UNIVERSITI PUTRA MALAYSIA

EFFECTS OF COMBINED STRATEGY INSTRUCTION AND ATTRIBUTION RETRAINING IN MATHEMATICS ACHIEVEMENT OF FORM ONE STUDENTS IN A SECONDARY SCHOOL

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By

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Faculty: **Educational Studies**

Students form beliefs of success and failure towards learning and these have implications on coping with their learning problems. In the process of learning, it is important for them to identify the causes of failure and success in order to achieve higher performance and acquire learning strategies to master their learning. This study examined the effects of combined strategy instruction and attribution retraining (SI + AR) on students' causal attributions, learning strategies and achievement. Causal attributions in this study were based on three dimensions, that is, whether the results were due to the subjects themselves (internal) or others (external), whether the causes were changing in nature (unstable) or unchanging over time and place (stable) and whether the subjects can control (controllable) or cannot control (uncontrollable) the causes concerned.

A total of 133 Form One students were randomly chosen from one specific school. They formed four randomised cluster sampling classes. Subjects underwent the testing for eight days and the treatment for twenty days. The Nonequivalent Control Group Design consisting of three experimental groups and one control group was used. The experimental treatments were the SI + AR, the strategy instruction only (SI Only) and the attribution retraining only (AR Only). The control group had no treatment. All tests were administered before and after the treatment.

The findings show that, after the treatment, the SI + AR group had the least number of subjects in attributing their success to unstable factors as compared to all the other groups. The low achievers, the males and the Malay students from this group, too, had the highest increase in attributing failure to controllable factors as compared to those from the other groups. In addition, the males and the Chinese students from the same group show the highest decrease in attributing failure to uncontrollable factors whilst the males alone also show the highest decrease in attributing success to external factors. Meanwhile, the Malay students from SI + AR group show the highest decrease in attributing success to external, uncontrollable and unstable factors as well as highest decrease in attributing failure to external factors. The high achievers from the same group show the highest decrease in attributing failure to stable factors.

As for mean learning strategy scores after the treatment, the SI + AR group is significantly higher than the non-treatment control group. The

Chinese students from this group too, have significantly higher change in mean learning strategy scores than the Chinese from the control group and the AR Only group.

Similarly, the SI + AR group has significantly higher mean achievement scores after the treatment than the non-treatment control group. The low achievers and the high achievers, the male and the female students, the Malay and the Chinese students from the same group show the highest increase in mean achievement scores as compared to their counterparts from the other three groups.

Overall, students from the SI + AR group were happier, motivated and satisfied. Implications of the findings show the salience of the ability of educators to modify students' beliefs for success and failure, giving emphasis to re-attribute the locus, the controllability and the stability dimensions, helping the low achievers to master their learning as well as enhancing the confidence level and expectancy for future success of the high achievers.

The SI + AR is recommended for schools with great number of below average students. Educators may utilise this combined treatment at the start of new sessions, terms, semesters, courses, classroom instructions or counseling programmes. They are recommended to train students to be responsible for their own success and failure by teaching them the ways to learn and provide them at the same time with AR feedback.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

KESAN GABUNGAN PENGAJARAN STRATEGI DAN LATIHAN SEMULA ATRIBUSI DALAM PENCAPAIAN MATEMATIK PELAJAR TINGKATAN SATU DI SEBUAH SEKOLAH MENENGAH

Oleh

LOH SAU CHEONG

Oktober 2002

Pengerusi: **Profesor Habibah Bt. Elias, Ph.D.**

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Pelajar membentuk kepercayaan tentang kejayaan dan kegagalan terhadap pembelajaran. Ini seterusnya memberi implikasi tentang bagaimana mereka akan menangani masalah dalam pembelajaran. Dalam proses pembelajaran, adalah penting bagi mereka mengenalpasti punca kegagalan dan kejayaan demi untuk meningkatkan pencapaian dan memperolehi kemahiran belajar bagi menguasai pembelajaran. Kajian ini bertujuan mengkaji kesan gabungan pengajaran strategi dan latihan semula atribusi ke atas atribusi sebab, strategi pembelajaran dan pencapaian pelajar. Atribusi sebab dalam kajian ini berdasarkan tiga dimensi, iaitu, sama ada keputusan tertentu disebabkan oleh individu sendiri (dalaman) atau faktor lain (luaran), sama ada sebab tersebut berubah (tidak stabil) atau tidak berubah mengikut masa dan tempat (stabil) dan sama ada subjek dapat mengawal (boleh kawal) atau tidak dapat mengawal (luar kawal) sebab-sebab tersebut.

Seramai 133 orang pelajar Tingkatan Satu telah dipilih secara rawak dari sebuah sekolah tertentu. Mereka membentuk empat buah kelas yang dipilih dengan persampelan rawak berkelompok. Subjek mengikuti pengujian selama lapan hari dan rawatan selama dua puluh hari. Rekabentuk Kumpulan Kawalan Tak Setara dengan tiga buah kumpulan eksperimen dan sebuah kumpulan kawalan telah digunakan. Rawatan eksperimen merupakan gabungan pengajaran strategi dan latihan semula atribusi, pengajaran strategi sahaja dan latihan semula atribusi sahaja. Kumpulan kawalan tidak menerima sebarang rawatan. Kesemua ujian telah ditadbir sebelum dan selepas rawatan.

Keputusan kajian menunjukkan bahawa selepas rawatan pelajar kumpulan gabungan pengajaran strategi dan latihan semula atribusi paling kurang mengatribusi kejayaan mereka kepada faktor tidak stabil berbanding dengan kumpulan lain. Pelajar pencapaian rendah, lelaki dan Melayu dari kumpulan ini juga mempunyai peningkatan tertinggi dalam mengatribusi kegagalan kepada faktor terkawal berbanding dengan mereka dari kumpulan lain. Tambahan pula, pelajar lelaki dan Cina dari kumpulan ini menunjukkan pengurangan tertinggi dalam mengatribusi kegagalan kepada faktor luar kawal sementara pelajar lelaki juga menunjukkan pengurangan tertinggi dalam mengatribusi kejayaan kepada faktor luaran. Pada masa yang sama, pelajar Melayu menunjukkan pengurangan tertinggi dalam mengatribusi kejayaan kepada faktor luaran, luar kawal dan tidak stabil. Mereka juga menunjukkan pengurangan tertinggi dalam mengatribusi kegagalan kepada faktor luaran. Tambahan

pula, pelajar pencapaian tinggi menunjukkan pengurangan tertinggi dalam mengatribusi kegagalan kepada faktor stabil.

Untuk min strategi pembelajaran selepas rawatan, kumpulan gabungan pengajaran strategi dan latihan semula atribusi menunjukkan penambahan yang signifikan berbanding dengan kumpulan kawalan. Pelajar Cina dari kumpulan ini juga mempunyai perubahan yang lebih tinggi dan signifikan dalam min strategi pembelajaran berbanding dengan mereka dari kumpulan kawalan dan kumpulan latihan semula atribusi sahaja.

Juga, kumpulan gabungan pengajaran strategi dan latihan semula atribusi mempunyai min pencapaian yang lebih tinggi dan signifikan selepas rawatan berbanding dengan kumpulan kawalan. Pelajar pencapaian rendah dan tinggi, pelajar lelaki dan perempuan, serta pelajar Melayu dan Cina dari kumpulan yang sama menunjukkan peningkatan min pencapaian yang tertinggi berbanding dengan mereka yang berada di tiga buah kumpulan yang lain.

Secara keseluruhan, pelajar kumpulan gabungan pengajaran strategi dan latihan semula atribusi didapati lebih gembira, bermotivasi dan berpuas hati. Implikasi hasil kajian menunjukkan dengan jelas keupayaan para pendidik mengubah persepsi kejayaan dan kegagalan pelajar, memberi penekanan dalam melatih semula dimensi lokus, dimensi kebolehkawalan dan dimensi kestabilan, membantu pelajar pencapaian rendah menguasai

pembelajaran mereka serta meningkatkan tahap keyakinan dan jangkaan terhadap kejayaan pada masa depan bagi pelajar pencapaian tinggi.

Gabungan pengajaran strategi dan latihan semula atribusi adalah dicadangkan untuk sekolah yang mempunyai ramai pelajar pencapaian rendah. Para pendidik boleh menggunakan rawatan ini pada permulaan sesuatu sesi, penggal, semester, kursus, pengajaran kelas atau program kaunseling. Mereka dicadangkan melatih pelajar supaya bertanggungjawab terhadap kejayaan dan kegagalan dengan mengajar cara belajar kepada mereka dan memberi maklumbalas latihan semula atribusi kepada mereka.

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