lecturers give for holding their expectations of, and behaviours towards, the recently implemented planned educational change?

Discussion

Lecturer receptivity

The model of lecturer receptivity towards educational change suggests that changes are complex and that there is some uncertainty associated with their implementation. The questionnaire was designed to measure some of this complexity and nine aspects of the change were included in the questionnaire each answered in three perspectives. The items relating to each of the nine aspects were conceptualised in ordered-by-difficulty patterns. All the 150 items were initially calibrated on the same scale together so that their difficulties in relation to one another could be seen and so that the relationships between the aspects could be tested and explained. The items were designed to have a conceptual ordering from easy to hard, horizontally, in the questionnaire by perspectives.

The results support that part of the model in relation to the increasing difficulty of the three lecturer perspectives, with eight aspects (out of nine), for most, but not all, of the 18 (out of 50 stem-items). That is, *how I expect the change to be planned* was easiest, *how I think the change was really implemented* was harder, and *my actual behaviour to the change* was hardest for most of the 18 stem-items.

The data provide partial support for the model behind the questionnaire for 54 out of 150 items and the evidence supports the view that the data for the 54 items are valid and reliable. Only one aspect does not fit the measurement model (opportunities for lecturer improvement). The mean item difficulties of eight aspects show that the aspect comparison with the previous system is the easiest and the aspect participation in decision-making is the hardest.

Lecturer receptivity (items from the nine aspects analysed together)

Comparison with the previous system

For the aspect comparison with the previous system, six items out of 21 fitted the measurement model. Their difficulties were calibrated on the same scale together with the measurements of receptivity, so that their difficulties can be compared, and so that the relationships between the aspects can be tested and explained. The results support that part of the model in relation to the increasing difficulty of the expectation (easy) and behaviour (harder) perspectives, for two stem-items. The item difficulties of this aspect show that *providing for the needs of students better than the previous system* was easy and *providing for better classroom management than the previous system* was also easy, but harder. The expectation perspective was easier than the behaviour perspective for the two stem-items.

Practicality in the classroom

For the aspect practicality in the classroom, six items out of 18 fitted the measurement model. Their difficulties were calibrated on the same scale together with their measures of receptivity so that their difficulties can be compared and so that the relationships between the aspects can be tested and explained. The results support that part of the model in relation to the increasing difficulty of the three perspectives. The item difficulties of this aspect show that *providing sufficient flexibility in the changes to suit the needs of different students* was easy and *providing sufficient resources to allow lecturers to implement the changes in their classrooms* was harder. The expectation perspective was easy, the implementation perspective was harder, and behaviour perspective was harder still.

Alleviation of concerns

For the aspect alleviation of concerns, 12 items out of 24 fitted the measurement model. Their difficulties were calibrated on the same scale together with their measures of receptivity so that their difficulties can be compared and so that the relationships between the aspects can be tested and explained. The results support that

part of the model in relation to the increasing difficulty of the three perspectives. The expectation perspective was easy, the implementation perspective was harder, and the behaviour perspective was harder still. The item difficulties of this aspect show that *providing for specific concerns of lecturers to be raised with the Rajabhat administration and staff* was easy and *being able to solve quickly any classroom problems in implementing the changes at Rajabhat* was harder.

Learning about the change

For the aspect learning about the change, 12 items out of 15 fitted the measurement model. Their difficulties were calibrated on the same scale together with their measures of receptivity so that their difficulties can be compared and so that the relationships between the aspects can be tested and explained. The results support that part of the model in relation to the increasing difficulty of the three perspectives. The expectation perspective was easy, the implementation perspective was harder, and the behaviour perspective was harder still. The item difficulties of this aspect show that *providing information on adapting the change to the classroom* was easy and *providing for the Rajabhat staff and management to discuss the change* was harder.

Participation in decision-making

For the aspect participation in decision-making, three items out of 12 fitted the measurement model. Their difficulties were calibrated on the same scale together with their measures of receptivity so that their difficulties can be compared and so that the relationships between the aspects can be tested and explained. The results partially support the model in relation to the increasing difficulty of the three perspectives. Expectations about participating in decisions related to the change were easy and behaviours were harder.

Personal cost appraisal

For the aspect personal cost appraisal, six items out of 18 fitted the measurement model. Their difficulties were calibrated on the same scale together with their measures of receptivity so that their difficulties can be compared and so that the relationships between the aspects can be tested and explained. The results partially support the model in relation to the increasing difficulty of the three perspectives. The expectation perspectives were easier than the behaviour perspectives. The item difficulties of this aspect show that *increasing lecturer satisfaction with teaching which outweighs the extra work generated for them* was easier in the expectation perspective than *keeping the emotional strain of the change for lecturers to a minimum*, but equally difficult in the behaviour perspective.

Collaboration with other lecturers

For the aspect collaboration with other lecturers, 3 items out of 15 fitted the measurement model. Their difficulties were calibrated on the same scale together with their measures of receptivity so that their difficulties can be compared and so that the relationships between the aspects can be tested and explained. The results partially support the model in relation to the increasing difficulty of the three perspectives. The item difficulties of this aspect show that *giving support to other lecturers at Rajabhat when they need it to implement the change* was easy in the expectation perspective and harder in the behaviour perspective.

Opportunities for lecturer improvement

For the aspect opportunities for lecturer improvement, there were originally 12 items. None of them fitted the measurement model and all were discarded.

Perceived value for students

For the aspect perceived value for students, 6 items out of 15 fitted the measurement model. Their difficulties were calibrated on the same scale together with their measures of receptivity so that their difficulties can be compared and so that the relationships between the aspects can be tested and explained. The results support that part of the model in relation to the increasing difficulty of the three perspectives. The

item difficulties of this aspect show that *providing value for students* was equally easy as *providing for the needs of students*, and expectations are much easier than behaviours.

Lecturer receptivity (items from each of the nine aspects analysed separately)

Comparison with the previous system

For the aspect comparison with the previous system, 12 out of 21 items fitted the measurement model and the items of this aspect need revising if used on their own. Their difficulties were calibrated on the same scale together with the measurements of receptivity, so that their difficulties can be compared, and so that the relationships between the aspects can be tested and explained. The results support that part of the model in relation to the increasing difficulty of twelve lecturer perspectives. Items in the expectation perspective were easier than items in the implementation perspective which, in turn, were easier than the behaviour perspective. The item difficulties of this aspect show that *providing for better student learning experiences than the previous system* was easy and *providing for better classroom management than the previous system* was harder.

Practicality in the classroom

For the aspect practicality in the classroom, there were originally 18 items and they need revising if used on their own. Their difficulties were calibrated on the same scale together with their measures of receptivity so that their difficulties can be compared and so that the relationships between the aspects can be tested and explained. The results partially support that part of the model in relation to the increasing difficulty of the three perspectives. The expectation perspectives are easier than the behaviour perspectives. The item difficulties of this aspect show that *providing changes that can be adapted to the needs of students* was easy and *providing sufficient resources to allow lecturers to implement the changes in their classrooms* was easy, but harder.

Alleviation of concerns

For the aspect alleviation of concerns, 12 out of 24 items formed a scale, but they need revising if used on their own. Their difficulties were calibrated on the same scale together with their measures of receptivity so that their difficulties can be compared and so that the relationships between the aspects can be tested and explained. The results partially support the model in relation to the increasing difficulty of the three perspectives. The expectation perspectives are easier than the behaviour perspectives. The item difficulties of this aspect show that *providing for specific concerns of lecturers to be raised with the Rajabhat administration and staff* was easy and *being able to solve quickly any classroom problems in implementing the changes at Rajabhat* was harder.

Learning about the change

For the aspect learning about the change, there were originally 15 items and they need revising if used on their own. Their difficulties were calibrated on the same scale together with their measures of receptivity so that their difficulties can be compared and so that the relationships between the aspects can be tested and explained. The results partially support the model in relation to the increasing difficulty of the three perspectives. The expectation perspective was easier than the implementation perspective which was easier than the behaviour perspective. The item difficulties of this aspect show that *providing how to learn best about implementing the changes* was easy and *providing for the Rajabhat staff and management to discuss the change* was harder.

Participation in decision-making

For the aspect participation in decision-making, nine items out of 12 formed a scale but need revising if used on their own. Their difficulties were calibrated on the same scale together with their measures of receptivity so that their difficulties can be compared and so that the relationships between the aspects can be tested and explained. The results partially support the model in relation to the increasing difficulty of the three perspectives. The expectation perspectives were easier than the behaviour perspectives. The item difficulties of this aspect show that *participating in*

selecting teaching resources associated with the change was easy and *participating in determining the content of professional sessions* was harder.

Personal cost appraisal

For the aspect personal cost appraisal, 15 items out of 18 formed a scale but need revising if used on their own. Their difficulties were calibrated on the same scale together with their measures of receptivity so that their difficulties can be compared and so that the relationships between the aspects can be tested and explained. The results partially support the model in relation to the increasing difficulty of the three perspectives. The expectation perspective is easier than the behaviour perspective. The item difficulties of this aspect show that *making for better student classroom learning to outweigh the extra work generated for lecturers* was easy and *making lecturer satisfaction with home life outweigh the extra work generated for them* was harder.

Collaboration with other lecturers

For the aspect collaboration with other lecturers, 9 items out of 15 formed a scale, but need revising if used on their own. Their difficulties were calibrated on the same scale together with their measures of receptivity so that their difficulties can be compared and so that the relationships between the aspects can be tested and explained. The results partially support the model in relation to the increasing difficulty of the three perspectives. The expectation perspective is easier than the implementation perspective which, in turn, is easier than the behaviour perspective. The item difficulties of this aspect show that *providing advice to other lecturers about the change when requested* was easy and *asking for advice from others in Rajabhat when lecturers have problems with the change* was harder.

Opportunities for lecturer improvement

For the aspect opportunities for lecturer improvement, 12 items out of 15 formed a scale, but need revising if used on their own. Their difficulties were calibrated on the same scale together with their measures of receptivity so that their difficulties can be compared and so that the relationships between the aspects can be

tested and explained. The results partially support the model in relation to the increasing difficulty of the three perspectives. The expectation perspective is easier than the behaviour perspective. The item difficulties of this aspect show that *providing opportunities for lecturers to improve their educational knowledge and under standing* was easy and *providing opportunities for management and lecturer staff to work together for lecturer improvement* was harder.

Perceived value for students

For the aspect perceived value for students, 12 items out of 15 formed a scale, but need revising if used on their own. Their difficulties were calibrated on the same scale together with their measures of receptivity so that their difficulties can be compared and so that the relationships between the aspects can be tested and explained. The results partially support the model in relation to the increasing difficulty of the three perspectives. The expectation perspective is easier than the behaviour perspective. The item difficulties of this aspect show that *providing for the needs of students* was easy and *discussing the change with students* was harder.

CONCLUSIONS

The conclusions from this study are summarised in regard to three results of the data analyses: (1) A Rasch analysis of lecturer receptivity with all eight change aspects together, (2) separate Rasch analyses of lecturer receptivity for each of nine aspects of change, and (3) interviews with lecturers about their receptivity to the change.

Conclusions from the Rasch analysis with all eight aspects together

It can be concluded that:

(1) A good scale of lecturers' receptivity to the change was created using a model of related aspects of the change and a mathematical model of measurement (Rasch);

(2) Eight of the nine aspects postulated are important contributors to an explanation of lecturer receptivity to this change. (They are listed in Table 7.2);

(3) The data from the 54 items used to create this scale are valid and reliable, and so reliable inferences can be made from it;

(4) While the data are influenced by eight aspects, there is one dominant trait influencing all their eight aspects - which might be called receptivity to the change;

(5) How lecturers expect the change to be planned was easier than their actual behaviour towards the change; and

(6) Administrators could provide help to alleviate concerns, reduce lecturers' personal cost and increase participation in local discussion-making, in relation to the change.

Conclusions from the separate Rasch analysis for each of nine aspects

Comparison with the previous system

It can be concluded that:

(1) A scale of lecturers' receptivity to the change in comparison with the previous system was created;

(2) The 12 items forming this scale need some revision and re-testing, if the scale is to be used on its own;

(3) The data are influenced by a dominant trait relating to lecturers' comparison with the previous system;

(4) How lecturers expect the change to be planned was easy, how they think the change was really implemented was harder, and their actual behaviour towards the change was harder still, for items related to a comparison with the previous system; and

(5) Help needs to be provided to lecturers to improve behaviour relating to student learning and classroom management to help them implement the change better.

Practicality in the classroom

It can be concluded that:

(1) An acceptable scale of lecturers' receptivity relating to the practicality of the change in the classroom was created;

(2) The 18 items forming this scale need some revision and re-testing, if the scale is to be used on its own;

(3) The data are influenced by a dominant trait relating to the practicality of the change in the classroom;

(4) How lecturers expect the change to be planned was easy, how they think the change was really implemented was harder, and their actual behaviour towards the change was harder still, for practicality of the change in the classroom; and

(5) Help needs to be provided to lecturers to improve practicality in the classroom in relation to implementing the change better.

Alleviation of concerns

It can be concluded that:

(1) An acceptable scale of lecturers' receptivity relating to the alleviation of concerns was created;

(2) The 12 items forming this scale need some revision and re-testing, if the scale is to be used on its own;

(3) The data are influenced by a dominant trait relating to the alleviation of concerns about the change;

(4) How lecturers expect the change to be planned was easier than their actual behaviour towards the change, relating to the alleviation of concerns; and

(5) Help needs to be provided to lecturers to solve classroom problems relating to the change more quickly.

Learning about the change

It can be conclude that:

(1) An acceptable scale of lecturers' receptivity relating to their learning about the change was created;

(2) The 15 items forming this scale need some revision and re-testing, if the scale is to be used on its own;

(3) The data are influenced by a dominant trait relating to what and how lecturers learn about the change;

(4) How lecturers expect the change to be planned was easy, how they think the change was really implemented was harder, and their actual behaviour towards the change was harder still, relating to learning about the change; and

(5) Help needs to be provided to learn how best to implement the change and the main issues of the change, and management needs to implement more discussion with Rajabhat lecturers.

Participation in decision-making

It can be concluded that:

(1) An acceptable scale of lecturers' receptivity relating to participation in decision-making was created;

(2) The 9 items forming this scale need some revision and re-testing, if the scale is to be used on its own;

(3) The data are influenced by a dominant trait relating to participation in decision-making;

(4) How lecturers expect the change to be planned was easier than their actual behaviour towards the change, for all items relating to participation in decision-making; and

(5) Help needs to be provided to lecturers to participate in decision-making related to their implementing the changes.

Personal cost appraisal

It can be concluded that:

(1) An acceptable scale of lecturers' receptivity relating to personal cost appraisal was created;

(2) The 15 items forming this scale need some revision and re-testing, if the scale is to be used on its own;

(3) The data are influenced by a dominant trait relating to personal cost appraisal;

(4) How lecturers expect the change to be planned was easier than their actual behaviour towards the change, for personal cost appraisal; and

(5) Help needs to be provided to lecturers to reduce or help them overcome the extra work generated because of the change.

Collaboration with other lecturers

It can be concluded that:

(1) An acceptable scale of lecturers' receptivity relating to collaboration with other lecturers was created;

(2) The 9 items forming this scale need some revision and re-testing, if the scale is to be used on its own;

(3) The data are influenced by a dominant trait relating to collaboration with other lecturers;

(4) How lecturers expect the change to be planned was easy, how they think the change was really implemented was harder, and their actual behaviour towards the change was harder still, for collaboration with other lecturers; and

(5) Help needs to be provided so Rajabhat lecturers can collaborate better with colleagues.

Opportunities for lecturer improvement

It can be concluded that:

(1) The items for this variable need revising and improving;

(2) How lecturers expect the change to be planned was easier than their actual behaviour towards the change, in relation to opportunities for lecturer improvement; and

(3) Administrators could provide for management and lecturers to work together to implement improvements.

Perceived value for students

It can be concluded that:

(1) The items for this variable need revising and improving;

(2) How lecturers expect the change to be planned was easier than actual behaviour towards the change, in relation to perceived value for students; and

(3) Administrators could discuss the change more with students in relation to improving learning.

Conclusion from the interviews

It was concluded that there was strong support for the change and that it would be an improvement that would help Thai people modernise and compete with people from other nations.

Comparison with the previous system

It was concluded that the new system was better than the previous system because it was: (1) aligned with the present economic, societal, and globalisation aims for Thailand; (2) provided educational unity (that is, some common educational goals for Thai people); (3) provided standards and quality assurance for Thai education; (4) implemented a new culture of learning that was better for Thai people; (5) provided for equal rights and opportunities for learning; (6) provided for lecturer development and support; and (7) implemented educational decentralisation that could improve decision-making and education generally.

Practicality in the classroom

It was concluded that lecturers believed that they could implement the change in their classroom, in line with the objectives of the Act because they would adapt themselves and they had training.

Alleviation of concerns

It was concluded that, when the new educational system was implemented, lecturer concerns would be alleviated, at least to some extent, because they would adapt themselves in line with the Act, prepare themselves before working, and participate with other members in the organisation.

Learning about the change

It was concluded that lecturers learnt about the new educational system through three main ways. These are: (1) learning from mass media; (2) learning from visual education (specially designed videos) and from tours of inspection; and (3) communicating with other persons.

Participation in decision-making

It was concluded that lecturers would participate in decision-making at their Rajabhat, when the new educational system was implemented, and that they would give their opinions about the new educational system to the concerned organisations.

Personal cost appraisal

It was concluded that the new educational system was being implemented in the line with the objectives of the Act, but it involved a high personal cost appraisal that lecturers thought was worth it. This was because the change: (1) was aligned with the present economic, societal, and globalisation aims for Thailand; (2) provided educational unity (that is, some common educational goals for the common good); (3) concerned a new culture of learning that was an improvement; (4) involved reconstructing organisations and implementing educational decentralisation to make improvements; and (5) was in line with the needs of local communities.

Collaboration with other lecturers

It was concluded that lecturers thought that collaboration with other lecturers was necessary to implement the new educational system. This was to help implement the new system in line with the objectives of the Act, and to provide a new culture of learning that would improve learning.

Opportunities for lecturer improvement

It was concluded that lecturers accepted that the new educational system provided opportunities for educational knowledge and professional improvement to

lecturers, and that the lecturers might be provided opportunities for educational knowledge and professional improvement in order to implement the change.

Perceived value for students

It was concluded that lecturers agreed that the new educational system would advantage their students because the change: (1) provided more learning activities for students; (2) provided standards and quality assurance for Thai education; (3) provided for equal rights and opportunities for learning; and (4) improved higher education in the line with the needs of local communities.

IMPLICATIONS

Implications for educational admjnistrators

The results of this study indicate that almost all the hard items are located in six aspects. They are 1) participation in decision-making, 2) personal cost appraisal, 3) alleviation of concerns, 4) learning about the change, 5) collaboration with other lecturers, and 6) practicality in the classroom. It suggests that educational administrators should revise and amend new major changes in line with the conclusions from the implementation stage. This means that administrators should try to improve lecturer receptivity towards the educational change for each of the six hard aspects.

Firstly, administrators, particularly the Rajabhat president, should give lecturers opportunities to participate in decision-making at Rajabhats to improve their learning in relation to Rajabhat Universities and students, and in order to maximise lecturer receptivity to the change. Educational administrators and senior staff could arrange for teachers to take part in decisions about the change which affect their Rajabhat and, in particular, their classrooms. It would seem that lecturers are more likely to implement a new plan with less compromise if they have a say in how it is implemented in their classrooms. This probably means the resources and methods of the change should be such that they can easily be used in the classrooms or, if there are problems, then the resources and methods can be adapted by the lecturers without compromising the main aspects of the change required by the administrators.

Secondly, educational administrators and senior staff should tailor their change proposals so the lecturers can gain a perceived non-monetary cost benefit as a result of implementing the change. This benefit can be in the form of increased satisfaction with teaching, better student learning, better matching of courses with student needs, interests and abilities, and easier Rajabhat administration.

Thirdly, educational administrators could try to ensure that there is effective communication between lecturers and administrators. It would seem important that the Rajabhat president is kept well informed about the change proposal and is able to alleviate lecturers' fears and concerns when they arise. Educational administrators could conduct regular briefings through forums such as administrators' associations, newsletters and memos, and meetings and discussion groups in university departments.

Fourthly, educational administrators could improve lecturers' awareness of the change proposal. This could be achieved by improving lecturers' knowledge about the proposed change, and in particular, by presenting the benefits of the change for students, lecturers and social to lecturers. Strategies employed to improve lecturers' knowledge about the benefit of the change proposal could include the use of brochures, workshops and seminars, and school visits. This is in line with the implications of a major changed studied by Collins and Waugh (1997).

Fifthly, educational administrators should give lecturers opportunities for sharing knowledge with other lecturers. Various methods, singularly and in combination, could be used to do this, such as informal meetings, formal meetings, and lecturer workshops.

Sixthly, educational administrators and staff should tailor their proposals so that they are suited to, or adaptable to, the various teaching styles for various subjects. Sufficient resources should be allocated to allow lecturers to implement the changes in each subject and at each Rajabhat as faithfully as possible to the new plan. Lecturers also have to be able to manage the day-to-day running of their classrooms and any new plan needs to allow them to deal with problems; otherwise the teachers are likely to implement major compromises to the plan. This is in line with implications from Waugh and Godfrey (1995). Further, the majority of lecturers reported that they were confused about the change in the initial stage because there

were various approaches given for implementation in the classroom. If the lecturers are not going to be provided with guidance to develop stronger knowledge about the change they must find ways themselves. If lecturers do not receive support from within the educational system to access professional development relevant to their needs, it is essential that they seek sources themselves. If administrators want lecturers to adapt the change to different types of Rajabhat, they need to provide special courses to help lecturers learn about the change and its implications, and provide more opportunities for lecturers to develop and improve their teaching. This is in line with implications from Waugh (1995).

For the interview data, the major findings were that lecturers believed that the new educational system was better than the previous system because it was aligned with the present economic, societal, and globalisation aims for Thailand. Further, they commented that before the system was implemented in the classroom, lecturers should be trained about the new educational system and they should adapt themselves in line with the new educational system. These findings relate to administration in two categories. They are (1) administrator improvement and (2) lecturer improvement. For administrator improvement, administrators could share a fresh view of educational professionalism, which engages them in continuous networking, consultation and collaboration with their staff and all those involved with change at the Rajabhats. Dalin (1993) suggested that administrators should set up plans for the professional development of lecturers. They might provide activities and procedures to facilitate staff development such as assessment processes that lead to a university development plan, project groups that provide staff with development and learning opportunities, co-operative planning work, peer supervision that helps each lecturer to be critically assessed by a trusted colleague, and planning and development of tailor-made courses to import needed knowledge and skill appropriate to the development tasks that in which the University is involved.

Lecturers could share a common disposition to discuss tasks that need to be implemented. Moreover, they should believe that their colleagues have the potential to be at least as good as themselves. This is in line with the suggestions from Bell and Harrison (1998). For lecturer improvement, new materials concerned with learning about the change could be created for lecturers in order that they could learn about the change by themselves, such as computer assisted instruction, and multimedia. In

addition, lecturer opportunities for sharing knowledge with other lecturers could be provided such as lecturer workshops, meetings, and tours of inspection.

Implications for lecturers

The findings of the present study revealed that lecturers need to adapt themselves to gain more knowledge about the benefits of the change. This could be done through various approaches.

First, lecturers could learn more about the change. Michael (1997) suggested that understanding higher education systems and the political-economic forces shaping them are important to the appreciation of the dynamics within institutions of higher education. They might learn about the change through brochures, workshops and seminars, displays, and university visits. This is in line with findings from Collins and Waugh (1997) in Western Australia. Further, they could learn about the change by themselves from the mass media, visual education (specially designed videos), and tours of inspection, including communicating with other persons.

Second, lecturers could involve themselves with professional bodies, and practising professionals 'getting together' has long been an important role for academics. Annual conferences, workshops and short courses on topical issues and skills, relating to the change, could be widely available. This is in line with the suggestion from Pember (1998).

Third, ensuring participation in Rajabhat decision-making and other activities can help raise lecturers' status within the Rajabhat context and afford more opportunities to explain to others about how the change can be made practical in their classrooms in line with the Act. In addition, they need to be active participants in Rajabhat life, and be involved with senior management, academic staff, other lecturers, technical and library staff. This is in line with the findings from Mackay (2001) in United Kingdom. Being active participants can help them become more aware of opportunities, of the change, and how best to implement it.

Fourth, lecturers could adapt themselves to be quality lecturers in line with the change. Hill, Lomas and MacGregor (2003) asserted that the quality of lecturers consisted of three categories: 1) delivery in the classroom; 2) feedback to students

during the session and in assignments; and 3) relationship with students in the classroom. Lecturers could work on strategies to help themselves in these aspects.

Last, lecturers could adapt themselves for quality assurance in line with the change. They could learn how higher education responds to the question of accountability (in terms of what performance indicators to adopt) that would depend on whether the system is operating under a centralized or decentralized approach. This is in line with the suggestions from Michael (1997).

Implications for research on the change

The findings of the present study have contributed to knowledge of lecturer receptivity to a major new educational policy change at Rajabhats in Thailand and provided future possibilities for the direction of further research in the field. The new model of lecturer receptivity developed in the present study has enabled expectations, implementation, and behaviour items, representing nine aspects of lecturer receptivity towards the change, to be linked together with lecturer receptivity measures to form a valid and reliable scale. However, the model can only be regarded as a beginning in this area, and needs further testing and refinement. Subsequent versions of the scale of lecturer receptivity could be improved with alternative wording for some items, and extending the model beyond the three perspectives to include capability of three perspectives, thus forming a Guttman-type pattern for each of the perspectives in the model. For example, lecturers found that implementation was harder than behaviour for the new educational system *providing for better classroom management than the previous system*. It is probable that the implementation of classroom management procedures was a little easier than lecturers thought it would be in the new system. It is suggested that one issue that may have some bearing on the direction of future models of lecturer receptivity is the need for a clearer distinction for classroom management.

In addition, the model could be expanded to include additional aspects of lecturer receptivity towards the change. The present model is focused on the eight aspects (one did not fit the measurement model and was discarded) of the educational system change for Rajabhats' lecturers. The results of the study indicate that the aspect of opportunities for lecturer improvement does not fit the measurement model

when all items are analysed together. Further items encompassing this aspect need to be included and existing items in the model need to be reworded. It is also possible to reword, or arrange subsequent versions of, all items in this aspect. Further, the model could be amended for relating receptivity towards the nine aspects in an educational system change, such as teacher receptivity in secondary schools, or in primary schools in other countries.

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Appendix A: Questionnaire and follow-up letter

Dear Informant

This study is being undertaken to investigate lecturer receptivity to a major new educational policy change in line with the National Education Act of 1999 at Rajabhats. The information will lead to the clarification of lecturers' receptivity towards a major new educational change, and the reasons they have for their attitudes. You are asked to complete the attached questionnaire. It contains 50 statements covering nine lecturer-change aspects in relation to a major new educational policy change. These are (1) comparison with the previous system, (2) practicality in the classroom, (3) alleviation of concerns, (4) learning about the change, (5) participation in decision-making, (6) personal cost appraisal, (7) collaboration with other lecturers, (9) opportunities for lecturer improvement, and (9) perceived value for students.
It is expected that this research will be benefit the Rajabhats, lecturers, students, educational administrators, and researchers studying the new educational policy change.
Your consent to be interviewed would be very welcomed and appreciated. You will be assigned a subject number, which will be used by the researcher to assure confidentiality of individual results.
It will take approximately 20 minutes. You are requested to take time with the questions and answer them honestly.

Any questions concerning the project can be directed to Anusak Ketusiri on (045) 262 423-32 ext. 1217.

I have read the information above and any questions I have asked have been answered to my satisfaction. I agree to participate in this activity, realising that I may withdraw at any time.
I agree that the research data gathered for this study may be published provided my name is not used.

Signature ..... Date .....
Investigator ..... Date .....

Note:

If you would like to receive a copy of a results of this study please complete the slip below and return to:

Asst.Prof.Anusak Ketusiri
Faculty of Education
Ubon Ratchathani Rajabhat University, 34000

Name .....

Address .....

Postcode .....

EDITH COWAN
UNIVERSITY

Perth Western Australia

26 October 2001

President of ..... Rajabhat University
..... Province, Thailand

Dear President,

Subject: Seeking permission to conduct a research project for my Ph.D.

Further to my university approved research project entitled "Lecturer receptivity to a major new policy change in the context of planned change at Rajabhats in Thailand", I would like to ask for your permission to carry out research in .....Rajabhat University. The study aims to investigate lecturer receptivity to a major new educational policy change in line with the National Education Act of 1999 at Rajabhats. This information will lead to the clarification of what lecturers' receptivity perceive towards a major new educational change, and what reasons make they hold their attitudes like that they do. The lecturers, who are working during semester 2 and 3 in the academic year 2001, have been selected to be subjects of this study.

Your approval and support would be appreciated.

Sincerely yours,

Anusak Ketusiri (Mr.)
Enclosures (2): 1. Ethics clearance
2. Research proposal

Questionnaire: Lecturer receptivity to a major new policy change in the context of planned change at Rajabhats in Thailand.

THIS QUESTIONNAIRE IS ANONYMOUS. PLEASE DON'T PUT YOUR NAME OR ANY IDENTIFICATION ON IT.

SECTION A Biographic information

Direction: Please tick the appropriate box.

1. Name of Rajabhat Universities
   - ☐ Nakhorn Ratchasima Rajabhat University
   - ☐ Buriram Rajabhat University
   - ☐ Surin Rajabhat University
   - ☐ Ubon Ratchathani Rajabhat University
2. Gender
   - ☐ Male
   - ☐ Female
3. Academic Status
   - ☐ Associate Professor
   - ☐ Assistant Professor
   - ☐ Lecturer
4. Degree
   - ☐ Doctor's Degree
   - ☐ Master's Degree
   - ☐ Bachelor's Degree

SECTION B: Lecturer receptivity to a major new policy change in the context of planned change at Rajabhats in Thailand.

Direction: Please rate the 50 stem-items according to the following response format and place the appropriate number in relation to the aspects What expectations I had about the planned changes, How I think the change has been really implemented, and My actual behaviour in response to the change involves, on the appropriate line opposite each statement :

For all or nearly all of the classes I teach	put 4
For about 3/4 of the classes I teach	put 3
For about 2/4 of the classes I teach	put 2
For none or few of the classes I teach	put 1

Example

If you expected the change would be planned to make your satisfaction with teaching outweigh the extra work generated for you in all or nearly all your classes, put 4; if you think it has been really implemented like this in about 3/4 of your classes, put 3; and if your present behaviour in response to the changes is like this in about 2/4 of your classes, put 2, and if your

present behaviour in response to the changes is like this in none or few of the classes, put 1.

Items Provide for better student learning than than the previous system 3 2 1

Item no.	Item wording	How I expect the change to be planned.	How I think the change was really implemented.	My actual behaviour to the change involves.
	Characteristics of the Change			
	Aspect : Comparison with Previous System (21 items)			
	Student Learning			
1-3	Providing for better student learning experiences than the previous system.	_____	_____	_____
4-6	Providing for better student achievement than the previous system.	_____	_____	_____
	Classroom management			
7-9	Providing for better classroom management than the previous system.	_____	_____	_____
10-12	Providing better feedback reporting) to students on their achievements (or lack there of).	_____	_____	_____
	Student Needs			
13-15	Providing for more student interest and variation than the previous system.	_____	_____	_____
16-18	Providing for the needs of students better than the previous system.	_____	_____	_____
19-21	Allowing students to better match subjects with needs and abilities than the previous system.	_____	_____	_____

Item no.	Item wording	How I expect the change to be planned.	How I think the change was really implemented.	My actual Behaviour to the change involves.
	Aspect : Practicality in the Classroom (18 items)			
	Classroom Management			
22-24	Providing changes that can be adapted to the educational philosophy which guides my teaching.	.....	.....	.....
25-27	Providing changes that can be adapted to my classroom teaching style.	.....	.....	.....
28-30	Providing changes that is sufficiently flexible for managing the day-to-day running of the classroom.	.....	.....	.....
	Student Needs			
31-33	Providing changes that can be adapted to the needs of my students.	.....	.....	.....
34-36	Providing sufficient flexibility in the changes to suit the needs of different students.	.....	.....	.....
37-39	Providing sufficient resources to allow me to implement the changes in my classroom.	.....	.....	.....
	Managing the Change at my Rajabhat			
	Aspect : Alleviation of Concerns (24 items)			
	Concerns of the Change			
40-42	Contributing to regular Rajabhat meetings at which I can raise my concerns about the change.	.....	.....	.....

Item no.	Item wording	How I expect the change to be planned.	How I think the change was really implemented.	My actual Behaviour to the change involves.
43-45	Being able to solve quickly any classroom problems in implementing the changes at my Rajabhat.	.....	.....	.....
46-48	Providing for specific concerns of lecturers to be raised with the Rajabhat administration and staff.	.....	.....	.....
49-51	Providing for specific concerns of lecturers to be negotiated with management by the Teaching staff.	.....	.....	.....
	Supporting the Change			
52-54	Having some lecturers to whom I can turn for advice about the change.	.....	.....	.....
55-57	Having good general Rajabhat support whenever there are problems with resources for the change.	.....	.....	.....
58-60	Having the Principal supporting the change at my Rajabhat in practical ways.	.....	.....	.....
61-63	Providing sufficient and continuing resources for the change.	.....	.....	.....
	Aspect: Learning about the Change (15 items)			
	Learning about the Change			
64-66	Providing how to learn best about implementing the changes.	.....	.....	.....
67-69	Providing information on adapting the change to the classroom.	.....	.....	.....
70-72	Providing information about the most important issues relating to the change.	.....	.....	.....

Item no.	Item wording	How I expect the change to be planned.	How I think the change was really implemented.	My actual Behaviour to the change involves.
	Discussion about the Change			
73-75	Providing regular forums to discuss the most important issues of the change.	.....	.....	.....
76-78	Providing for the Rajabhat staff and management to discuss the change.	.....	.....	.....
	Aspect : Participation in Decision-making (12 items)			
	Discussion about the Classroom			
79-81	Participating in selecting teaching resources associated with the change.	.....	.....	.....
82-84	Participating in Rajabhat decisions that affect how the change is implemented in my classroom.	.....	.....	.....
85-87	Participating in determining the content of professional sessions.	.....	.....	.....
88-90	Participating in Rajabhat decisions that are related to implementing the changes.	.....	.....	.....
	Value for the Lecturer			
	Aspect : Personal Cost Appraisal (18 items)			
	Concerns of Lecturers			
91-93	Increasing my satisfaction with teaching which outweigh the extra work generated for me.	.....	.....	.....

Item no.	Item wording	How I expect the change to be planned.	How I think the change was really implemented.	My actual Behaviour to the change involves.
94-96	Making my satisfaction with home life outweigh the extra work generated for me.	----------	----------	----------
97-99	Keeping the emotional strain of the change for lecturers to a minimum.	----------	----------	----------
	Concerns of Students			
100-102	Making for better student classroom learning to outweigh the extra work generated for me.	----------	----------	----------
103-105	Making the total benefits for the students outweigh the total problems for me.	----------	----------	----------
106-108	Making for better classroom management which outweighs the extra work generated for me.	----------	----------	----------
	Aspect : Collaboration with Other Lecturers (15 items)			
	Sharing Knowledge of the Change			
109-111	Sharing resources associated with the change with other lecturers.	----------	----------	----------
112-114	Sharing teaching ideas with other lecturers in my Rajabhat, as they relate to the change.	----------	----------	----------

Item no.	Item wording	How I expect the change to be planned.	How I think the change was really implemented.	My actual Behaviour to the change involves.
	Advice and Support from Others			
115-117	Giving support to other lecturers at my Rajabhat when they need it to implement the change.	.....	.....	.....
118-120	Asking for advice from others in my Rajabhat when I have problems with the change.	.....	.....	.....
121-123	Providing advice to other lecturers about the change when requested.	.....	.....	.....
	Aspect : Opportunities for Lecturer Improvement (12 items)			
	Teaching Improvement			
124-126	Providing opportunities for me to improve my educational knowledge and understanding.	.....	.....	.....
127-129	Providing opportunities for management and lecturer staff to work together for lecturer improvement.	.....	.....	.....
	Students Improvement			
130-132	Providing opportunities for me to improve my teaching.	.....	.....	.....
133-135	Providing opportunities for me to do better for my students.	.....	.....	.....

Item no.	Item wording	How I expect the change to be planned.	How I think the change was really implemented.	My actual Behaviour to the change involves.
	Aspect: Perceived Value for Students			
	(15 items)			
	Value of the Change for Students			
136-138	Providing value for my students.	.....	.....	.....
139-141	Providing for the needs of my students.	.....	.....	.....
142-144	Providing for good student learning.	.....	.....	.....
	Discussion of the Change			
145-147	Discussing the change with students.	.....	.....	.....
148-150	Discussing the change with parents.	.....	.....	.....

Thank you for your help in answering this questionnaire. It is appreciated.

Anusak Ketusiri
Rajabhat University Ubon Ratchathani

Follow-up letter to questionnaire

Dear Informant

Recently, a survey questionnaire on lecturer receptivity to a major new policy change in the context of planned change at Rajabhats in Thailand was sent to you.

If you have completed and returned questionnaire, I thank you sincerely for your time and effort. Your contribution is valued and you will help knowledge in lecturer receptivity education.

If you have yet to complete the questionnaire, I wish to reiterate how appreciative I would be of your response. The quality of data obtained from this questionnaire will depend largely on high return rate.

I realize you will become increasingly busy at this time of the year, but appeal to your professionalism and kindness and ask that you support research into lecturer receptivity by completing and return the questionnaire.

If you did not receive a questionnaire but would like one, or if you are willing to be involved further by participating in an interview, please contact me on 01-9674440.

Thanking you in anticipation of your support,
Yours sincerely

Anusak Ketusiri

Appendix B: Item difficulties from the Rasch analysis of the questionnaire data (all aspects analysed together)

Item no.	Item wording	How I expect the change to be planned.	How I think the change was really implemented.	My actual behaviour to the change involves.
	Characteristics of the Change			
	Aspect : Comparison with Previous System (21 items)			
	Student Learning			
1-3	Providing for better student learning experiences than the previous system.	did not fit the measurement model		
4-6	Providing for better student achievement than the previous system.	did not fit the measurement model		
	Classroom management			
7-9	Providing for better classroom management than the previous system.	-0.651	0.054	0.001
10-12	Providing better feedback (reporting) to students on their achievements (or lack there of).	did not fit the measurement model		
	Student Needs			
13-15	Providing for more student interest and variation than the previous system.	did not fit the measurement model		
16-18	Providing for the needs of students better than the previous system.	-0.851	-0.212	-0.071
19-21	Allowing students to better match subjects with needs and abilities than the previous system.	did not fit the measurement model		

Item no.	Item wording	How I expect the change to be planned.	How I think the change was really implemented.	My actual Behaviour to the change involves.
	Aspect : Practicality in the Classroom (18 items)			
	Classroom Management			
22-24	Providing changes that can be adapted to the educational philosophy which guides my teaching.	did not fit the measurement model		
25-27	Providing changes that can be adapted to my classroom teaching style.	did not fit the measurement model		
28-30	Providing changes that is sufficiently flexible for managing the day-to-day running of the classroom.	did not fit the measurement model		
	Student Needs			
31-33	Providing changes that can be adapted to the needs of my students.	did not fit the measurement model		
34-36	Providing sufficient flexibility in the changes to suit the needs of different students.	-0.642	0.052	0.098
37-39	Providing sufficient resources to allow me to implement the changes in my classroom.	-0.324	-0.020	0.063
	Managing the Change at my Rajabhat			
	Aspect : Alleviation of Concerns (24 items)			
	Concerns of the Change			
40-42	Contributing to regular Rajabhat meetings at which I can raise my concerns about the change.	-0.184	0.319	0.265

Item no.	Item wording	How I expect the change to be planned.	How I think the change was really implemented.	My actual Behaviour to the change involves.
43-45	Being able to solve quickly any classroom problems in implementing the changes at my Rajabhat.	-0.142	0.407	0.570
46-48	Providing for specific concerns of lecturers to be raised with the Rajabhat administration and staff.	-0.242	0.085	0.209
49-51	Providing for specific concerns of lecturers to be negotiated with management by the Teaching staff.	did not fit the measurement model		
	Supporting the Change			
52-54	Having some lecturers to whom I can turn for advice about the change.	did not fit the measurement model		
55-57	Having good general Rajabhat support whenever there are problems with resources for the change.	did not fit the measurement model		
58-60	Having the Principal supporting the change at my Rajabhat in practical ways.	-0.207	0.303	0.370
61-63	Providing sufficient and continuing resources for the change.	did not fit the measurement model		
	Aspect: Learning about the Change (15 items)			
	Learning about the Change			
64-66	Providing how to learn best about implementing the changes.	-0.528	0.180	0.357
67-69	Providing information on adapting the change to the classroom.	-0.552	0.179	0.236
70-72	Providing information about the most important issues relating to the change.	-0.446	0.098	0.321

Item no.	Item wording	How I expect the change to be planned.	How I think the change was really implemented.	My actual Behaviour to the change involves.
	Discussion about the Change			
73-75	Providing regular forums to discuss the most important issues of the change.	did not fit the measurement model		
76-78	Providing for the Rajabhat staff and management to discuss the change.	-0.208	0.300	0.359
	Aspect : Participation in Decision-making (12 items)			
	Discussion about the Classroom			
79-81	Participating in selecting teaching resources associated with the change.	did not fit the measurement model		
82-84	Participating in Rajabhat decisions that affect how the change is implemented in my classroom.	did not fit the measurement model		
85-87	Participating in determining the content of professional sessions.	did not fit the measurement model		
88-90	Participating in Rajabhat decisions that are related to implementing the changes.	-0.168	0.508	0.532
	Value for the Lecturer			
	Aspect : Personal Cost Appraisal (18 items)			
	Concerns of Lecturers			
91-93	Increasing my satisfaction with teaching which outweigh the extra work generated for me.	-0.204	0.304	0.390

Item no.	Item wording	How I expect the change to be planned.	How I think the change was really implemented.	My actual Behaviour to the change involves.
94-96	Making my satisfaction with home life outweigh the extra work generated for me.	did not fit the measurement model		
97-99	Keeping the emotional strain of the change for lecturers to a minimum.	-0.159	0.412	0.380
	Concerns of Students			
100-102	Making for better student classroom learning to outweigh the extra work generated for me.	did not fit the measurement model		
103-105	Making the total benefits for the students outweigh the total problems for me.	did not fit the measurement model		
106-108	Making for better classroom management which outweighs the extra work generated for me.	did not fit the measurement model		
	Aspect : Collaboration with Other Lecturers (15 items)			
	Sharing Knowledge of the Change			
109-111	Sharing resources associated with the change with other lecturers.	did not fit the measurement model		
112-114	Sharing teaching ideas with other lecturers in my Rajabhat, as they relate to the change.	did not fit the measurement model		

Item no.	Item wording	How I expect the change to be planned.	How I think the change was really implemented.	My actual Behaviour to the change involves.
	Advice and Support from Others			
115-117	Giving support to other lecturers at my Rajabhat when they need it to implement the change.	-0.338	0.157	0.208
118-120	Asking for advice from others in my Rajabhat when I have problems with the change.	did not fit the measurement model		
121-123	Providing advice to other lecturers about the change when requested.	did not fit the measurement model		
	Aspect : Opportunities for Lecturer Improvement (12 items)			
	Teaching Improvement			
124-126	Providing opportunities for me to improve my educational knowledge and understanding.	did not fit the measurement model		
127-129	Providing opportunities for management and lecturer staff to work together for lecturer improvement.	did not fit the measurement model		
	Students Improvement			
130-132	Providing opportunities for me to improve my teaching.	did not fit the measurement model		
133-135	Providing opportunities for me to do better for my students.	did not fit the measurement model		

Item no.	Item wording	How I expect the change to be planned.	How I think the change was really implemented.	My actual Behaviour to the change involves.
	Aspect: Perceived Value for Students			
	(15 items)			
	Value of the Change for Students			
136-138	Providing value for my students.	-0.523	-0.257	-0.157
139-141	Providing for the needs of my students.	-0.504	-0.052	-0.075
142-144	Providing for good student learning.	did not fit the measurement model		
	Discussion of the Change			
145-147	Discussing the change with students.	did not fit the measurement model		
148-150	Discussing the change with parents.	did not fit the measurement model		

Appendix C: Lecturer Receptivity scores and item thresholds

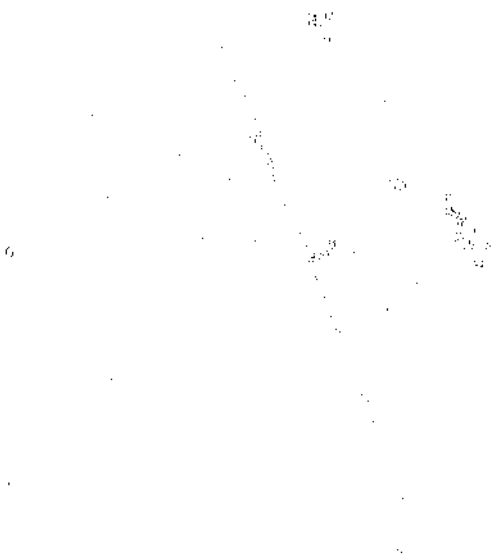
(54 item, 3 thresholds)

LOCATION	PERSONS	ITEMS (uncentralised thresholds)
	High receptivity to change	Hard items
8.0		
7.0		
6.0		
5.0		
	X	
4.0		
	X	
3.0		
		Learn68.3 Allev59.3 Learn 65.3 Cost92.3
	X	Allev 44.3 Cost 98.3 Partic89.3 Allev 41.3 Practic 35.3
	XX	Cost 93.3 Learn 71.3 Compare 8.3 Learn 77.3 learn 66.3
2.0	X	Allev 60.3 Partic 90.3 Allev 42.3 Compare 17.3 Learn 69.3 Learn 72.3
	XX	Learn 78.3 Allev 47.3 Allev 45.3 Collab116 3
	XX	Practic 38 3 Allev 48.3 Value 140.3 Value138 3 Compare 9 3 Collab117.3
	X	Value 141.3 Value 137.3 Compare18 3 Cost 99 3 Practic 36.3
	XXXXXXX	Practic 37 3 Allev 58.3 Allev 46.3 Cost 97 3 Cost 91.3 Allev 43.3
1.0	XXXXXXXXXXX	Practic 39.3 Allev 46.3 Learn 64.3 Partic 88.3
	XXXXXXXXXXX	Compare 16.3 Value136 3 Learn 67.31 earn 76 3 Value 139.3 Collab115.3
	XXXXXXXXXXXX	Compare 7.3 Practic 34.3
	XXXXXXXXXXXXXX	Learn70.3
	XXXXXXXX	Partic 90 2 Partic 89 2
	XXXXXXXXXXXXXX	Allev 44 2 Allev 45 2 Cost 98 2 Cost 99 2 Learn 78 2
0.0	XXXXXXXXXXXXXXXXXX	Allev 59 2 Learn 65.2 Learn 72 2 Practic 38 2 Allev 48 2 Allev 60 2
	XXXXXXXXXXXXXXXXXXX	Practic 39 2 Learn 77.2
	XXXXXXXXXXXXXXXXXX	Practic 35.2 Allev 47.2 Allev 41.2 Learn 68 2 Collab117.2 Learn 71.2
	XXXXXXXXXXXXXXXXXX	Learn69.2 Compare 9 2 Cost 93 2 Allev 42.2 Cost 92 2 Learn 66.2
	XXXXXXXXXXXXXXXXXX	Partic88 2 Value 138 2 Cost 97.2 Compare 18 2 Value 141.2 Learn 76.2
	XXXXXXXXXXXXXX	Collab116 2 Compare 8.2 Practic 36 2
	XXXXXXXXXXXXX	Value137.2 Compare 17.2 Learn 67.2 Allev 58 2 Value140 2 Allev 43 2
	XXXXXXXXXX	Practic37 2 Allev 40.2 Learn 64.2 Compare 7.2 Learn 70.2 Cost 91.2
		Allev 46 2 Collab115 2
	XXXXXXX	Value 136.2
-1.0	XXXXXXX	Allev 45.1 Value 139.2
	XXX	Allev 60.1 Cost 99.1 Partic90.1 Compare 16 2 Practic34 2
		Learn72.1 Allev 42 1 Cost 93 1
	XXX	Learn76.1 Allev 41.1 Allev 46.1 Allev 48.1 Allev 40 1 Learn 66 1
		Learn 69.1 Collab117.1 Practic39.1 Practic36 1
		Practic37.1 Learn 70.1 Allev58 1 Value 139 1 Value 140 1 Collab1 15.1
		Value141.1 Partic 88.1 Allev 43 1 Collab116.1 Cost 98.1 Partic 89.1
		Cost 91.1 Learn78 1 Allev 44.1
-2.0		Cost 92.1 Allev 47 1 Allev 59.1 Value136.1 Cost 97 1 Learn77.1
		Compare 18.1
	X	Practic38.1 Learn68.1 Practic 34.1 Learn71.1 Compare 8.1 Value137.1
		Compare 9.1
		Practic35.1 Learn 64 1 Learn 65.1 Learn 67.1 Compare 17.1 Value138.1
	X	Compare7.1 Compare 16 1
-3.0		
-4.0		
-5.0		
-6.0		
	Low receptivity to change	Easy items

Graph of the scale of measures (N=659) and item thresholds (3 thresholds for each of 54 items)

Notes on graph

1. The scale is in logits, the log odds of answering the response categories (about -2.8 to +4.1.
2. Lecturer Receptivity measures are place on the LHS of the scale and item thresholds (item difficulties) are place on the RHS scale. Item thresholds relating to the three aspects: *How I expect the change to be planned; How I think the change was really implemented; and My actual behaviour to the change involves*. The results indicate that the real thresholds are more or less evenly distributed along the scale, whereas the expectation thresholds are mostly at the easy end of the scale.
3. Compare 8.1 refers to the threshold between the response categories 0 and 1 for item 8; compare 8.2 refers to the threshold between the response categories 1 and 2; compare 8.3 refers to the threshold between the response categories 2 and 3 for the same item. These thresholds are ordered compare 8.1 is easiest (difficulty is -2.5 logits), compare 8.2 is hard (difficulty is -0.5 logits), and compare 8.3 is harder (difficulty is +2.0 logits) in line with the ordering of the response categories. Other item thresholds are labeled similarly.



Appendix D: Item thresholds (54 items)

Lecturer receptivity towards the new educational system change

ITEM STATEMENT			THRESHOLDS		
Code	Statement	Mean	1	2	3
I0007	Descriptor for Item 7	-.651	-2.597	-.530	1.174
I0008	Descriptor for Item 8	.054	-2.092	-.053	2.308
I0009	Descriptor for Item 9	.001	-2.042	.138	1.907
I0016	Descriptor for Item 16	-.851	-2.522	-1.034	1.002
I0017	Descriptor for Item 17	-.212	-2.293	-.398	2.054
I0018	Descriptor for Item 18	-.071	-1.804	-.123	1.716
I0034	Descriptor for Item 34	-.642	-2.110	-1.006	1.190
I0035	Descriptor for Item 35	.052	-2.380	.029	2.507
I0036	Descriptor for Item 36	.098	-1.405	-.045	1.742
I0037	Descriptor for Item 37	-.324	-1.792	-.579	1.400
I0038	Descriptor for Item 38	-.020	-2.170	.259	1.852
I0039	Descriptor for Item 39	.063	-1.412	.356	1.245
I0040	Descriptor for Item 40	-.184	-1.500	-.541	1.490
I0041	Descriptor for Item 41	.319	-1.584	.043	2.498
I0042	Descriptor for Item 42	.265	-1.389	.147	2.039
I0043	Descriptor for Item 43	-.142	-1.727	-.267	1.566
I0044	Descriptor for Item 44	.407	-1.612	.417	2.415
I0045	Descriptor for Item 45	.570	-.896	.441	2.165
I0046	Descriptor for Item 46	-.242	-1.535	-.481	1.289
I0047	Descriptor for Item 47	.085	-1.943	.043	2.155
I0048	Descriptor for Item 48	.209	-1.505	.265	1.868
I0058	Descriptor for Item 58	-.207	-1.776	-.333	1.488
I0059	Descriptor for Item 59	.303	-1.915	.209	2.623
I0060	Descriptor for Item 60	.370	-1.179	.273	2.016
I0064	Descriptor for Item 64	-.528	-2.363	-.534	1.313
I0065	Descriptor for Item 65	.189	-2.358	.217	2.681
I0066	Descriptor for Item 66	.357	-1.496	.187	2.379
I0067	Descriptor for Item 67	-.552	-2.339	-.356	1.040
I0068	Descriptor for Item 68	.179	-2.145	.076	2.606
I0069	Descriptor for Item 69	.230	-1.473	.115	2.065
I0070	Descriptor for Item 70	-.446	-1.790	-.521	.972
I0071	Descriptor for Item 71	.098	-2.102	.104	2.291
I0072	Descriptor for Item 72	.321	-1.394	.236	2.122
I0076	Descriptor for Item 76	-.208	-1.594	-.073	1.043
I0077	Descriptor for Item 77	.309	-1.824	.375	2.351
I0078	Descriptor for Item 78	.359	-1.627	.563	2.143
I0088	Descriptor for Item 88	-.168	-1.730	-.155	1.380
I0089	Descriptor for Item 89	.508	-1.642	.723	2.442
I0090	Descriptor for Item 90	.532	-1.063	.637	2.022
I0091	Descriptor for Item 91	-.204	-1.635	-.515	1.539
I0092	Descriptor for Item 92	.304	-1.967	.161	2.717
I0093	Descriptor for Item 93	.390	-1.223	.143	2.251
I0097	Descriptor for Item 97	-.159	-1.840	-.137	1.501
I0098	Descriptor for Item 98	.312	-1.651	.449	2.437
I0099	Descriptor for Item 99	.380	-1.142	.540	1.742
I0115	Descriptor for Item 115	-.338	-1.750	-.420	1.155
I0116	Descriptor for Item 116	.157	-1.671	-.055	2.197
I0117	Descriptor for Item 117	.208	-1.422	.078	1.968
I0136	Descriptor for Item 136	-.523	-1.879	-.720	1.029
I0137	Descriptor for Item 137	-.257	-2.076	-.399	1.704
I0138	Descriptor for Item 138	-.157	-2.232	-.140	1.902
I0139	Descriptor for Item 139	-.504	-1.770	-.860	1.118
I0140	Descriptor for Item 140	-.052	-1.760	-.297	1.900
I0141	Descriptor for Item 141	-.075	-1.732	-.095	1.601

Appendix E: Item locations (54 items), SE, Residuals and fit to the model

Lecturer receptivity towards the new educational system change

Item Label	Type	Location	SE	Residual	DegFree	DatPts	Chi Sq	Prob
I0007 Descriptor for Item 7	Poly	-0.651	0.06	1.451	643.81	659	9.432	0.380
I0008 Descriptor for Item 8	Poly	0.054	0.06	2.004	643.81	659	16.633	0.026
I0009 Descriptor for Item 9	Poly	0.001	0.06	2.244	643.81	659	35.284	0.000
I0016 Descriptor for Item 16	Poly	-0.851	0.06	0.767	643.81	659	13.988	0.096
I0017 Descriptor for Item 17	Poly	-0.212	0.06	-0.103	643.81	659	21.980	0.000
I0018 Descriptor for Item 18	Poly	-0.071	0.05	0.678	643.81	659	32.318	0.000
I0034 Descriptor for Item 34	Poly	-0.642	0.06	0.707	643.81	659	24.013	0.000
I0035 Descriptor for Item 35	Poly	0.052	0.06	1.236	643.81	659	23.623	0.000
I0036 Descriptor for Item 36	Poly	0.098	0.05	0.683	643.81	659	11.001	0.253
I0037 Descriptor for Item 37	Poly	-0.324	0.05	-0.406	643.81	659	23.942	0.000
I0038 Descriptor for Item 38	Poly	-0.020	0.06	-0.792	643.81	659	37.535	0.000
I0039 Descriptor for Item 39	Poly	0.063	0.05	-0.825	643.81	659	18.281	0.002
I0040 Descriptor for Item 40	Poly	-0.184	0.05	-1.116	643.81	659	9.560	0.368
I0041 Descriptor for Item 41	Poly	0.319	0.06	-0.917	643.81	659	34.808	0.000
I0042 Descriptor for Item 42	Poly	0.265	0.05	-0.505	643.81	659	32.308	0.000
I0043 Descriptor for Item 43	Poly	-0.142	0.05	0.274	643.81	659	20.715	0.000
I0044 Descriptor for Item 44	Poly	0.407	0.06	-1.245	643.81	659	23.516	0.000
I0045 Descriptor for Item 45	Poly	0.570	0.05	-0.974	643.81	659	24.435	0.000
I0046 Descriptor for Item 46	Poly	-0.242	0.05	-0.422	643.81	659	15.901	0.040
I0047 Descriptor for Item 47	Poly	0.095	0.06	-1.249	643.81	659	11.059	0.249
I0048 Descriptor for Item 48	Poly	0.209	0.05	-1.462	643.81	659	15.263	0.056
I0058 Descriptor for Item 58	Poly	-0.207	0.05	0.611	643.81	659	31.927	0.000
I0059 Descriptor for Item 59	Poly	0.303	0.06	-1.157	643.81	659	28.151	0.000
I0060 Descriptor for Item 60	Poly	0.370	0.05	-0.379	643.81	659	28.060	0.000
I0064 Descriptor for Item 64	Poly	-0.528	0.06	-0.789	643.81	659	11.991	0.190
I0065 Descriptor for Item 65	Poly	0.180	0.06	-0.707	643.81	659	20.454	0.000
I0066 Descriptor for Item 66	Poly	0.357	0.06	-0.452	643.81	659	31.312	0.000
I0067 Descriptor for Item 67	Poly	-0.552	0.05	-0.828	643.81	659	27.605	0.000
I0068 Descriptor for Item 68	Poly	0.179	0.06	-0.958	643.81	659	14.065	0.093
I0069 Descriptor for Item 69	Poly	0.236	0.05	-1.221	643.81	659	6.666	0.662
I0070 Descriptor for Item 70	Poly	-0.446	0.05	-0.289	643.81	659	48.817	0.000
I0071 Descriptor for Item 71	Poly	0.098	0.06	-0.915	643.81	659	22.531	0.000
I0072 Descriptor for Item 72	Poly	0.321	0.05	-1.361	643.81	659	19.535	0.000
I0076 Descriptor for Item 76	Poly	-0.208	0.05	0.745	643.81	659	11.312	0.232
I0077 Descriptor for Item 77	Poly	0.309	0.05	0.043	643.81	659	14.440	0.080
I0078 Descriptor for Item 78	Poly	0.359	0.06	-0.537	643.81	659	7.296	0.594
I0088 Descriptor for Item 88	Poly	-0.168	0.05	-0.706	643.81	659	39.956	0.000
I0089 Descriptor for Item 89	Poly	0.508	0.06	0.206	643.81	659	14.035	0.251
I0090 Descriptor for Item 90	Poly	0.532	0.05	0.385	643.81	659	21.978	0.000
I0091 Descriptor for Item 91	Poly	-0.204	0.05	-0.130	643.81	659	4.483	0.873
I0092 Descriptor for Item 92	Poly	0.304	0.06	0.227	643.81	659	8.594	0.459
I0093 Descriptor for Item 93	Poly	0.390	0.05	0.854	643.81	659	24.960	0.000
I0097 Descriptor for Item 97	Poly	-0.159	0.05	0.718	643.81	659	28.599	0.000
I0098 Descriptor for Item 98	Poly	0.412	0.06	0.778	643.81	659	15.020	0.062
I0099 Descriptor for Item 99	Poly	0.380	0.05	1.480	643.81	659	39.043	0.000
I0115 Descriptor for Item 115	Poly	-0.338	0.05	-0.492	643.81	659	15.595	0.047
I0116 Descriptor for Item 116	Poly	0.157	0.06	-0.218	643.81	659	14.913	0.065
I0117 Descriptor for Item 117	Poly	0.206	0.05	0.709	643.81	659	20.967	0.000
I0136 Descriptor for Item 136	Poly	-0.523	0.05	0.021	643.81	659	25.328	0.000
I0137 Descriptor for Item 137	Poly	-0.257	0.06	-0.298	643.81	659	13.254	0.125
I0138 Descriptor for Item 138	Poly	-0.157	0.06	-0.127	643.81	659	17.717	0.009
I0139 Descriptor for Item 139	Poly	-0.504	0.06	-0.057	643.81	659	9.295	0.392
I0140 Descriptor for Item 140	Poly	-0.052	0.06	-0.355	643.81	659	24.130	0.000
I0141 Descriptor for Item 141	Poly	-0.075	0.05	0.753	643.81	659	25.578	0.000

Appendix F: Item thresholds (12 items)

Comparison with the previous system

ITEM STATEMENT			THRESHOLDS		
Code	Statement	Mean	1	2	3
I0001	Descriptor for Item 1	-1.035	-3.915	-.512	1.322
I0002	Descriptor for Item 2	.262	-2.746	.244	3.287
I0003	Descriptor for Item 3	.383	-1.860	.132	2.876
I0004	Descriptor for Item 4	-.718	-3.467	-.541	1.856
I0005	Descriptor for Item 5	.253	-2.682	.477	2.963
I0006	Descriptor for Item 6	.328	-2.185	.569	2.599
I0007	Descriptor for Item 7	-.353	-2.655	-.258	1.855
I0008	Descriptor for Item 8	.559	-2.042	.314	3.405
I0009	Descriptor for Item 9	.454	-2.038	.555	2.844
I0016	Descriptor for Item 16	-.646	-2.745	-.800	1.607
I0017	Descriptor for Item 17	.185	-2.322	-.036	2.912
I0018	Descriptor for Item 18	.330	-1.763	.310	2.442

Appendix G: Item locations (12 items), SE, Residuals and fit to the model

Comparison with the previous system

Item Label	Type	Location	SE	Residual	DegFree	DatPts	Chi Sq	Prob
I0001 Descriptor for Item 1	Poly	-1.035	0.06	0.505	588.33	645	16.236	0.033
I0002 Descriptor for Item 2	Poly	0.262	0.07	-0.391	588.33	645	16.724	0.024
I0003 Descriptor for Item 3	Poly	0.383	0.06	0.282	588.33	645	30.092	0.000
I0004 Descriptor for Item 4	Poly	-0.718	0.07	-0.403	588.33	645	22.111	0.000
I0005 Descriptor for Item 5	Poly	0.253	0.07	-2.883	588.33	645	22.020	0.000
I0006 Descriptor for Item 6	Poly	0.328	0.06	-1.827	588.33	645	20.833	0.000
I0007 Descriptor for Item 7	Poly	-0.353	0.06	1.439	588.33	645	12.390	0.167
I0008 Descriptor for Item 8	Poly	0.559	0.07	0.013	588.33	645	22.986	0.000
I0009 Descriptor for Item 9	Poly	0.454	0.06	0.559	588.33	645	28.393	0.000
I0016 Descriptor for Item 16	Poly	-0.646	0.06	1.590	588.33	645	24.896	0.000
I0017 Descriptor for Item 17	Poly	0.185	0.07	-0.272	588.33	645	29.532	0.000
I0018 Descriptor for Item 18	Poly	0.330	0.06	1.815	588.33	645	20.370	0.000

Appendix H: Item thresholds (18 items)

Practicality in the classroom

ITEM STATEMENT Code	Statement	Mean	THRESHOLDS 1	2	3
I0022	Descriptor for Item 22	-.485	-2.426	-.863	1.835
I0023	Descriptor for Item 23	.183	-2.564	.005	3.108
I0024	Descriptor for Item 24	.404	-1.541	.130	2.623
I0025	Descriptor for Item 25	-.671	-3.071	-.652	1.711
I0026	Descriptor for Item 26	.086	-2.816	.151	2.925
I0027	Descriptor for Item 27	.386	-1.849	.349	2.658
I0028	Descriptor for Item 28	-.830	-3.831	-.566	1.906
I0029	Descriptor for Item 29	.072	-3.092	.182	3.126
I0030	Descriptor for Item 30	.530	-1.720	.443	2.868
I0031	Descriptor for Item 31	-.857	-2.996	-.821	1.247
I0032	Descriptor for Item 32	.223	-2.323	.127	2.863
I0033	Descriptor for Item 33	.328	-1.962	.405	2.541
I0034	Descriptor for Item 34	-.545	-2.398	-.878	1.641
I0035	Descriptor for Item 35	.323	-2.518	.319	3.167
I0036	Descriptor for Item 36	.363	-1.491	.249	2.330
I0037	Descriptor for Item 37	-.135	-1.895	-.414	1.905
I0038	Descriptor for Item 38	.284	-2.224	.522	2.553
I0039	Descriptor for Item 39	.340	-1.492	.666	1.846

Appendix I: Item locations (18 items), SE, Residuals and fit to the model

Practicality in the classroom

Item Label	Type	Location	SE	Residual	DegFree	DatPts	Chi Sq	Prob
I0022 Descriptor for Item 22	Poly	-0.485	0.06	1.550	617.56	657	21.279	0.000
I0023 Descriptor for Item 23	Poly	0.183	0.07	-0.126	617.56	657	5.962	0.736
I0024 Descriptor for Item 24	Poly	0.404	0.06	-0.312	617.56	657	12.507	0.161
I0025 Descriptor for Item 25	Poly	-0.671	0.06	-0.680	617.56	657	34.937	0.000
I0026 Descriptor for Item 26	Poly	0.086	0.07	-2.008	617.56	657	29.607	0.000
I0027 Descriptor for Item 27	Poly	0.386	0.06	0.185	617.56	657	29.509	0.000
I0028 Descriptor for Item 28	Poly	-0.830	0.07	-0.130	617.56	657	19.381	0.000
I0029 Descriptor for Item 29	Poly	0.072	0.07	-2.526	617.56	657	34.417	0.000
I0030 Descriptor for Item 30	Poly	0.530	0.06	-1.652	617.56	657	30.181	0.000
I0031 Descriptor for Item 31	Poly	-0.857	0.06	0.636	617.56	657	37.149	0.000
I0032 Descriptor for Item 32	Poly	0.223	0.06	-1.488	617.56	657	18.401	0.001
I0033 Descriptor for Item 33	Poly	0.328	0.06	-2.785	617.56	657	18.212	0.003
I0034 Descriptor for Item 34	Poly	-0.545	0.06	1.736	617.56	657	28.979	0.000
I0035 Descriptor for Item 35	Poly	0.323	0.07	2.509	617.56	657	36.957	0.000
I0036 Descriptor for Item 36	Poly	0.363	0.06	0.553	617.56	657	23.802	0.000
I0037 Descriptor for Item 37	Poly	-0.135	0.06	1.314	617.56	657	16.462	0.029
I0038 Descriptor for Item 38	Poly	0.284	0.06	-0.889	617.56	657	16.717	0.024
I0039 Descriptor for Item 39	Poly	0.340	0.06	-0.983	617.56	657	26.995	0.000

Appendix J: Item thresholds (12 items)

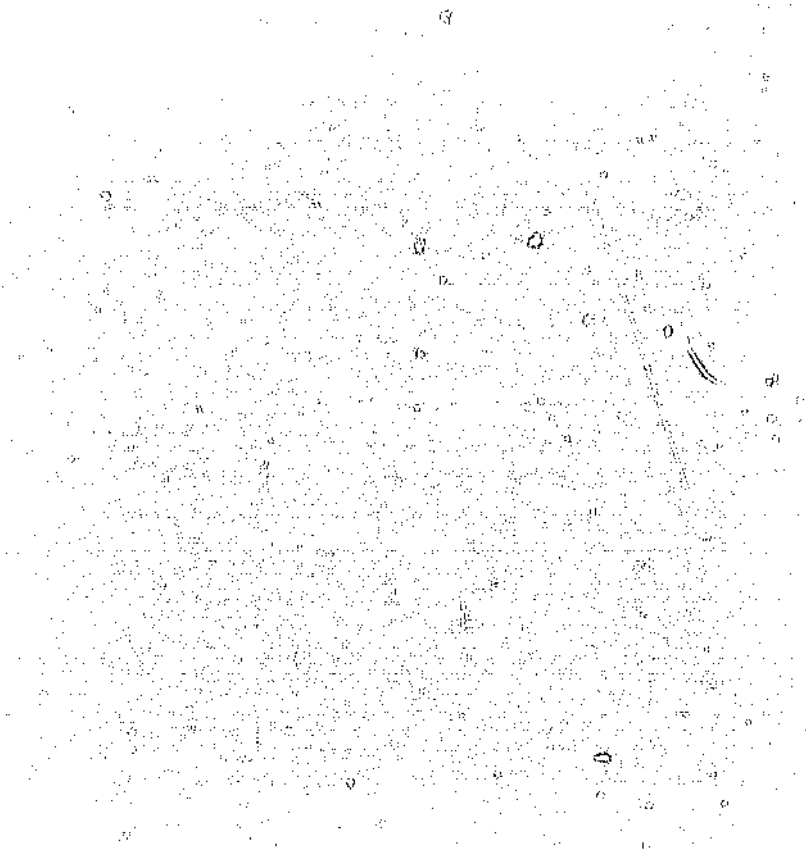
Alleviation of concerns

ITEM STATEMENT Code	Statement	Mean	THRESHOLDS 1	2	3
10040	Descriptor for Item 40	-.425	-2.217	-.708	1.651
10041	Descriptor for Item 41	.210	-2.180	-.023	2.833
10042	Descriptor for Item 42	.160	-1.954	.085	2.348
10043	Descriptor for Item 43	-.392	-2.543	-.397	1.764
10044	Descriptor for Item 44	.335	-2.231	.408	2.829
10045	Descriptor for Item 45	.553	-1.313	.463	2.511
10046	Descriptor for Item 46	-.518	-2.358	-.647	1.452
10047	Descriptor for Item 47	-.121	-2.785	-.035	2.458
10048	Descriptor for Item 48	.088	-2.088	.235	2.118
10058	Descriptor for Item 58	-.396	-2.281	-.506	1.600
10059	Descriptor for Item 59	.217	-2.446	.121	2.976
10060	Descriptor for Item 60	.287	-1.581	.239	2.202

Appendix K: Item locations (12 items), SE, Residuals and fit to the model

Alleviation of concerns

Item Label	Type	Location	SE	Residual	DegFree	DatPts	Chi Sq	Prob
I0040 Descriptor for Item 40	Poly	-0.425	0.06	0.160	592.00	649	15.339	0.054
I0041 Descriptor for Item 41	Poly	0.210	0.06	-0.934	592.00	649	6.193	0.712
I0042 Descriptor for Item 42	Poly	0.160	0.06	-0.871	592.00	649	18.771	0.000
I0043 Descriptor for Item 43	Poly	-0.392	0.06	-0.048	592.00	649	17.179	0.017
I0044 Descriptor for Item 44	Poly	0.335	0.06	-3.382	592.00	649	22.305	0.000
I0045 Descriptor for Item 45	Poly	0.553	0.06	-1.888	592.00	649	27.590	0.000
I0046 Descriptor for Item 46	Poly	-0.518	0.06	-0.935	592.00	649	56.157	0.000
I0047 Descriptor for Item 47	Poly	-0.121	0.06	-2.059	592.00	649	12.614	0.156
I0048 Descriptor for Item 48	Poly	0.088	0.06	-1.444	592.00	649	13.481	0.116
I0058 Descriptor for Item 58	Poly	-0.396	0.06	5.018	592.00	649	56.474	0.000
I0059 Descriptor for Item 59	Poly	0.217	0.07	0.633	592.00	649	31.529	0.000
I0060 Descriptor for Item 60	Poly	0.287	0.06	3.811	592.00	649	52.549	0.000



Appendix L: Item thresholds (15 items)

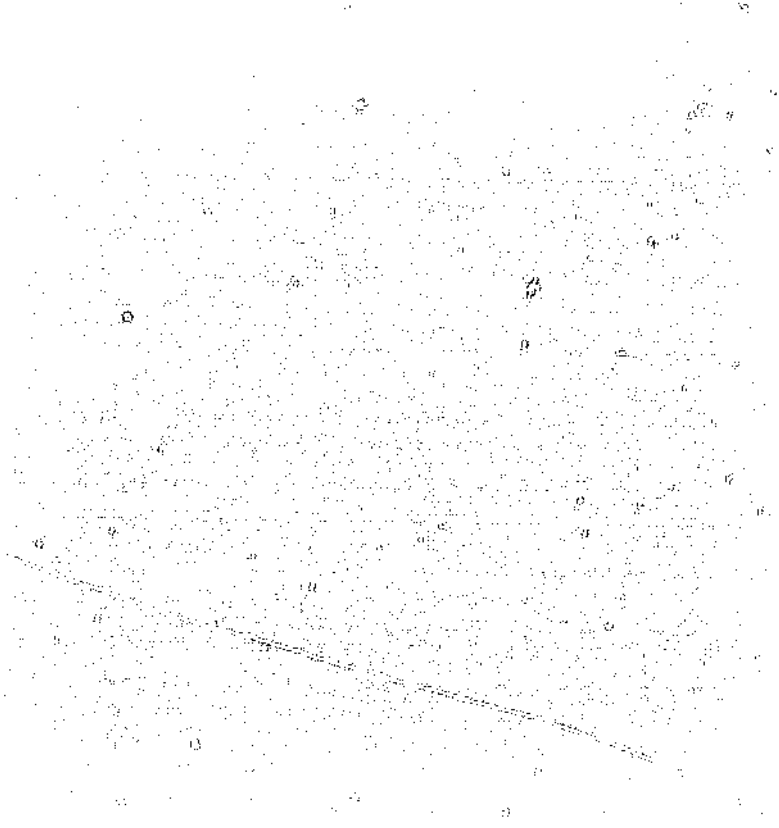
Learning about the change

ITEM STATEMENT			THRESHOLDS		
Code	Statement	Mean	1	2	3
I0064	Descriptor for Item 64	-.711	-3.030	-.692	1.590
I0065	Descriptor for Item 65	.186	-2.861	.241	3.179
I0066	Descriptor for Item 66	.403	-1.894	.240	2.862
I0067	Descriptor for Item 67	-.697	-2.857	-.561	1.328
I0068	Descriptor for Item 68	.211	-2.601	.045	3.189
I0069	Descriptor for Item 69	.266	-1.896	.119	2.575
I0070	Descriptor for Item 70	-.600	-2.309	-.737	1.246
I0071	Descriptor for Item 71	.082	-2.662	.098	2.810
I0072	Descriptor for Item 72	.366	-1.782	.287	2.594
I0073	Descriptor for Item 73	-.439	-2.552	-.394	1.631
I0074	Descriptor for Item 74	.169	-2.672	.335	2.845
I0075	Descriptor for Item 75	.303	-1.768	.373	2.305
I0076	Descriptor for Item 76	-.297	-2.086	-.143	1.338
I0077	Descriptor for Item 77	.337	-2.201	.416	2.795
I0078	Descriptor for Item 78	.420	-1.957	.627	2.589

Appendix M: Item locations (15 items), SE, Residuals and fit to the model

Learning about the change

Item Label	Type	Location	SE	Residual	DegFree	DatPts	Chi Sq	Prob
I0064 Descriptor for Item 64	Poly	-0.711	0.06	0.421	604.67	651	34.433	0.000
I0065 Descriptor for Item 65	Poly	0.186	0.07	0.352	604.67	651	11.463	0.222
I0066 Descriptor for Item 66	Poly	0.403	0.06	-0.109	604.67	651	19.819	0.000
I0067 Descriptor for Item 67	Poly	-0.697	0.06	0.018	604.67	651	24.662	0.000
I0068 Descriptor for Item 68	Poly	0.211	0.07	-0.642	604.67	651	10.028	0.328
I0069 Descriptor for Item 69	Poly	0.266	0.06	-2.007	604.67	651	21.769	0.000
I0070 Descriptor for Item 70	Poly	-0.600	0.06	0.128	604.67	651	16.660	0.025
I0071 Descriptor for Item 71	Poly	0.082	0.07	-1.821	604.67	651	23.412	0.000
I0072 Descriptor for Item 72	Poly	0.366	0.06	-1.331	604.67	651	22.687	0.000
I0073 Descriptor for Item 73	Poly	-0.439	0.06	-2.032	604.67	651	13.142	0.130
I0074 Descriptor for Item 74	Poly	0.169	0.07	-2.213	604.67	651	22.492	0.000
I0075 Descriptor for Item 75	Poly	0.303	0.06	-0.569	604.67	651	16.263	0.033
I0076 Descriptor for Item 76	Poly	-0.297	0.06	2.135	604.67	651	31.762	0.000
I0077 Descriptor for Item 77	Poly	0.337	0.06	1.220	604.67	651	26.113	0.000
I0078 Descriptor for Item 78	Poly	0.420	0.06	1.195	604.67	651	21.703	0.000



Appendix N: Item thresholds (9 items)

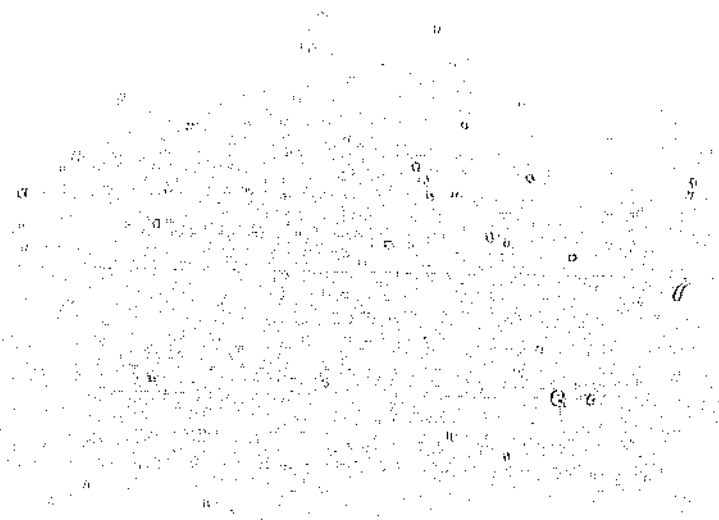
Participation in decision-making

ITEM STATEMENT			THRESHOLDS		
Code	Statement	Mean	1	2	3
I0079	Descriptor for Item 79	-.749	-2.727	-.645	1.126
I0080	Descriptor for Item 80	-.066	-3.071	-.047	2.922
I0081	Descriptor for Item 81	.212	-1.838	.061	2.414
I0085	Descriptor for Item 85	-.335	-2.327	-.283	1.606
I0086	Descriptor for Item 86	.467	-2.201	.843	2.758
I0087	Descriptor for Item 87	.265	-1.558	.623	1.731
I0088	Descriptor for Item 88	-.587	-2.709	-.541	1.489
I0089	Descriptor for Item 89	.383	-2.519	.551	3.118
I0090	Descriptor for Item 90	.408	-1.725	.456	2.494

Appendix O: Item locations (9 items), SE, Residuals and fit to the model

Participation in decision-making

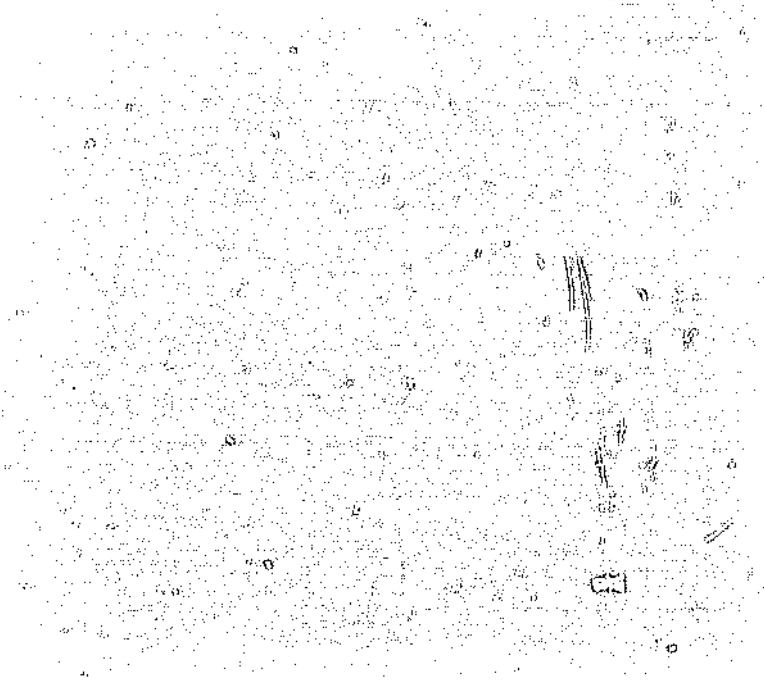
Item Label	Type	Location	SE	Residual	DegFree	DatPts	Chi Sq	Prob
I0079 Descriptor for Item 79	Poly	-0.749	0.06	6.199	557.11	630	32.757	0.000
I0080 Descriptor for Item 80	Poly	-0.066	0.07	-1.547	557.11	630	12.717	0.150
I0081 Descriptor for Item 81	Poly	0.212	0.06	1.187	557.11	630	26.676	0.000
I0085 Descriptor for Item 85	Poly	-0.335	0.06	-0.023	557.11	630	19.323	0.000
I0086 Descriptor for Item 86	Poly	0.467	0.07	-0.807	557.11	630	26.085	0.000
I0087 Descriptor for Item 87	Poly	0.265	0.06	-1.843	557.11	630	9.233	0.398
I0088 Descriptor for Item 88	Poly	-0.587	0.06	0.254	557.11	630	6.922	0.634
I0089 Descriptor for Item 89	Poly	0.383	0.07	-1.352	557.11	630	18.714	0.000
I0090 Descriptor for Item 90	Poly	0.408	0.06	-0.538	557.11	630	18.102	0.004



Appendix P: Item thresholds (15 items)

Personal cost appraisal

ITEM STATEMENT			THRESHOLDS		
Code	Statement	Mean	1	2	3
I0091	Descriptor for Item 91	-.359	-1.921	-.698	1.542
I0092	Descriptor for Item 92	.196	-2.349	.043	2.894
I0093	Descriptor for Item 93	.289	-1.583	.031	2.418
I0094	Descriptor for Item 94	-.162	-1.949	-.315	1.778
I0095	Descriptor for Item 95	.593	-1.832	.234	3.377
I0096	Descriptor for Item 96	.521	-1.305	.226	2.641
I0097	Descriptor for Item 97	-.339	-2.247	-.294	1.525
I0098	Descriptor for Item 98	.326	-2.040	.368	2.649
I0099	Descriptor for Item 99	.296	-1.434	.445	1.878
I0100	Descriptor for Item 100	-.694	-2.637	-.678	1.233
I0101	Descriptor for Item 101	-.028	-2.514	-.220	2.649
I0102	Descriptor for Item 102	-.033	-2.335	.020	2.217
I0106	Descriptor for Item 106	-.618	-2.544	-.315	1.005
I0107	Descriptor for Item 107	-.072	-2.641	.029	2.397
I0108	Descriptor for Item 108	.084	-1.929	.265	1.917



Appendix Q: Item locations (15 items), SE, Residuals and fit to the model

Personal cost appraisal

Item Label	Type	Location	SE	Residual	DegFree	DatPts	Chi Sq	Prob
I0091 Descriptor for Item 91	Poly	-0.359	0.06	1.273	602.80	649	17.806	0.008
I0092 Descriptor for Item 92	Poly	0.196	0.06	-0.762	602.80	649	17.595	0.011
I0093 Descriptor for Item 93	Poly	0.289	0.06	-1.545	602.80	649	12.884	0.142
I0094 Descriptor for Item 94	Poly	-0.162	0.06	2.079	602.80	649	35.134	0.000
I0095 Descriptor for Item 95	Poly	0.593	0.06	0.331	602.80	649	15.534	0.049
I0096 Descriptor for Item 96	Poly	0.521	0.06	-1.014	602.80	649	16.711	0.024
I0097 Descriptor for Item 97	Poly	-0.339	0.06	-0.645	602.80	649	37.828	0.000
I0098 Descriptor for Item 98	Poly	0.326	0.06	-1.629	602.80	649	25.616	0.000
I0099 Descriptor for Item 99	Poly	0.296	0.06	-0.790	602.80	649	30.074	0.000
I0100 Descriptor for Item 100	Poly	-0.694	0.06	-0.214	602.80	649	32.859	0.000
I0101 Descriptor for Item 101	Poly	-0.028	0.06	-1.141	602.80	649	18.943	0.000
I0102 Descriptor for Item 102	Poly	-0.033	0.06	-1.366	602.80	649	19.553	0.000
I0106 Descriptor for Item 106	Poly	-0.618	0.06	3.532	602.80	649	40.250	0.000
I0107 Descriptor for Item 107	Poly	-0.072	0.06	0.323	602.80	649	11.198	0.240
I0108 Descriptor for Item 108	Poly	0.084	0.06	0.342	602.80	649	34.426	0.000

Appendix R: Item thresholds (9 items)

Collaboration with other lecturers

ITEM STATEMENT			THRESHOLDS		
Code	Statement	Mean	1	2	3
I0115	Descriptor for Item 115	-.414	-2.392	-.398	1.549
I0116	Descriptor for Item 116	.262	-2.213	.045	2.954
I0117	Descriptor for Item 117	.331	-1.857	.239	2.611
I0118	Descriptor for Item 118	-.405	-2.774	-.487	2.047
I0119	Descriptor for Item 119	-.011	-2.949	.247	2.669
I0120	Descriptor for Item 120	.389	-1.781	.454	2.495
I0121	Descriptor for Item 121	-.612	-3.027	-.326	1.519
I0122	Descriptor for Item 122	.106	-2.791	.160	2.948
I0123	Descriptor for Item 123	.353	-1.646	.688	2.017

Appendix S: Item locations (9 items), SE, Residuals and fit to the model

Collaboration with other lecturers

Item Label	Type	Location	SE	Residual	DegFree	DatPts	Chi Sq	Prob
I0115 Descriptor for Item 115	Poly	-0.414	0.06	2.188	557.11	630	27.323	0.000
I0116 Descriptor for Item 116	Poly	0.262	0.07	-1.272	557.11	630	20.523	0.000
I0117 Descriptor for Item 117	Poly	0.331	0.06	0.586	557.11	630	17.764	0.008
I0118 Descriptor for Item 118	Poly	-0.405	0.06	-1.913	557.11	630	15.279	0.055
I0119 Descriptor for Item 119	Poly	-0.011	0.07	-2.525	557.11	630	24.032	0.000
I0120 Descriptor for Item 120	Poly	0.389	0.06	-1.287	557.11	630	38.820	0.000
I0121 Descriptor for Item 121	Poly	-0.612	0.06	0.787	557.11	630	33.388	0.000
I0122 Descriptor for Item 122	Poly	0.106	0.07	-1.460	557.11	630	17.274	0.015
I0123 Descriptor for Item 123	Poly	0.353	0.06	3.120	557.11	630	40.454	0.000

Appendix T: Item thresholds (9 items)

Opportunities for lecturer improvement

ITEM STATEMENT			THRESHOLDS		
Code	Statement	Mean	1	2	3
I0124	Descriptor for Item 124	-.359	-2.106	-.419	1.449
I0125	Descriptor for Item 125	.045	-2.552	-.084	2.771
I0126	Descriptor for Item 126	.294	-1.850	.202	2.530
I0127	Descriptor for Item 127	-.229	-2.635	-.190	2.139
I0128	Descriptor for Item 128	.338	-2.129	.248	2.896
I0129	Descriptor for Item 129	.459	-1.478	.246	2.608
I0133	Descriptor for Item 133	-.357	-1.987	-.782	1.697
I0134	Descriptor for Item 134	-.081	-2.397	-.369	2.523
I0135	Descriptor for Item 135	-.110	-2.276	.156	1.789

Appendix U: Item locations (9 items), SE, Residuals and fit to the model

Opportunities for lecturer improvement

Item Label	Type	Location	SE	Residual	DegFree	DatPts	Chi Sq	Prob
I0124 Descriptor for Item 124	Poly	-0.359	0.06	3.291	565.11	639	56.808	0.000
I0125 Descriptor for Item 125	Poly	0.045	0.07	-0.901	565.11	639	13.847	0.101
I0126 Descriptor for Item 126	Poly	0.294	0.06	-1.264	565.11	639	11.755	0.204
I0127 Descriptor for Item 127	Poly	-0.229	0.06	-0.071	565.11	639	14.972	0.064
I0128 Descriptor for Item 128	Poly	0.338	0.06	-2.445	565.11	639	17.606	0.010
I0129 Descriptor for Item 129	Poly	0.459	0.06	-3.014	565.11	639	42.475	0.000
I0133 Descriptor for Item 133	Poly	-0.357	0.06	0.843	565.11	639	29.221	0.000
I0134 Descriptor for Item 134	Poly	-0.081	0.07	-0.102	565.11	639	7.966	0.523
I0135 Descriptor for Item 135	Poly	-0.110	0.06	1.833	565.11	639	26.541	0.000

Appendix V: Item thresholds (12 items)

Perceived value for students

ITEM STATEMENT			THRESHOLDS		
Code	Statement	Mean	1	2	3
I0136	Descriptor for Item 136	-.530	-2.448	-.700	1.557
I0137	Descriptor for Item 137	-.174	-2.647	-.276	2.399
I0138	Descriptor for Item 138	-.032	-2.874	.077	2.702
I0139	Descriptor for Item 139	-.563	-2.509	-.879	1.699
I0140	Descriptor for Item 140	.127	-2.262	-.142	2.785
I0141	Descriptor for Item 141	.079	-2.242	.103	2.377
I0142	Descriptor for Item 142	-.466	-2.783	-.672	2.097
I0143	Descriptor for Item 143	.180	-2.297	.282	2.555
I0144	Descriptor for Item 144	.562	-1.482	.345	2.821
I0145	Descriptor for Item 145	-.066	-1.707	-.484	1.993
I0146	Descriptor for Item 146	.330	-1.739	.447	2.282
I0147	Descriptor for Item 147	.553	-1.197	.235	2.622

Appendix W: Item locations (12 items), SE, Residuals and fit to the model

Perceived value for students

Item Label	Type	Location	SE	Residual	DegFree	DatPts	Chi Sq	Prob
I0136 Descriptor for Item 136	Poly	-0.530	0.06	2.361	577.33	633	27.714	0.000
I0137 Descriptor for Item 137	Poly	-0.174	0.07	0.521	577.33	633	13.047	0.135
I0138 Descriptor for Item 138	Poly	-0.032	0.07	-0.238	577.33	633	27.296	0.000
I0139 Descriptor for Item 139	Poly	-0.563	0.06	-1.807	577.33	633	28.202	0.000
I0140 Descriptor for Item 140	Poly	0.127	0.07	-2.422	577.33	633	28.710	0.000
I0141 Descriptor for Item 141	Poly	0.079	0.06	-1.807	577.33	633	12.119	0.182
I0142 Descriptor for Item 142	Poly	-0.466	0.07	-2.907	577.33	633	20.945	0.000
I0143 Descriptor for Item 143	Poly	0.180	0.06	-2.096	577.33	633	22.936	0.000
I0144 Descriptor for Item 144	Poly	0.562	0.06	-1.632	577.33	633	48.395	0.000
I0145 Descriptor for Item 145	Poly	-0.066	0.06	1.753	577.33	633	21.437	0.000
I0146 Descriptor for Item 146	Poly	0.330	0.06	2.219	577.33	633	24.981	0.000
I0147 Descriptor for Item 147	Poly	0.553	0.06	2.603	577.33	633	38.442	0.000

Appendix X: Information statement, consent for interview and interview questions

INFORMATION STATEMENT AND CONSENT FOR INTERVIEW

This study is being undertaken to investigate lecturer receptivity to a major new educational policy change in line with the National Education Act of 1999 at Rajabhats. The information will lead to the clarification of lecturer receptivity towards a major new educational change, and the reasons they have for their attitudes. You will be asked to respond to questions in a taped interview.

It contains 18 questions covering nine lecturer-change aspects in relation to a major new educational policy change. These are 1) attitude to the new system compared to the previous system, 2) practicality in the classroom, 3) alleviation of concerns, 4) learning about the change, 5) participation in decision-making, 6) personal cost appraisal, 7) collaboration with other lecturers, 8) opportunities for lecturer improvement, and 9) perceived value for students.

It is expected that this research will be benefit the Rajabhats, lecturers, students, educational administrators, and researchers studying the new educational policy change.

Your consent to be interviewed would be very welcomed and appreciated. You will be assigned a subject number, which will be used by the researcher to assure confidentiality of individual results.

It will take approximately 30 minutes. You are requested to take time with the questions and answer them honestly.

Any questions concerning the project can be directed to Anusak Ketusiri on (045) 262 423-32 ext. 1217.

I have read the information above and any questions I have asked have been answered to my satisfaction. I agree to participate in this activity, realising that I may withdraw at any time.

I agree that the research data gathered for this study may be published provided my name is not used.

Signature ..... Date .....

Investigator ..... Date .....

Note:

If you would like to receive a one page summary of the outcomes of this study please complete the slip below and return to:

Asst.Prof.Anusak Ketusiri

Faculty of Education

Ubon Ratchathani Rajabhat University, 34000

Name .....

Address .....

Postcode .....

EDITH COWAN
UNIVERSITY

Perth Western Australia

26 October 2001

President of .....Rajabhat University
Rajabhat .....,
..... Province, Thailand

Dear President,

Subject: Seeking permission to conduct a research project for my Ph.D.

Further to my university approved research project entitled "Lecturer receptivity to a major new policy change in the context of planned change at Rajabhats in Thailand", I would like to ask for your permission to carry out research in Rajabhat University ..... The study aims to investigate lecturer receptivity to a major new educational policy change in line with the National Education Act of 1999 at Rajabhats. This information will lead to the clarification of what lecturers' receptivity perceive towards a major new educational change, and what reasons make they hold their attitudes like that they do. The lecturers, who are working during semester 2 and 3 in the academic year 2001, have been selected to be subjects of this study.

Your approval and support would be appreciated.

Sincerely yours,

Anusak Ketusiri (Mr.)
Enclosures (2): 1. Ethics clearance
2. Research proposal

Interview questions

Direction: You are requested to respond to the questions concerning lecturer receptivity to a major new policy change in the context of planned change at Rajabhats in Thailand.

Lecturer receptivity to the new educational system

Aspect 1: Comparison with the previous change

1.1 Do you think that the new educational system is better than the previous educational system?

1.2 Why do you think that?

Aspect 2 : Practicality in your classroom

2.1 Do you think that the new system is practical in your classroom?

2.2 Why do you think that?

Aspect 3: Alleviation of concerns

3.1 When the new educational policy is implemented, will all your concerns be alleviated?

3.2 Why do you think that?

Aspect 4: Learning about the change

4.1 How did you learn about the educational change?

4.2 Why do you think like that?

Aspect 5: Participation in decision-making

5.1 How will you be participated in decision-making at your Rajabhat, when the new educational policy is implemented?

5.2 Why do you think that?

Aspect 6: Personal cost appraisal

6.1 Do you think the new educational system is worth all the effort to implement it? Would you please give some details?

6.2 Why do you think that?

Aspect 7 : Collaboration with other lecturers

7.1 Is collaboration with other lecturers necessary to implement the new educational system?

7.2 Why do you think that?

Aspect 8: Opportunities for Lecturer Improvement

8.1 Does new educational system provide opportunities for your educational knowledge and professional improvement?

8.2 Why do you think that?

Aspect 9: Perceived Value for Students

9.1 Is the new educational system advantageous for your students?

9.2 Why do you think that?