UNIVERSITI PUTRA MALAYSIA

TEACHING COMPETENCY NEEDS OF VOCATIONAL AGRICULTURE TEACHERS AS PERCEIVED BY VOCATIONAL AGRICULTURE TEACHERS AND ADMINISTRATORS IN THAILAND

PEERAPONG TIPANARK

FPP 1991 1
TEACHING COMPETENCY NEEDS OF VOCATIONAL AGRICULTURE TEACHERS AS PERCEIVED BY VOCATIONAL AGRICULTURE TEACHERS AND ADMINISTRATORS IN THAILAND

PEERAPONG TIPANARK

DOCTOR OF PHILOSOPHY
UNIVERSITI PERTANIAN MALAYSIA

1991
TEACHING COMPETENCY NEEDS OF VOCATIONAL AGRICULTURE TEACHERS AS PERCEIVED BY VOCATIONAL AGRICULTURE TEACHERS AND ADMINISTRATORS IN THAILAND

By

PEERAPONG TIPANARK

A Thesis Submitted in Fulfilment of the Requirement for the Degree of Doctor of Philosophy in the Faculty of Educational Studies Universiti Pertanian Malaysia

December 1991
ACKNOWLEDGEMENTS

I wish to express my profound appreciation, gratitude and sincere thanks to the following individuals and organisations for their invaluable support and contribution in making this dissertation a reality:

Dr. Abdul Patah Abdul Malek, Supervisor and Chairman of Supervisory Committee, for his untiring patience, thoughtful comments, helpful advice, encouragement and dedication in guiding and supporting me not only to complete this research, but also through the course of my study.

Associate Professor Mohd Shah Hj Lassim, Dr. Kamariah Hj Abu Bakar, and Associate Professor Dr. Hj Fadzillah bin Kamsah, members of my Supervisory Committee, for their invaluable advice, constructive criticisms and suggestions. Throughout my study they have made themselves available, given guidance, and have been very kind.

Dr. Wasutahn Srinoparut, my former adviser and a great vocational agriculture educator of Thailand, for his assistance in editing the first draft of this manuscript and his encouragement throughout my study, not only in Thailand but also in Malaysia.

The Royal Thai government, the Kasetsart University, for granting me study leave.
The Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA), through its Deputy Director, Associate Professor Dr. Sam-armg Srinilta, for its financial and logistic support.

The panel of Thai vocational agriculture educators, who acted as a jury in the validation of the inventory, and the vocational agriculture teachers and administrators in all the 43 agricultural colleges in Thailand who participated in this study. Without their cooperation, this study could not have been conducted.

Special note of gratitude and sincere thanks to Mr. Malachi Edwin, TESL Lecturer at Jabatan Bahasa, UPM for his editorial assistance of this manuscript.

Finally, to all my friends, particularly my wife Sirisopit Tipanark and children, for their encouragement throughout my study.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGMENTS</td>
<td>ii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>vi</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>ix</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>x</td>
</tr>
<tr>
<td>ABSTRAK</td>
<td>xiv</td>
</tr>
</tbody>
</table>

## CHAPTER

1. INTRODUCTION.............................. 1
   - An Overview of Thailand.................. 1
   - Education System in Thailand.............. 3
   - Vocational Education in Thailand.......... 6
   - Teacher Training in Agricultural Education..... 10
   - Background of the Study.................... 12
   - Problem and its Setting.................... 12
   - Statement of the Problem................... 20
   - Purpose of the Study...................... 21
   - Objectives of the Study.................... 21
   - Hypothesis.................................. 22
   - Significance of the Study.................. 23
   - Assumptions of the Study................... 24
   - Scope and Limitations of the Study........ 25
   - Definitions of Terms...................... 26
<table>
<thead>
<tr>
<th>II</th>
<th>REVIEW OF RELATED LITERATURE</th>
<th>29</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Perception</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>Teacher Competencies</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>Agricultural Teachers’ Competencies</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td>Training Needs Assessment</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>Training Concept</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>Perceived Needs</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td>Needs Assessment</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Methods to Determine Training Needs</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>Factors Related to Teaching Competencies</td>
<td>59</td>
</tr>
<tr>
<td></td>
<td>Conceptual Framework</td>
<td>61</td>
</tr>
<tr>
<td>III</td>
<td>THE METHODOLOGY OF THE STUDY</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>Sampling</td>
<td>71</td>
</tr>
<tr>
<td></td>
<td>Research Design</td>
<td>73</td>
</tr>
<tr>
<td></td>
<td>Development of the Instrument</td>
<td>74</td>
</tr>
<tr>
<td></td>
<td>Validity and Reliability of the Instrument</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td>Data Collection</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td>Analysis of Data</td>
<td>79</td>
</tr>
<tr>
<td>IV</td>
<td>FINDINGS</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>Personal Characteristics of Respondents</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td>Teaching Competencies Perceived as Important for Vocational Agriculture Teachers (VATs)</td>
<td>94</td>
</tr>
<tr>
<td></td>
<td>Present Level of Attainment of VATs’ Teaching Competencies</td>
<td>105</td>
</tr>
</tbody>
</table>
Teaching Competencies Needs of the Vocational Agriculture Teachers .............. 117

Relationships Between Vocational Agriculture Teachers' Teaching Competency Needs and Their Personal Characteristics ................. 129

SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS ................ 137

Summary of Findings of Vocational Agriculture Teachers' Teaching Competency Inventory ................. 140

Importance of Teaching Competencies ................. 140

Attainment of Teaching Competencies ................. 142

Priorities of Teaching Competency Needs ................. 144

Relationship Between VATs' Teaching Competency Needs and their Personal Characteristics ................. 147

Discussion ................. 148

Conclusions and Recommendations ................. 158

Conclusions ................. 158

Recommendations ................. 160

BIBLIOGRAPHY ......................... 164

APPENDICES ......................... 176

APPENDIX A: DISTRIBUTION OF AGRICULTURAL COLLEGES IN THAILAND ......................... 176

APPENDIX B: VALIDATING JURY ......................... 179

APPENDIX C: SURVEY INSTRUMENTS AND CORRESPONDENCE ......................... 182

APPENDIX D: STATISTICAL ANALYSIS OF THE INVENTORY ......................... 208

APPENDIX E: ALPHA COEFFICIENT OF INVENTORY ......................... 220

VITA ......................... 222
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Population and Sample Size in the Study</td>
<td>72</td>
</tr>
<tr>
<td>2.</td>
<td>The Sample and Questionnaire Return Rates</td>
<td>79</td>
</tr>
<tr>
<td>3.</td>
<td>Distribution of the Respondents by Sex</td>
<td>86</td>
</tr>
<tr>
<td>4.</td>
<td>Distribution of the Respondents by Age</td>
<td>87</td>
</tr>
<tr>
<td>5.</td>
<td>Distribution of the Respondents by Teaching Experience</td>
<td>88</td>
</tr>
<tr>
<td>6.</td>
<td>Distribution of the Respondents by Educational Level</td>
<td>89</td>
</tr>
<tr>
<td>7.</td>
<td>Distribution of the Respondents by Pedagogical Background</td>
<td>90</td>
</tr>
<tr>
<td>8.</td>
<td>Distribution of the Respondents by Training Experience and Training Needs</td>
<td>92</td>
</tr>
<tr>
<td>9.</td>
<td>Respondents' Attitudes Toward Agricultural Education</td>
<td>93</td>
</tr>
<tr>
<td>10.</td>
<td>Top Twenty-five Importance Ratings of Teaching Competencies as Perceived by the Respondents</td>
<td>96</td>
</tr>
<tr>
<td>11.</td>
<td>Importance Ratings by Competency Areas as Perceived by the Respondents</td>
<td>99</td>
</tr>
<tr>
<td>12.</td>
<td>Importance Ratings with Significant Difference Between VATs and VAAs</td>
<td>100</td>
</tr>
<tr>
<td>13.</td>
<td>Importance Ratings by Competency Areas as Perceived by VATs and VAAs</td>
<td>103</td>
</tr>
<tr>
<td>14.</td>
<td>Top Twenty-five of the Attainment Ratings of Teaching Competencies as Perceived by the Respondents</td>
<td>107</td>
</tr>
<tr>
<td>15.</td>
<td>Least Attained Teaching Competencies as Perceived by the Respondents</td>
<td>109</td>
</tr>
<tr>
<td>16.</td>
<td>Attainment Ratings by Competency Areas as Perceived by the Respondents</td>
<td>111</td>
</tr>
</tbody>
</table>
17. Differences Between VATs and VAAs
   Attainment Ratings........................................ 113
18. Attainment Ratings by Competency Areas
   as Perceived by VATs and VAAs......................... 116
19. Summary of the Need Indicator Scores
   as Perceived by VATs and VAAs......................... 120
20. High Needs of Teaching Competencies
   as Perceived by the Respondents....................... 121
21. High Needs of Teaching Competency
   as Mutually Perceived by VATs and VAAs.............. 123
22. Distribution of Teaching Competencies by
   Need Indicator Scores and Agreement Index........... 125
23. Teaching Competencies Needed by VATs with
   Simultaneous Agreement Between VATs and VAAs..... 126
24. Teaching Competencies’ Need Priorities by
   Competency Areas as Perceived by VATs and VAAs... 128
25. Correlation Coefficient of VATs’ Personal
   Characteristics Variables and Their
   Teaching Competency Needs......................... 131
26. Regression of Independent Variables on
   Competency Area of Planning of Instruction........... 133
27. Regression of Independent Variables on
   Competency Area of Execution of Instruction....... 133
28. Regression of Independent Variables on
   Competency Area of Evaluation of Instruction..... 134
29. Regression of Independent Variables on
   Competency Area of Professional Role
   and Human Relations....................................... 134
30. Regression of Independent Variables on
   Competency Area of Student Organisations.......... 135
31. Regression of Independent Variables on
   Overall of Teaching Competency Needs............... 135
32. Ratings for Items by Vocational Agriculture
   Teachers and Administrators........................... 209
viii
33. Ratings for Competency Areas by Vocational Agriculture Teachers and Administrators .......... 218
34. Agreement of Need Priorities of Vocational Agriculture Teachers and Administrators .......... 219
35. Alpha Coefficient for the Attitude and the Competency Areas of Teaching Competencies Inventory ............................................. 221


### LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Educational System of Thailand</td>
<td>5</td>
</tr>
<tr>
<td>2.</td>
<td>Agricultural Education System in Thailand</td>
<td>9</td>
</tr>
<tr>
<td>3.</td>
<td>The Conceptual Model Showing the Rational to Determine Teaching Competency</td>
<td>66</td>
</tr>
<tr>
<td></td>
<td>Needs of Vocational Agriculture Teachers in Agricultural Colleges</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>The Conceptual Model Showing the Relationship Among the Variables</td>
<td>69</td>
</tr>
<tr>
<td>5.</td>
<td>Map Showing Distribution of Agricultural Colleges in Thailand</td>
<td>177</td>
</tr>
</tbody>
</table>
Abstract of thesis submitted to the Senate of Universiti Pertanian Malaysia in fulfillment of the requirements for the degree of Doctor of Philosophy.

TEACHING COMPETENCY NEEDS OF VOCATIONAL AGRICULTURE TEACHERS AS PERCEIVED BY VOCATIONAL AGRICULTURE TEACHERS AND ADMINISTRATORS IN THAILAND

By

PEERAPONG TIPANARK

December 1991

Supervisor : Dr. Abdul Patah Abdul Malek
Faculty : Faculty of Educational Studies

The purpose of this study was to determine the teaching competency needs of vocational agriculture teachers at the agricultural college level in order to provide information as input to programme planning of agricultural education in Thailand.

Data were gathered from 304 vocational agriculture teachers and 180 administrators in the 43 agricultural colleges in Thailand. Two instruments were constructed to gather the data: (1) an eight item questionnaire regarding the teachers' and the administrators' personal characteristics backgrounds; (2) a 76 item inventory of vocational agriculture teachers' teaching competencies covering five competency areas.

xi
Data collected from the inventory were analysed to determine in-service programme need priorities. The respondents were requested to rate the competencies on a five-point Likert-type scale for the level of importance and attainment. In order to determine need priorities, a need indicator score was calculated for each item by dividing the square of the importance rating by the attainment rating. Finally, for the ratings of importance and attainment, the need indicator score was arranged in rank order for both the respondent groups according to items and competency areas. Spearman's Coefficient of correlation was used to calculate the level of agreement between the groups' rank order. In addition, correlational analysis was carried out to determine the relationships between some selected personal characteristics of the teachers and their teaching competency needs.

The major findings of the study were as follows:

1. There was strong agreement in the groups' importance and attainment ratings on the inventory of teaching competencies.

2. All the 76 teaching competencies were important for the vocational agriculture teachers in order to teach effectively at the agricultural colleges in Thailand.
3. Only eight competencies were considered high need priorities for the vocational agriculture teachers.

4. There was a significant relationship between sex and the vocational agriculture teachers' teaching competency needs.

Based on the interpretation of the findings, the following major recommendation was made: there is a core of eight competencies for which the teachers had high need, and these competencies must be focussed on in programme planning for the improvement of vocational education in Thailand.
Abstrak tesis yang dikemukakan kepada Senat Universiti Pertanian Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah.

KEPERLUAN KEMAHIRAN MENGAJAR GURU VOKASIONAL PERTANIAN SEPERTI YANG DIMENGERTIKAN OLEH GURU DAN PENTADBIR PERTANIAN NEGERI THAI

oleh

PEERAPONG TIPANARK

Disember 1991

Ketua Penyelia : Dr. Abdul Patah Abdul Malek
Fakulti : Fakulti Pengajian Pendidikan

Tujuan kajian ini ialah untuk menentukan keperluan kemahiran mengajar guru Vokasional Pertanian di aras Kolej Pertanian bagi menyediakan maklumat sebagai input kepada perancangan program Pendidikan Pertanian di Negeri Thai.

Data dikumpul daripada 304 orang guru Vokasional Pertanian, dan 180 orang pentadbir di 43 buah Kolej Pertanian di Negeri Thai. Dua instrumen telah dibentuk untuk mengumpul data: (1) soal selidik lapan item mengenai latar belakang ciri personal guru dan pentadbir berkenaan; (2) inventori 76 item mengenai kemahiran mengajar guru Vokasional Pertanian meliputi lima bidang kemahiran.

Data daripada inventori dianalisis untuk menentukan keutamaan keperluan program dalam perkhidmatan. Responden xiv
3) Hanya lapan kemahiran dianggap mempunyai keutamaan keperluan yang tinggi bagi guru Vokasional Pertanian.

4) Wujud perhubungan yang signifikan di antara seks dan keperluan kemahiran mengajar guru Vokasional Pertanian.

Berlandaskan penafsiran dapan, cadangan berikut dibuat; ada lapan kemahiran yang sangat diperlukan oleh guru berkenaan, dan kemahiran-kemahiran ini hendaklah diberi tumpuan dalam perancangan program untuk mempertingkatkan pendidikan Vokasional di Negeri Thai.
diminta memperingkat (to rate) kemahiran satu skala lima mata jenis Likert untuk menentukan aras kepentingan dan aras pencapaian.

Untuk menentukan keutamaan keperluan, markat petunjuk keperluan dikira bagi setiap item dengan membahagi pemeringkatan kepentingan yang diganda dua oleh pemeringkatan pencapaian. Akhirnya untuk pemeringkatan kepentingan dan pencapaian, markat petunjuk keperluan diatur dalam satu aturan pemeringkatan untuk kedua-dua kumpulan responden mengikut item dan bidang kemahiran. Pekali korelasi spearman telah digunakan untuk mengira aras persetujuan di antara susunan pemeringkatan kumpulan tersebut. Sebagai tambahan, korelasi dijalankan untuk menentukan perhubungan di antara beberapa ciri personal guru berkenaan yang terpilih dengan keperluan kemahiran mengajar mereka.

Dapatan utama kajian ini adalah seperti berikut:

1) Wujud persetujuan yang kuat mengenai pemeringkatan kepentingan dan pemeringkatan pencapaian di antara kumpulan tersebut pada inventori kemahiran mengajar.

2) Kesemua 76 kemahiran mengajar penting untuk guru Vokasional Pertanian untuk mengajar dengan berkesan di kolej-kolej pertanian di Negeri Thai.
CHAPTER I
INTRODUCTION

An Overview of Thailand

Thailand, known as Siam by the western world from the earliest contacts until June 1939 and again between 1945 and 1 May 1948, is called locally and officially as Prathet Thai or Muang Thai, meaning "Land of the Free". It is a tropical Southeast Asian country which occupies an area of 513,115 square kilometers or 198,455 square miles (Center for Agricultural Statistics, 1987). Its location is 5 to 20 degrees N latitude and 95 to 105 degrees E longitude. The average temperature ranges from 23.7 to 32.5 degree Celsius (Office of the Prime Minister, 1986). The shape of the land area looks like an axe with a long handle that extends southwards to Malaysia. To the northeast, the Mae Khong River separates Thailand and Laos, the northwest mountain range separates Thailand from Burma. Across the southeast border is Kampuchea.

Geographically, the country consists of 73 provinces and is divided into four regions (Fisher, 1965); the northern region is mountainous with fertile valleys and plains suitable for growing rice and teak. The central region is located in the fertile Chao Phraya basin and it is here that Bangkok,
The capital city of Thailand is situated. The northeastern region is the driest part. Its long dry season and relatively scarce rainfall make it the least productive region in the country and also the least modernized. The southern region is moist and prosperous with rubber trees, tropical crops and tin deposits.

The main agricultural products are rice, rubber, corn, sugar cane, cassava, livestock, poultry, and fishery products. Agriculture in Thailand is regarded as a fundamental source of income for the national economy. In 1985, agriculture contributed about 17.4% of the gross national product, provided over 59.5% of the country's export and employed around 61.34% of the national's total labour force (Division of Policy and Agricultural Development Plan, 1986).

Thirty-three million farmers, who are approximately 64% of the total population of 52 million (Division of Policy and Agricultural Development Plan, 1986) live in the rural area in homogeneous groups along rivers, canals, and roads. They have their farms not far away from home. Of the country's total area, about 38% is under cultivation, with some 20% of this presently under irrigation. This land, both irrigated and non-irrigated, is used by some 5.8 million farm families to produce agricultural goods for domestic consumption and export (Department of Agricultural Extension, 1985). Each family has an average farm size of
10.55 acres. The total farm land holding is 51,441,308.8 acres (Center for Agricultural Statistics, 1987).

The official national language is Thai, the dialect spoken by the inhabitants of Bangkok and the central region. Other languages are Chinese and Malay. English is a required subject taught in secondary school and is an elective in the primary school. Most of ethnic minority groups in Thailand are bilingual. Buddhism is the national religion of Thailand. It is tremendously influential in ceremonies and all aspects of life. Approximately 95% of Thais are Buddhists (World Almanac, 1987). The other religions practiced are Islam, Christianity, and Hinduism.

Educational System in Thailand

According to the 1977 National Education Scheme, the educational system of Thailand is divided into 4 levels, namely, pre-primary, primary, secondary and tertiary levels. The structural arrangement in terms of time required to complete each level is 1-3 years for pre-primary education, 6 years of compulsory primary schooling, 3 years of lower secondary and 3 years of upper secondary education, and 4-6 years of higher education. From the elementary through lower secondary grades the curriculum is the same for all students except that there are more elective subjects in lower secondary schools offered to the students. After the students have finished lower secondary education they may choose to continue their education on to the upper secondary grades for
an academic programme or enter vocational/technical schools or colleges for 3 more years. The division between these two programmes is clear cut and non-transferrable. After the upper secondary grades or certificate in vocational education, several vocational and specialised forms of education are available. These include teacher education, higher certificate and diploma in vocational, technical education, other professional studies in colleges and universities as well as institutes of technology which offer degree programmes for transit students who hold higher certificate or diploma in vocational and technical education. Throughout the continuum of the educational scheme, non-formal education is available in both general academic and vocational training programmes to provide wider opportunities for school leavers and out-of-school youth and adults to acquire knowledge and skills needed for future employment or to improve their living condition (SEARRAG, 1987). The different levels of education and their relationships are presented in Figure 1.
Figure 1. Educational System of Thailand
(Source: Ministry of Education, Bangkok)
Vocational Education in Thailand

According to the 1977 National Education Scheme, students in secondary school may choose to follow academic or vocational courses following the completion of the lower secondary level. Those who choose vocational courses enter vocational school or college to pursue a three year programme leading to the Vocational Certificate called in Thai as Paw-Waw-Chaw (P.W.C.). Vocational schools and technical colleges provide vocational/technical training in five areas. These areas are Agriculture, Trades and Industries, Commerce, Home Economics, and Arts and Crafts. Upon completion of this training, the P.W.C. graduates are expected to enter the labour force as middle level manpower.

Agricultural education is provided in both academic and vocational streams. The academic stream is administered by the Department of Elementary School Education of the Ministry of Education. The knowledge of agriculture is integrated in all subjects related to experience development, namely in environmental studies, natural science and career education in the last two years of schooling. In the secondary schools, administered by the Department of General Education, agricultural subjects are offered as elective courses. At this level, under the 1978 Lower Secondary Education curriculum, it is prescribed that the agricultural subject be in the grouping of work experience and career education subjects which are offered mostly in rural schools. The students who wish to
choose agriculture as an option may take 11-24 credits of basic agriculture. In the Upper Secondary School curriculum, established since 1981, agricultural subjects are designed to provide students, who wish to continue taking agriculture as an option, with better skills and experiences. Each student is required to take 57 credits of agriculture which is about 60 percent of all required subjects in the curriculum.

Students may choose to follow Plan A or Plan B of agricultural options. Plan A called in Thai as Waw Chaw 1 (W.C.1) is designed for students who wish to enter into the farming occupation, while Plan B or Waw Chaw 2 (W.C.2) is catered for those who intend to go into the labour force as middle level agricultural workers. It is important to note that the Waw Chaw 2 is equivalent to that of the Vocational Certificate (P.W.C.), and is closely related to vocational agriculture education programme offered by the Department of Vocational Education (Sanguansri, 1987).

In the vocational stream, agricultural education at the secondary and post secondary level is under the Ministry of Education. Most of vocational agriculture programmes are administered by Department of Vocational Education. At this level, 43 agricultural colleges offer a three-year curriculum leading to a higher vocational certificate in agriculture (P.W.C.). The main objectives of the programme are as follows: