

ABSTRACT

MATHEMATICS ANXIETY AMONG PRE-SERVICE TEACHERS

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Mathematics anxiety had been shown to be a problem that can cause stress, affects students' academic careers and people's daily life. One hundred pre-service teachers who were enrolled in the Mathematics Education Programme and the Computer Science Education Programme at the Faculty Cognitive Sciences and Human Development (FCSHD) at Universiti Malaysia Sarawak (UNIMAS) were selected as sample in this cross-sectional, correlational study. The Mathematics Anxiety Rating Scale-Short Version or MARS-S, and a previous researcher-developed questionnaire were used to measure the pre-service teachers' mathematics anxiety level and collect data regarding their perception on mathematics anxiety respectively. Pearson-product moment correlations analyses were used to determine the relationships between mathematics anxiety scores and grade level at which anxiety started, societal messages, various teaching strategies and pre-service teachers' perception regarding their own level of mathematics anxiety. The study also looked the teaching strategies that caused mathematics anxiety, strategies that help in reducing mathematics anxiety, and actions of parents or teachers that had effects on mathematics anxiety were sought. Results indicated that pre-service teachers experienced certain level of mathematics anxiety. The highest percentages of pre-service teachers started anxious toward mathematics as they enrolled in Form 6 or matriculation, followed by Form 4 and Form 1. Similarly, approximately two thirds expressed that secondary school mathematics was the first subject that made them felt anxious toward mathematics. Majority of the pre-service teachers felt that the society led them to believe the importance of mathematics for their future. Regarding teaching strategies, individual competitive mathematics activities, team competitive mathematics activities and independent mathematics work were the top three teaching strategies that caused the largest percentages of pre-service teachers' mathematics anxiety. On the other hand, making extra study time, doing all the homework and working with peer support groups were the top three strategies that helped a largest number of the pre-service teachers in alleviating their mathematics anxiety. A weak positive correlation existed between the mathematics anxiety score, as measured on the MARS-S and the participants' perceived level of mathematics anxiety. Most of the pre-service teachers believed that mathematics anxiety was caused by the lack of understanding toward mathematics. Mathematics anxiety has effects on pre-service teachers' achievements in mathematics, thus, lecturers in university should design and use appropriate teaching strategies that could reduce pre-service teachers' negative feeling towards mathematics.

ABSTRAK

KEGELISAHAN TERHADAP MATEMATIK DI KALANGAN GURU PELATIH PRA PERKHIDMATAN

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Kegelisahan terhadap matematik telah dibuktikan sebagai suatu masalah yang boleh menyebabkan tekanan dan mempunyai kesan terhadap pembelajaran pelajar serta kehidupan harian orang ramai. Seramai seratus orang guru pelatih pra-perkhidmatan dari Program Pendidikan Matematik dan Program Pendidikan Sains Komputer di Fakulti Sains Kognitif dan Pembangunan Manusia (FSKPM) di Universiti Malaysia Sarawak (UNIMAS) telah dipilih sebagai sampel untuk kajian korelasi ini. Soal selidik MARS-S dan soal selidik yang direka oleh penyelidik sebelum ini masing-masing telah digunakan untuk mengukur tahap kegelisahan bagi guru pelatih pra-perkhidmatan dan mengumpul data mengenai tanggapan tentang kegelisahan mereka. Korelasi Pearson telah digunakan untuk mengkaji hubungan di antara skor kegelisahan dan tahap di mana kegelisahan bermula, mesej daripada masyarakat, pelbagai strategi pengajaran, dan tanggapan guru pelatih pra-perkhidmatan tentang tahap kegelisahan mereka. Selain itu, pengajaran strategi yang boleh menyebabkan kegelisahan, strategi yang boleh membantu dalam mengurangkan kegelisahan, serta tindakan daripada ibu bapa dan guru yang mempengaruhi kegelisahan juga dikaji. Hasil kajian menunjukkan guru pelatih pra-perkhidmatan mengalami sedikit kegelisahan terhadap matematik. Guru pelatih pra-perkhidmatan yang menyatakan mereka mula berasa gelisah terhadap matematik apabila mereka belajar di Tingkatan 6 atau Matrikulasi mempunyai peratusan yang tertinggi, diikuti dengan Tingkatan 4 dan Tingkatan 1. Selain itu, hampir dua per tiga daripada guru pelatih pra-perkhidmatan menyatakan matematik di sekolah menengah ialah subjek pertama yang menyebabkan mereka gelisah terhadap matematik. Majoriti daripada guru pelatih pra-perkhidmatan memberitahu bahawa masyarakat menyebabkan mereka percaya matematik adalah penting pada masa hadapan. Untuk strategi pengajaran, aktiviti persaingan individu, aktiviti persaingan kumpulan dan kerja matematik individu merupakan tiga strategi pengajaran yang menyebabkan paling ramai guru pelatih pra-perkhidmatan gelisah terhadap matematik. Di samping itu, mengatur masa lebih untuk belajar matematik, menyiapkan semua kerja rumah serta belajar dengan kumpulan rakan penyokong merupakan tiga strategi yang membantu kebanyakan guru pelatih pra-perkhidmatan dalam mengurangkan kegelisahan mereka terhadap matematik. Satu korelasi yang lemah telah dijumpai di antara kegelisahan skor yang dikumpul daripada MARS-S dengan tanggapan guru pelatih pra-perkhidmatan terhadap tahap kegelisahan mereka. Kebanyakan guru pelatih pra-perkhidmatan percaya bahawa kegelisahan

mereka disebabkan oleh kekurangan pemahaman terhadap matematik. Kegelisahan terhadap matematik mempengaruhi pencapaian dalam matematik, jadi, pensyarah di universiti seharusnya mereka serta menggunakan strategi pengajaran yang sesuai untuk membantu guru pelatih pra-perkhidmatan dalam mengurangkan kegelisahan mereka terhadap matematik.

CHAPTER ONE INTRODUCTION

1.1 Introduction

This study was designed to investigate the needs of mathematics anxiety and alleviation strategies among pre-service teachers. This chapter discusses the background of the study, problem statement, research objectives, research questions, research hypothesis, research framework, importance of the study, significance of the study and the definition of terms used in the study.