UNIVERSITI PUTRA MALAYSIA

DEVELOPMENT AND VALIDATION OF TEACHER CURRICULUM PARADIGM AND ACTUAL CURRICULUM DEVELOPMENT PRACTICE INSTRUMENTS FOR MALAYSIAN TEACHER CURRICULUM PARADIGM MODEL

LIEW YON FOI

IPM 2012 3
DEVELOPMENT AND VALIDATION OF
TEACHER CURRICULUM PARADIGM AND ACTUAL CURRICULUM
DEVELOPMENT PRACTICE INSTRUMENTS FOR MALAYSIAN TEACHER
CURRICULUM PARADIGM MODEL

By
LIEW YON FOI

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in
Fulfilment of Requirement for the Degree of Doctor of Philosophy

November 2012
Dedication

To my dearest mum, Wong Nyon Moy and my four children, Lik Ren, Wen Xin, Zhao Tian and Jitty, thanks for their gifts of love, acceptance and humour. I hope they will be able to take pride in the results, which were partly contributed by their sacrifices. This work is a token of my love and my pleasure for all that they have given me.

My deepest gratitude I save for my beloved husband, William Lee Yew Chiew. His love and company are the germs of power, which have supported me to go through this journey. He witnessed and shared all my anxieties and struggles by being there for every high and low without fail. William, words cannot express the love and appreciation I hold in my heart for you. You are truly amazing. You are everything to me.
Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Doctor of Philosophy

DEVELOPMENT AND VALIDATION OF TEACHER CURRICULUM PARADIGM AND ACTUAL CURRICULUM DEVELOPMENT PRACTICE INSTRUMENTS FOR MALAYSIAN TEACHER CURRICULUM PARADIGM MODEL

By

LIEW YON FOI

November 2012

Chairperson: Professor Kamariah Abu Bakar, PhD

Faculty: Institute for Mathematics Research

The success of the educational reform for a nation is strongly dependent on teachers’ actual curriculum development practice, which they enact in the real teacher-student interaction context. Therefore, the teachers’ enactment of the actual curriculum development practice is crucial to determine the success or the failure of the education because it gives the direct impact towards student learning. Consequently, the growing educational interest in identifying and assessing the variable that can govern teachers’ actual curriculum development practice and the variable of actual curriculum development practice are significant and compelling. Correspondingly, the endeavours to develop and validate the two instruments to measure the teacher curriculum paradigm (TCP) and the actual curriculum development practice (ACDP) were aspired by this
study. Sequentially, the positive impact of TCP to ACDP was hypothesised and tested empirically through the teacher curriculum paradigm model (TCP-Mo).

This study was divided into three phases. Phase one included the systematic instrument development processes and the attaining of the content validity and reliability of the instruments. The content validity was acquired while the full agreement of the three subject experts had been granted. Both instruments met the item discriminant criteria (the corrected item-total correlation values more than .30) and high reliability index across the three times instrument testing ($\alpha > .93$). The adequacy of the dual scale format in developing the Scale A and Scale B by employing a single table of content specification was identified by the bivariate correlation testing ($r < .70$) and the paired-samples t-test.

Phase two involved the single-group analysis with Structural Equation Modelling approach to test for the factorial validity of the measurement models and the structural model for the TCP-Mo. The theoretical structure of the latent variables: TB, TV, ACDP and TCP was identified with the Confirmatory Factor Analysis. The first-order factors: TB, TV and ACDP had been identified were unidimensional construct while the TCP was a second-order factor significantly comprised by two first-order factors: TB and TV. Both instruments had attained the construct validity and reliability to denote that they are the valid and practical instruments. Sequentially, the full structural modelling testing was executed and the findings have signified the validity of the causal structure of TCP-Mo to support the TCP concept.
Eventually, the equivalence testing of the TCP-Mo across three groups of teacher, who embraced the different types of paradigm, was examined through the multiple-group analysis in phase three. The TCP-Mo achieved the fifth degree of cross validation testing to denote that the TCP-Mo was invariant across teachers of three different types of paradigm. Besides, the six research hypotheses were tested to support the validity of the instruments and the structural model. The validity and the stability of the instruments and the generalisability of TCP-Mo have been cogently justified by the findings of this study. Assertively, the outcomes of this study have significantly added insights into psychometric field of the instruments in measuring TCP and ACDP, and the body of knowledge regarding the TCP concept, which can govern teachers’ ACDP to improve student leaning and uphold the success of the educational vision for a nation.
Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

PEMBINAAN DAN PENGESAHAN INSTRUMEN PARADIGMA KURIKULUM GURU DAN AMALAN PERKEMBANGAN KURIKULUM SEBENAR UNTUK MODEL PARADIGMA KURIKULUM GURU BAGI GURU MALAYSIA

Oleh

LIEW YON FOI

November 2012

Pengerusi : Professor Kamariah Abu Bakar, PhD
Fakulti : Institut Penyelidikan Matematik

Kejayaan reformasi pendidikan negara amat bergantung kepada amalan perkembangan kurikulum sebenar yang dilaksanakan oleh guru dalam konteks interaksi guru-pelajar yang berlatarbelakangkan sekolah. Pelaksanaan guru dalam amalan perkembangan kurikulum yang sebenar akan memberi impak secara langsung terhadap pembelajaran pelajar. Justeru pelaksanaan guru dalam amalan perkembangan kurikulum yang sebenar adalah penting dalam menentukan kejayaan atau kegagalan pendidikan. Sejajar dengan itu, minat dalam mengenal pasti dan menilai pemboleh ubah yang boleh mengawal amalan perkembangan kurikulum sebenar guru dan pemboleh ubah amalan perkembangan kurikulum sebenar guru adalah semakin penting dan kian mendapat perhatian daripada para pendidik dan penyelidik. Sehubungan itu, usaha untuk
membangun dan mengesahkan dua buah instrumen yang boleh mengukur paradigma kurikulum guru (TCP) dan amalan perkembangan kurikulum sebenar (ACDP) menjadi matlamat utama bagi kajian ini. Sejajar dengan itu, impak positif antara TCP dengan ACDP telah dihipotesis dan diuji secara empirik melalui model paradigma kurikulum guru (TCP-Mo).

Kajian ini dibahagi kepada tiga fasa. Fasa pertama merangkumkan proses pembangunan instrumen secara sistematik dan perolehan kesahan kandungan dan kebolehpercayaan bagi kedua-dua instrumen. Pencapaian persetujuan sebulat suara terhadap kandungan instrumen oleh ketiga-tiga pakar subjek sebagai penanda aras kesahan kandungan bagi instrumen yang dibangunkan. Kebolehpercayaan bagi kedua-dua instrumen dikenal pasti melalui keputusan kriteria diskriminasi item (nilai korelasi keseluruhan item yang melebihi .30) dan indeks kebolehpercayaan yang baik merentasi ketiga-tiga ujian instrumen (α >.93). Nilai korelasi yang rendah (r < .70) dan keputusan ujian-t yang signifikan telah membuktikan bahawa format dual-skala adalah sesuai untuk mengukur kepercayaan guru (TB) dan nilai guru (TV) melalui Skala A dan Skala B yang menggunakan jadual kandungan spesifikasi yang sama.

Fasa kedua melibatkan analisis kumpulan-tunggal dengan pendekatan SEM (Structural Equation Modelling) untuk memperoleh aras kesahan instrumen yang lebih tinggi dan ujian model struktural terhadap TCP-Mo. Teori struktural bagi pemboleh ubah pendam: TB, TV, ACDP dan TCP dikenal pasti melalui ujian model pengukuran CFA (Confirmatory Factor Analysis). Keputusan CFA menunjukkan pemboleh ubah pendam, vii
TB, TV dan ACDP merupakan faktor darjah-pertama yang berstruktur unidimensi, manakala pemboleh ubah pendam TCP merupakan faktor darjah-kedua yang secara signifikan terdiri daripada dua faktor darjah-pertama: TB dan TV. Kedua-dua instrumen telah mencapai penanda aras kesahan konstruk dan kebolehpercayaan yang membuktikan bahawa kedua-dua instrumen merupakan instrumen yang sah dan praktis. Selanjutnya, ujian model persamaan struktural penuh telah dilaksanakan dan kesahan struktural TCP-Mo telah dikenal pasti dan turut menyokong konsep TCP.

ACKNOWLEDGEMENTS

I want to express my gratitude to many people who have contributed significantly to this research and every one of them is remembered gratefully. The expression of my gratitude is my sincere feeling, which is beyond the protocols and the reflections of professional etiquette. I would like to thank the following:

My supervisor, Professor Dr. Kamariah Abu Bakar and my committee members, Professor Dr. Mohd Sahandri Gani Hamzah and Dr. Nor Hayati Alwi, who have provided a strong sense of moral support and understanding while at the same time preparing me for a lifetime of rigorous, academic review. Their professional support and guide have permitted this study to be conducted as intended. No words can sufficiently express the extent I am thankful to them.

The entire panel of subject experts, Professor Dr. Zaitun Sidin, Dr. Ahmad Johari Sihes, and Dr Shaffe Mohd Daud, for their assistance in instrument validation. The shared insights and experiences have indeed improved the credibility of the research instruments. The language experts, Madam Catherine Siow Lee Moy, Madam Lee Kiaw Moy and Madam K. for their help in translating the instruments. The statistics experts, Professor Dr. Mohamad Sahari Nordin for his help in assisting my statistical analysis of the data using Structural Equation Modelling.
The officers of State of Education Department in Johor, Selangor, Terengganu and Penang, for their help and cooperation, which had smoothened the mechanics of data collection. The teachers, for their willingness to be involved in the study, which made the administration of the instrument testing a pleasure.

The Malaysia Ministry of Education, for granting me a scholarship to complete my doctoral degree. The financial support is much appreciated as it allowed me to conduct the research on a full time basis.

My family, for their prayers, kindness, love and support.

True friends prayed for me and encouraged me through my four-year journey – Dr. Shaharum Nordin and Miss Oon Siew Leo, with their support. I pray God’s blessing upon them.

To all from whom I have received intellectual assistance during my educational span.
I certify that a Thesis Examination Committee has met on 07\textsuperscript{th} November 2012 to conduct the final examination of \textbf{Liew Yon Foi} on her thesis entitled \textit{``Development and Validation Teacher Curriculum Paradigm and Actual Curriculum Development Practice Instruments for Malaysian Teacher Curriculum Paradigm Model''} in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia \[P.U.(A) 106\] 15 March 1998. The committee recommends that the student be awarded the Degree of Doctor of Philosophy.

Members of the Thesis Examination Committee were as follows:

\textbf{Wong Su Luan, PhD}
Associate Professor
Faculty of Educational Studies
Universiti Putra Malaysia
(Chairman)

\textbf{Siti Aishah Hassan, PhD}
Senior Lecturer
Faculty of Educational Studies
Universiti Putra Malaysia
(Internal Examiner)

\textbf{Aida Suraya Md. Yunus, PhD}
Professor
Faculty of Educational Studies
Universiti Putra Malaysia
(Internal Examiner)

\textbf{Colin J, Marsh, PhD}
Associate Professor
Curtin University, Australia.
(External Examiner)

\textbf{SEOW HENG FONG, PhD}
Professor and Deputy Dean
School of Graduate Studies
Universiti Putra Malaysia

Date: 23 January 2013
This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of DOCTOR OF PHILISOPHY. The members of the Supervisory Committee were as follows:

Kamariah Abu Bakar, PhD
Professor
Institute for Mathematical Research
Universiti Putra Malaysia
(Chairman)

Md. Sahandri Gani Hamzah, PhD
Associate Professor
Faculty of Educational Studies
University Putra Malaysia
(Member)

Nor Hayati Alwi, PhD
Senior Lecturer
Faculty of Educational Studies
Universiti Putra Malaysia
(Member)

BUJANG BIN KIM HUAT, PhD
Professor and Dean
School of Graduate Studies
Universiti Putra Malaysia

Date:
DECLARATION

I declare that the thesis is my original work except for quotation and citations which have been duly acknowledged. I also declare that it has not been previously, and is not concurrently, submitted for any other degree at Univeristi Putra Malaysia or at any other institution.

__________________________
LI EW Y ON FOI

Date: 7 November 2012
# TABLE OF CONTENTS

| ABSTRACT                                      | iii  |
| ABSTRAK                                       | vi   |
| ACKNOWLEDGEMENTS                              | ix   |
| APPROVAL                                      | xi   |
| DECLARATION                                   | xiii |
| LIST OF APPENDICES                            | xix  |
| LIST OF TABLE                                 | xxi  |
| LIST OF FIGURE                                | xxy  |
| LIST OF ABBREVIATIONS                         | xxv  |

## CHAPTER

1 INTRODUCTION 1

1.1 Background of the Study 1

1.1.1 Teachers’ Roles: Actual Curriculum Developers and Official Curriculum Implementers 2

1.1.2 Malaysia’s and International Responses to Actual Curriculum Development Practice 4

1.1.3 Issues Surrounding the Measurement of Teachers’ Actual Curriculum Development Practice 7

1.1.4 Issues Surrounding the Variable which Governs the Actual curriculum development practice 9

1.2 Statement of Problem 13

1.3 Purposes and Objectives of the Study 17

1.4 Research Questions 19

1.5 Research Hypotheses 20

1.6 Significance of the Study 21

1.7 Delimitation of the Study 24

1.8 Limitation of the Study 28

1.9 Definition of Term 31

1.9.1 Actual Curriculum 32

1.9.2 Actual curriculum development practice 32

1.9.3 Curriculum Paradigm 33

1.9.4 Teacher Curriculum Paradigm 34

1.9.5 Types of Teacher Curriculum Paradigm 35

xvi
# REVIEW OF LITERATURE

2.1 Introduction 36

2.2 Curriculum Problem is the Practical Problem 37

2.3 Deliberative Curriculum Theory 41

2.4 Actual Curriculum Development Practice 46

2.4.1 Designing and Planning 50

2.4.2 Teaching 54

2.4.3 Evaluating 56

2.4.4 Organising 59

2.5 Teachers as the Actual Curriculum Developers 62

2.5.1 Malaysia’s and International Responses to Teachers as the Actual Curriculum Developers 63

2.6 Teacher Curriculum Paradigm 78

2.6.1 Kuhn’s Paradigm and the Professional Practitioners’ Problem Solving Practices 81

2.6.2 Constructs of Teacher Curriculum Paradigm 89

2.6.3 Type of Teacher Curriculum Paradigm 109

2.7 Reliability 114

2.8 Validity of Measurement 116

2.8.1 Content Validity 117

2.8.2 Construct Validity 119

2.9 Theories Related to Structural Modelling Validation 130

2.9.1 Structural Equation Modelling 132

2.9.2 Cross-Validation of Structural Modelling 136

2.10 Theoretical Framework of the Study 139

2.11 Conceptual Framework of the Study 144

# METHODOLOGY

3.1 Introduction 149

3.2 Research Design 150

3.3 Population and Sample 157

3.3.1 Multistage Cluster Sampling 160

3.3.2 Sample Size 161

3.4 Data Collection 167

3.4.1 Phase One 167

3.4.2 Phase Two 173

3.4.3 Phase Three 174

3.5 Data Analysis 176

3.5.1 Phase One 176

3.5.2 Phase Two 178

3.5.3 Phase Three 181
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>4.1</td>
<td>Introduction</td>
<td>183</td>
</tr>
<tr>
<td>4</td>
<td>4.2</td>
<td>Phase One of the Study</td>
<td>186</td>
</tr>
<tr>
<td></td>
<td>4.2.1</td>
<td>Content Specification of the Instruments (First Version)</td>
<td>186</td>
</tr>
<tr>
<td></td>
<td>4.2.2</td>
<td>Construction of the Instruments (First Version)</td>
<td>199</td>
</tr>
<tr>
<td></td>
<td>4.2.3</td>
<td>Construction of the Instruments (Second Version)</td>
<td>201</td>
</tr>
<tr>
<td></td>
<td>4.2.4</td>
<td>Construction of the Instruments (Third Version)</td>
<td>206</td>
</tr>
<tr>
<td></td>
<td>4.2.5</td>
<td>Description of the Layout and Design of the Teacher Curriculum Paradigm Instrument and Actual Curriculum development practice Instrument</td>
<td>208</td>
</tr>
<tr>
<td></td>
<td>4.2.6</td>
<td>Feedback from the First Instrument Testing</td>
<td>211</td>
</tr>
<tr>
<td></td>
<td>4.2.7</td>
<td>Results of the First Instrument Testing</td>
<td>212</td>
</tr>
<tr>
<td></td>
<td>4.2.8</td>
<td>Translation Validity</td>
<td>224</td>
</tr>
<tr>
<td></td>
<td>4.2.9</td>
<td>Construct of the Instruments (Fourth Version)</td>
<td>225</td>
</tr>
<tr>
<td></td>
<td>4.2.10</td>
<td>Second Instrument Testing</td>
<td>229</td>
</tr>
<tr>
<td></td>
<td>4.2.11</td>
<td>Feedback from the Second Instrument Testing</td>
<td>230</td>
</tr>
<tr>
<td></td>
<td>4.2.12</td>
<td>Results of the Second Instrument Testing</td>
<td>233</td>
</tr>
<tr>
<td></td>
<td>4.2.13</td>
<td>Construct of the Instruments (Fifth Version)</td>
<td>244</td>
</tr>
<tr>
<td></td>
<td>4.2.14</td>
<td>Results of the Content Validity</td>
<td>246</td>
</tr>
<tr>
<td></td>
<td>4.2.15</td>
<td>Summary of the Phase One</td>
<td>251</td>
</tr>
<tr>
<td>4</td>
<td>4.3</td>
<td>Phase Two of the Study</td>
<td>252</td>
</tr>
<tr>
<td></td>
<td>4.3.1</td>
<td>Assumption of the Structural Equation Modelling</td>
<td>253</td>
</tr>
<tr>
<td></td>
<td>4.3.2</td>
<td>Structural Equation Modelling Approach and Model Developing Strategy</td>
<td>255</td>
</tr>
<tr>
<td></td>
<td>4.3.3</td>
<td>Confirmatory Factor Analysis of the Measurement Modelling Testing</td>
<td>256</td>
</tr>
<tr>
<td></td>
<td>4.3.4</td>
<td>Construct Validity of the Measuring Instruments</td>
<td>281</td>
</tr>
<tr>
<td></td>
<td>4.3.5</td>
<td>Reliability of the Scores for the Single-Group Analysis</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>4.3.6</td>
<td>Structural Modelling Testing</td>
<td>304</td>
</tr>
<tr>
<td></td>
<td>4.3.7</td>
<td>Summary of the Phase Two</td>
<td>310</td>
</tr>
</tbody>
</table>
4.4 Phase Three of the Study 312
   4.4.1 Assumption of the Structural Equation Modelling 313
   4.4.2 Cross-Validation of the Full Structural Equation Model 316
   4.4.3 Cross-Validation for the Equivalence of the Teacher Curriculum Paradigm Model 317
   4.4.4 Summary of the Phase Three 327

5 INTERPRETATION AND DISCUSSION OF RESULTS 330
   5.1 Introduction 330
   5.2 Content Validity 330
      5.2.1 Translation Validity 333
   5.3 Item Discriminant 333
   5.4 Dual Scale Format 336
   5.5 Reliability 340
   5.6 Confirmatory Factor Analysis 343
   5.7 Construct Validity 349
      5.7.1 Convergent Validity 350
      5.7.2 Discriminant Validity 354
      5.7.3 Nomological Validity 355
      5.7.4 Face Validity 357
   5.8 Structural Equation Modelling Testing 359
   5.9 Cross-Validation of the Full Structural Equation Modelling 362

6 SUMMARY, IMPLICATION AND RECOMMENDATIONS 366
   6.1 Introduction 366
   6.2 Purposes and the Problem Statement 366
   6.3 Summary of the Instrument Development and Validation Procedures 367
   6.4 Summary of the Instrument Construction Results 374
   6.5 Summary of the Structural Model Development and Validation Procedures 380
   6.6 Summary of the Structural Modelling Testing Results 383
   6.7 Implications of the Study 385
   6.8 Problem Encountered 396
      6.8.1 Participants 397
      6.8.2 Instrument Administration 397
      6.8.3 Procedure of Data Collection 398
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.9</td>
<td>Recommendations</td>
<td>399</td>
</tr>
<tr>
<td>6.9.1</td>
<td>Measuring Instrument</td>
<td>399</td>
</tr>
<tr>
<td>6.9.2</td>
<td>Structural Model</td>
<td>401</td>
</tr>
<tr>
<td>6.10</td>
<td>Conclusion of the Study</td>
<td>403</td>
</tr>
<tr>
<td>6.11</td>
<td>Future Directions</td>
<td>406</td>
</tr>
</tbody>
</table>

**BIBLIOGRAPHY**  
**LIST OF PUBLICATIONS**