UNIVERSITI PUTRA MALAYSIA

FACTORS RELATED TO TEACHERS' PERCEPTION OF PROBLEM SOLVING SKILLS INSTRUCTION

TAN KA YU

FACTORS RELATED TO TEACHERS' PERCEPTION OF PROBLEM SOLVING SKILLS INSTRUCTION

BY

TAN KA YU

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DEDICATION

Dedicated to:

My Grandmother who manages

to see the fruit of her grandson's academic endeavour,

The loving remembrance of my Mum and Dad;

who both left behind their fondest memories and examples,

Jee Wan, my beloved Wife, who stood by me

in patience, encouragement and affection,

and most of all, in prayer as a family with the children,

Hsien Wey, Hsien Huey, and Hsien Ley

my three beloved cheerful and growing up children,

who believed the best from their papa,

and

my brothers and sister.

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LIST OF ABBREVIATIONS

ILS	-	Integrated Living Skills subject
Max.	-	Maximum Value
Min.	-	Minimum Value
N	-	Population Size in the Study
n	-	Sample Size in the Study
No.	-	Number of Cases
SD	-	Standard Deviation of the Mean Value

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FACTORS RELATED TO THE TEACHERS' PERCEPTION OF PROBLEM SOLVING SKILLS INSTRUCTION

By

TAN KA YU

May 1996

Chairman: Dr. Zakaria Kasa

Faculty: Faculty of Educational Studies

This study aimed to: (1) ascertain the Form Two Integrated Living Skills (ILS) teachers' perception of problem solving skills instruction; (2) determine the relationships between the teachers' perception of problem solving skills instruction and teacher-related variables; and (3) determine the relationships between the teachers' perception of problem solving skills instruction and student-related variables. The teacher-related variables were demographic characteristics (i.e. gender, professional qualifications, teaching experience, in-service courses attended and school location), and the teachers' perception of their own readiness for problem solving skills instruction. The student-related variables

were the teachers' perception of student readiness for problem solving skills instruction, student mastery of the ILS contents and student intellectual capabilities.

One hundred and fifty-five Form Two ILS secondary school teachers from the state of Negeri Sembilan served as respondents in the survey. A self-administered questionnaire using a four-point Likert scale was used. Data were analysed using descriptive statistics, correlational techniques and stepwise multiple regression.

The findings showed that teachers indicated that they had infused problem solving skills into their current workshop instruction. Only two demographic variables, school locality and the number of lessons that the teachers taught in each week (a variable under teacher experience) had significant correlations with the teachers' perception of problem solving skills instruction. Positive and significant correlations were established between the overall teachers' perception of problem solving skills instruction and teacher readiness for the problem solving skills instruction, teachers' perception of student readiness for the problem solving skills instruction, and teachers' perception of student intellectual capabilities. Stepwise multiple regression analysis showed that teachers' perception of student intellectual capabilities, teacher readiness for problem solving skills instruction and number of ILS lessons taught each week accounted for 18 percent of the variance in the teachers' perception of problem solving skills instruction.

Abstrak tesis yang dikemukakan kepada
Senat Universiti Pertanian Malaysia
sebagai memenuhi sebahagian daripada keperluan
untuk Ijazah Master Sains

FAKTOR-FAKTOR YANG BERKAIT DENGAN PERSEPSI GURU TERHADAP PENGAJARAN KEMAHIRAN PENYELESAIAN MASALAH

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Mei 1996

Pengerusi: Dr. Zakaria Kasa

Fakulti: Fakulti Pengajian Pendidikan

Kajian ini bertujuan untuk (1) menentukan persepsi guru-guru Kemahiran Hidup Bersepadu (ILS) Tingkatan Dua terhadap pengajaran kemahiran penyelesaian masalah; (2) mengenal pasti kaitan antara persepsi guru terhadap pengajaran kemahiran penyelesaian masalah dengan pembolehubah yang berkait dengan guru; dan (3) mengenal pasti kaitan antara persepsi guru terhadap pengajaran kemahiran penyelesaian masalah dan pembolehubah yang berkait dengan pelajar. Pembolehubah yang berkait dengan guru adalah sifat demografik (seperti jantina, kelayakan profesional, pengalaman mengajar, kursus dalam perkhidmatan yang dihadiri dan lokasi sekolah), serta persepsi guru terhadap

kesediaan diri untuk pendekatan pengajaran pengajaran penyelesaian masalah. Pembolehubah-pembolehubah yang berkait dengan pelajar adalah persepsi guru terhadap kesediaan pelajar mereka bagi pengajaran kemahiran penyelesaian masalah, persepsi mereka terhadap penguasaan kandungan ILS oleh pelajar dan persepsi mereka terhadap keupayaan intelek pelajar.

Responden kajian itu terdiri daripada satu ratus lima puluh lima orang guru ILS Tingkatan Dua sekolah menengah dari Negeri Sembilan. Satu soal selidik yang menggunakan ukuran skala empat poin Likert ditadbirkan. Data dianalisis dengan menggunakan statistik deskriptif, teknik korelasi dan regresi berganda peringkat.

Dapatan menunjukkan bahawa guru menerapkan kemahiran penyelesaian masalah dalam pengajaran mereka. Hanya dua pembolehubah demografik, lokasi sekolah dan bilangan waktu pelajaran yang guru mengajar (satu pembolehubah di bawah pengalaman guru) menunjukkan hubungan signifikan dengan persepsi guru terhadap pengajaran kemahiran penyelesaian masalah. Korelasi yang positif dan signifikan didapati antara persepsi menyeluruh guru terhadap pengajaran kemahiran penyelesaian masalah dengan kesediaan guru untuk pengajaran kemahiran penyelesaian masalah, persepsi guru terhadap kesediaan pelajar untuk pengajaran kemahiran penyelesaian masalah, dan persepsi guru terhadap keupayaan intelek pelajar. Analisis regresi berganda peringkat menunjukkan bahawa persepsi guru terhadap keupayaan intelek pelajar, kesediaan

guru terhadap pengajaran kemahiran penyelesaian masalah dan bilangan pelajaran ILS yang diajar seminggu menyumbang kepada 18 peratus varians untuk persepsi guru terhadap pengajaran kemahiran penyelesaian masalah.

CHAPTER 1

INTRODUCTION

Education policy makers, curriculum planners and school administrators inevitably depend on teachers who possess the right qualifications and qualities to successfully implement the New Integrated Secondary School Curriculum, particularly the Integrated Living Skills (ILS) subject. The technology-based prevocational ILS subject is the core subject for the Form One to Form Three classes under the New Integrated Secondary School Curriculum. This subject was implemented in 1989.

The ILS subject emphasised practical works through which students acquired the necessary living skills such as knowledge, manipulative skills and good work values. This subject aimed to foster the students' intellectual capabilities and their manipulative skills so that they would become technologically and economically literate. By fostering their creativity, independence, self-made work, innovative and entrepreneurial qualities, students would be prepared for their future technology-related job endeavours.

In teaching the ILS subject, the Curriculum Development Centre, Ministry of Education, Malaysia had adopted the problem solving skills approach.

Problem solving skills thinking approach is a type of higher-order thinking (Cole, 1990). These skills enabled students to transfer their learning experiences from the classrooms to other new situations.

Problem solving skills instruction is important to secondary school students in the Malaysian society which is experiencing transformation which is triggered by an emerging priority towards information-technology and industrialisation. Equally important are teachers with positive perception of problem solving skills instruction in their workshop. This would enable students to acquire the necessary living skills to thrive in an emerging information-based, technological, industrialising and entrepreneurial Malaysian society.

Statement of the Problem

In teaching the ILS subject, problem solving skills applications ought to be emphasised to foster students' capabilities to invent and innovate new things. Nevertheless, a discrepancy existed in what ought to be done and what was being done. It was generally noted that the ILS teachers did not encourage their students to raise questions or participate actively in workshop learning situations. These teachers also rarely applied new approaches in their workshop instruction (Kementerian Pendidikan Malaysia, 1993).

In this regard, it had been inferred that teachers' readiness and their teaching qualifications were factors that could affect the successful implementation of the new ILS subject (Azizah and Sharifah, 1993). Other researchers had also

reported that teachers' gender, school locality, and in-service courses attended were factors related to their likelihood to emphasise problem solving skills instruction in the classrooms (Bellon et al., 1989; Feingold, 1992; Forns-Santacana et al., 1993). In addition, teachers' unfavourable perception of the students' readiness, mastery of contents, and intellectual capabilities had also been noted to be factors that were related to the teachers' low emphasis in problem solving skills instruction (Roberts, 1991; Randhawa, 1994; Yildirim, 1994). To this date, however, a few if none of the study had been conducted to determine what teacher and student-related factors would specifically be related to problem solving skills instruction in the ILS subject in Malaysia.

Purpose of the Study

This study aimed to: (1) ascertain the Form Two ILS teachers' perception of problem solving skills instruction; (2) determine the relationships between the teachers' perception of problem solving skills instruction and teacher-related variables, and (3) determine the relationships between the teachers' perception of problem solving skills instruction and student-related variables.

Specifically, this study sought answers to the following research questions:

1. What are the perception of ILS teachers towards problem solving skills instruction?

2. Is there a significant relationship between the ILS teachers' perception of problem solving skills instruction and their gender?
3. Is there a significant relationship between the ILS teachers' perception of problem solving skills instruction and their highest academic attainments?
4. Is there a significant relationship between the ILS teachers' perception of problem solving skills instruction and their teaching certifications?
5. Is there a significant relationship between the ILS teachers' perception of problem solving skills instruction and their major subject in pre-service education?
6. Is there a significant relationship between the ILS teachers' perception of problem solving skills instruction and the number of months of teaching the ILS subject?
7. Is there a significant relationship between the ILS teachers' perception of problem solving skills instruction and the number of the ILS lessons taught each week?
8. Is there a significant relationship between the ILS teachers' perception of problem solving skills instruction and the number of ILS courses attended?
9. Is there a significant relationship between the ILS teachers' perception of problem solving skills instruction and their perception of the relevancy of the ILS in-service courses they had attended?
10. Is there a significant relationship between the ILS teachers' perception of problem solving skills instruction and school locality?

11. Is there a significant relationship between the ILS teachers' perception of problem solving skills instruction and their perceived readiness for problem solving skills instruction?
12. Is there a significant relationship between the ILS teachers' perception of problem solving skills instruction and their perception of students' readiness for problem solving skills instruction?
13. Is there a significant relationship between the ILS teachers' perception of problem solving skills instruction and their perception of students' mastery of the ILS contents?
14. Is there a significant relationship between the ILS teachers' perception of problem solving skills instruction and their perception of students' intellectual capabilities for problem solving skills instruction?
15. What combination of factors best predict the ILS teachers' perception of problem solving skills instruction?

Significance of the Study

A study on teachers' perception of instructional practices is important since this influences their actual classroom instructional behaviours (Olson and Singer, 1994). Hence, the findings from this study would benefit the ILS teachers by increasing their awareness of the teacher and student variables that influence problem solving skills instruction. This would enhance their workshop instruction to a more

desirable level. Consequently, implementing this instructional approach would enhance the students' problem solving skills acquisitions to a greater measure.

The findings from this study would also benefit educators who have increasingly recognised and accepted the importance of infusing thinking skills or problem solving skills instruction across the school curriculum. School administrators could use the findings as guidelines to strategically plan their in-house training programmes designed to improve their students' academic performances in the ILS subject. Education officers involved in the educational planning could use the findings to verify the teacher variables and the teacher-perceived student variables, as well as aspects of the ILS curriculum that need to be addressed in developing any future thinking programme.

Limitations of the Study

This study was limited in scope to the Form Two ILS teachers who taught the manipulative components of the ILS (Core and Elective) subject in the normal academic secondary schools in Negeri Sembilan due to constraints of time, manpower and finance. Therefore, the findings and conclusions of this study were limited in generalisability to the Form Two ILS teachers who taught the Form Two manipulative components of the ILS (Core and Elective) subject in the normal academic secondary schools in Negeri Sembilan.