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EFFECTIVENESS OF INTEGRATED INTERVENTION METHODS TO ENHANCE THE MENTAL HEALTH OF THE SECONDARY SCHOOL STUDENTS

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Abstract: Realizing the significance of education for the all-round development of individuals, people and state try to utilize all the resources in the field of education to make man a 'perfect being'. In the journey towards success, students often fail to make adequate interaction and associating with peers, teachers, and members of the family and significant others due to lack of mental health. In this context the researcher attempts to establish an integrated intervention methods improve the mental health of the secondary school adolescent students. The study was conducted among 160 students of standard IX (experimental group=80 and control group =80). Mental Health Questionnaire (Biju, 2014,) integrated intervention methods include Lesson transcripts based on Cooperative Learning Method, SQ3R, Graphic Organizers, Key Word Techniques, Mnemonic Method and Mindfulness Training. The Experimental group were given 50 intervention sessions of 40 minutes duration spread over five months. Lesson transcripts based on integrated intervention method including activity –oriented method and Mental Health Questionnaire (Biju, 2014) were used as tools. Statistical techniques such as 'ANOVA, ANCOVA and Adjusted Mean' were used. The result revealed that Integrated Intervention Program (IIP) has significantly improved the mental health among the Experimental Group. Integrated intervention methods of teaching and learning should be encouraged and incorporated among the schools and colleges since it has proved itself to be a more effective method for enhancing mental health and thereby overall development of the students.

Keywords: Mental Health, Integrated Intervention Methods, Academic achievement.

Effectiveness of integrated intervention methods to enhance the mental health of the secondary school students

Mental health is an index which shows the extent to which the person has been able to meet not only his environmental demands but also cognitive, social, and emotional milieu. Mental health and process of education are invariably intertwined. For educational achievement, mental health is a prerequisite element. WHO (2005) opines that mental health is the ability to balance desire, feelings, ambitions, and ideals in one's daily life. It is defined as a state of well-being in which every individual realizes own potentialities, can cope with the normal stress of life and capable of working productively.

Tomorrows citizens are today's children. Education has a pertinent role in the making of the tomorrow's productive citizens. Education is the accepted symphonic and progressive development of distinctive power of human beings. It is the acquisition of both knowledge and experiences as well as the development of skills, attitudes, habits which help a person to have a sound mental health which is inevitable for leading a successful life. Mental health enables a person to develop the innate potentialities and prepare to become a useful person for oneself and society.

Generally secondary school education is provided to the learners who are in the most sensitive period of their development- adolescents. Adolescents is a period of great stress and strain, storm and strife. True guidance and strong support is very essential during this developmental stage.

Formal education at these periods have to address variety of issued in order to generate sound minds in sound bodies. Hence, due care should be given for the proper development of mental health of the adolescents through academic training.

In the recent years there has been much emphasis given for incorporating inclusive education advocating implementation of appropriate instructional methods and learning strategies meeting the special needs of the student having varying potentialities from lowest end to highest end in the same class room. Hence there is a dearth need of different method of instructions covering cognitive based models of imparting education to the adolescents is required. Investigator tried to introduce and integrated intervention method to enhance the mental health of the secondary school students. SQ3R, graphic organizers, cooperative learning strategy, mnemonic method and mindfulness training were used to teach social science subject and there by improve their academic performance and mental health.

Integrated intervention methods provide better interaction among the students, enables them to do academic tasks much easier and effective. Through interaction the students learn how to deal with others, how to concentrate on studies, methods of learning, how to control one's emotion and express it appropriately. Thus the Integrated intervention methods improve the mental health of the adolescents. Integrated intervention methods promotes more positive attitudes toward their leaning and develops self-esteem, cohesiveness, and learning skills (Sahin, 2010). Cooperative learning method improved the mental health of the learners (Kaviani & Saadatmand, 2018). Tran, Nguyen, Van De, Soryaly & Doan (2019) found that cooperative learning is the convenient way to support the construction of individual knowledge of the students in a variety of ways. Bjørnsen, Espnes, Eilertsen, Ringdal, & Moksnes (2019) studied the mental health in relation to health literacy and found that these two variables are positively related to mental health. SQ3R intervention technique is very effective in improving comprehension power of the students and improves the mental health (Pamungkas, & Suhardi, 2019). Makau, Muola, & Amukowa, (2019) established that mnemonic techniques including techniques like acronyms, methods of loci, the key word, acrostic and peg word methods positively affect students with emotional and behavioral problem. Emami, Ghazinour, Rezaeishiraz, & Richter (2007) found that the experimental group improved in all the activities of verbal, perceptual performance, and memory aspects on mental abilities resulting remarkable improvement in the mental abilities. Bear (2020) reviewed that SEL training for the students improved their attitude towards school and studies, behavior, caring relationships between teachers and student and peers and also enhanced their academic achievement.

Objectives

1. To find out the extent of integrated intervention methods facilitate to enhance the academic performance of the secondary school students.
2. To find out the extent of integrated intervention methods facilitates to enhance mental health of the secondary school students.

Method

Research Design

Pre-test post –test randomized control group and experimental group design is used to find out effectiveness of integrated intervention methods to enhance the mental health of the secondary school students.

Hypothesis

H₁ The metal health of secondary school students taught social science through integrated intervention method is significantly higher than that of students taught social science through lecture method.

Population and samples

The population of the present study included all the secondary school students of the state of Kerala. 160 secondary school students were taken as the sample of the study, two divisions each from St. Thomas school, Mayannur, Trissur and St. Joseph's School Pangarapilly, Trissur were selected for experimentation(one division from)each school. The assignment of experimental group and control group was randomly selected. Thus total sample consist of 160, divided equally between having equal number of students (80) in the experimental group and the control group.

Intervention program module

A set of comprehensive and integrated module encompassing mindfulness (memory improving program) study skills development program like SQ3R, Graphic Organizers, Cooperative Learning Strategy, Mnemonic Method and Mindfulness Training were given to Secondary School Students to improve their mental health. Experimental group (80) were given intervention for the duration of five moths with 60 session, whereas the control group (80) were not given any such intervention ,but received only the regular method of classroom teaching.

Inclusion criteria

- Only those students who had been studying in 9th standard of both genders age between 13-15 years.
- Only those students who had been studying in government aided schools of rural area.
- Only those students who secured below 50% of marks in social science subject.

Exclusion criteria

- Those students who had been studying other than 9th standard of both genders age below 13-and above 15 years.

- Those students who had been studying in private schools of urban area.
- Those students who secured above 50% of marks in social science subject.

Tools used

1. Lesson transcripts based on integrated intervention method including activity –oriented method.
 2. Mental Health Questionnaire (Biju, 2014) the mental health status scale consisted of 60 questions of which 30 questions were positive stated questions and 30 negative statements. The scale consisted five dimensions such as emotional maturity, attitude toward self, optimism, attitude toward

others and integration of personality. The scale was prepared in the ‘likert scale’ model with five alternatives to answer, i.e. Always, Often, Sometimes, Rarely, and Never with the scores of 5, 4, 3, 2, and 1 respectively The reliability of the total scale is derived at by Cronbach Alpha method and split-half reliability and for the subscales the reliability is arrived at by Cronbach’s Alpha. The developer of the scale have established that the scale has validity of 0.870 and the reliability of 0.930.

Descriptive and inferential statistical tools used are mean and standard deviation, t test ANOVA and ACOVA .The researcher utilized SPSS 21 computer software for analysis of the data.

Results and discussion

Table 1.

Data and results of the test of significance of the difference between mean mental health status scores of the Experimental Group and the Control Group before and after the treatment.

Variable	Phase	Group	Mean	SD	Critical ratio(t)
Mental health	Pre test	control	187.41	31.66	0.53
	Pre-test	Experimental	184.76	32.11	
	Post -test	control	189.63	32.36	6.52**
	Post -test	Experimental	221.88	30.21	

**p<.01

The Mean and Standard Deviation of mental health status scores obtained by the control group before the treatment are 187.41 and 31.66 respectively and that of experimental group are 184.76 and 32.11 respectively. The critical ration obtained is 0.53 and it does not reach the table value, 1.96 to reject the null hypothesis at .05 level of significance. Therefore it can be assumed that the two groups were initially equal with regard to the mental health.

The Mean and Standard Deviation of mental health status scores obtained by the control group before the treatment are 189.63and 32.36 respectively and that of experimental group are 221.88 and 30.21 respectively. The critical ration obtained is 6.52 and exceeds the table value, 2.58 to reject the null hypothesis at 0.01 level of significance. Therefore it can be assumed that the two groups were different with regard to the mental health.

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Table 2.

Summary of ANOVA of Mental Health Status scores of students in the Experimental Group And Control Group before and after treatment.

Source of variation	df	SS _x	SS _y	MS _x	MS _y	F _x	F _y
Between group	1	280.9	41634.76	280.9	41634.76	0.276	42.486
Within group	158	160615.9	154832.7	1016.556	979.954		
total	159	160896.8	196467.5				

The table values of F (df =1/158) are 3.89 at .05 level and 6.76 at .01 level. The calculated value of F_x is 0.276. The calculated value is less than the table value (3.89) even at .05 level. From this it is clear that there is no significant difference between the mental health status scores of the experimental group and that of the control group before treatment. The obtained values of F_y is 42.486 which is greater than the table value (6.76) at 0.01 level. Therefore it can be tentatively concluded that there is significant difference between the mental health status scores of the experimental group and that of the control group after the treatment. The final (Y) scores were corrected for differences, in initial (X) scores. For that the SS_y has been adjusted for any variability in Y contribution by the adjusted sum of squares for Y, SS_{y_x} was computed and the F ratio (F_{y_x}) was calculated

Table 3.

Summary of ANCOVA of Mental Health status scores of students in the Experimental Group and in the Control Group before and after treatment

Source of variation	df	SS _X	SS _Y	SS _{XY}	SS _{YX}	MS _{YX} (V _{YX})	SD _{YX}	F _{yx}
Between groups	1	280.9	41634.76	3419.825	35531.63	35531.63	11.153	285.6519
Within groups	157	160615.9	154832.7	147417.6	19528.89	124.3879		
total	158	160896.8	196467.5	150837.4	55060.53			

The calculated F_{yx} ratio was tested for significance. The table values of F (df= 1/157) are 3.89 and 6.79 at .05 level respectively. The calculated value of F_{yx} is 285.65. Since it is much greater than the critical value (6.96), it is significant at .01 level. Thus it is clear from the F_{yx} ratio that mental health status scores of the Experimental Group and Control Group differ significantly, after they have been adjusted for initial differences.

The adjusted means of mental health status scores (Y means) of pupils in the experimental group and control group after treatment were computed. The difference between the adjusted Y means was tested for significance.

Table 4.

Data of adjusted means of Mental Health status scores of pupils in the Experimental and the Control Group and in the Control Group after the treatment.

Groups	N	M _x	M _y	M _{yx} (adjusted)	SE _d	t	D
Control	80	187.4125	189.625	188.4089			
Experimental	80	184.7625	221.8875	223.1036	2.49387	17.919	44.69
General means	160	186.0875	205.7563				

Adjusted Y means of post –test scores were tested for significance. The table value of t (df = 1/157) are 1.96 and 2.576 at .05 level and .01 level respectively. The calculated values of t exceeds the table value, the difference is significant at .01 level. This significant difference between the adjusted Y mean as indicated that the two groups differ significantly in their mental health status scores after the experiment.

Since the adjusted mean of the experimental group is greater than the of control group and the difference between the two means are statistically significant, it can be interpreted that teaching through integrated intervention method is more effective than the conventional method for enhancing mental health among the secondary students.

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Descriptive and inferential statistical tools used are mean and standard deviation, t test ANOVA and ACOVA. The researcher utilized SPSS 21 computer software for analysis of the data.

Discussion

The result clearly indicated that integrated intervention program had made remarkable impact on the

mental health of the students by fulfilling their need-based requirements through acceleration of their learning process. The result of the present study goes in hand in hand with the findings of Liu, Zhang, Song, & Shi (2013) who found the effect of cooperative learning mode in line with the needs of shaping and promoting mental health of the students. By improving their mental health they were able to reduce considerably the level of anxiety and improved the interpersonal and intrapersonal relationships. The findings of Tianfeng, Enfeng and Zhongxun (2011) indicated that the integrated intervention method emphasizing cooperative and mnemonic method played the positively in perfecting students' mental health and escalated student's social competence and reduced their social evasion and social anxiety. The integrated intervention method promoted positive attitudes toward learning and developed self-esteem, self-concept, cohesiveness and learning skills which are the signs of sound mental health (Sahin, 2010).

Intervention program reformed the school environment and trained the students' mental health including, social skills, self-management, and better cooperation which eventually facilitated Academic Performance (Trautwein, Lüdtke, Köller, & Baumert, 2006). It also promoted students with better self-control, improved interpersonal skills, perceived attention, and problem solving ability, commitment to school, and better peer interactions (Elias, Leverett, Duffell, Humphrey, Stepney, & Ferrito, 2015). According to Baxendell (2003) Graphic Organizers motivated understanding of concepts through student's engagement, assisted in connecting words and concepts and aided in the retrieval of signals for the existing schemes. It was undoubtedly proven by Asan (2007) that concept maps, known to be Advanced Organizer, accelerated the academic achievement and mental health of 8th grade students in Social Science.

The substantiated evidences to prove the present study results justified the advantages of interventions conceived for improved learning behavior. Mindfulness Meditation, Mnemonic and Graphic Organizers motivated the students' Academic Performance and mental health (Jairam, Kiewra, K. Rogers-Kasson, Patterson-Hazley, & Marxhausen, 2014; McDaniel, Howard, & Einstein, 2009). The implementation of SQ3R for the Intervention also facilitated in the improvement of academic performance and mental health of the early adolescents (Baier, 2011; Pamungkas & Suhardi, 2019). Research conducted by Baxendell, 2003 concluded that the end results in the academic performance and mental health synchronized by the Integrated Interventions, which consisted of Graphic Organized Illustrations, Mnemonic training (Makau, Muola, & Amukowa, 2019), JPMR and Mindfulness Meditations.

Conclusion

The integrated interventions including Cooperative learning method, Graphic organizers, and study skill development programs like SQ3R, Key Word Techniques, Mnemonic, Mindfulness Training and Computer Assisted Learning enabled Secondary School Students to improve their mental health of the Experimental group. Researcher, suggests the policy makers and educationalists should undertake these strategies of teaching and learning and recommend this for inclusion in the academic curriculum.

Implication

Integrated intervention program can advance the academic performance and mental health which will heighten their overall performance. The incorporation of integrated intervention strategies in day-to-day learning activities can be done with a minimum time, cost and energy. Teachers are to be trained for handling integrated intervention strategies. The study is more relevant in the modern scenario where inclusive classroom training is encouraged. This method of teaching and learning is strongly recommended in schools and colleges since it has proven itself to be more effective. Once the adolescents perceive that they are doing well or improving in their mental health, their self-generated confidence in learning activities are likely to be geared up; simultaneously they will advance in other desirable skills and competences for a successful life.

Limitation of the study

The sample size of the study was comparatively small (N=160); the study could be conducted on wider population more extensively. It would have increased the generalizability of the result. The data were collected during one full term of an academic year from two schools. Follow up study was not conducted due to time limit; other variables like social competence, emotional competence etc. could also be studied.

Suggestion for further research

Further research could be conducted with more samples from different regions across the country adopting Integral Intervention Program. The efficiency of Integrated Intervention when applied at elementary class, higher secondary classes and college classrooms can be explored. Immediate follow-up and long term follow-up can explore and well evaluate the effectiveness of the Integral Intervention Program to bring out teaching and learning efficacy, motivation, changes in cognitive and social dimensions, attitudes and aspiration for higher education and rates of school dropouts. A similar study could be conducted to find out the effectiveness of Integral Intervention Program in improving other competencies like Emotional Competencies, Functional Competencies, Behavioral Competencies and skills like communication skills, problem

solving skill, creativity among the learners, classroom discourse and classroom interaction.

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