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The Effectiveness of a Suggested Program Using Cognitive and Meta-cognitive Strategies in Teaching Social Issues on the Development of Student- Teachers at The Philosophy and Sociology Section's Awareness and Critical Thinking

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Study Summary

Introduction:

The last few years witnessed a noticeable development in the variant fields of life as a result of the great advance of Science and technology. Education in that respect is not an exception as education is the Society's tool for achieving the full individualization and socialization of citizens. It is also the context through which an individual could develop his abilities, enhance his attitudes and tendencies, re-shape his intuition and become able to face the advances and challenges he might encounter throughout his life.

The scientific advance led to the accumulation of the human knowledge in a speed that could not be matched easily, creating a gap between the scientific aspects of life and the cultural social ones. Accordingly, a huge burden was placed on the shoulders of educationists as they are obliged to create new methods and strategies that would help in developing the critical thinking abilities of students, and enhancing their skills so as to become in accordance with the ever-expanding human knowledge. Concentrating on memorization and information banks is not suitable for preparing citizens for their future lives in the 21st century.

Therefore, enabling the Society to face the information and technological revolution and the resulting changes, requires curricula and syllabi designers in general and sociology syllabi in particular to try to relate those syllabi to reality, handling the most prominent social problems and issues that might be encountered throughout their lives. In this way, what we introduced in schools would not be isolated from life, and on the long run would enable students to live and deal with the variant aspects of life, bridging the gap between theory and practice.

The main aim of studying sociology is to make people aware of the social problems and helping them to comprehend their causes and results so as to be able to share in solving them as much as possible. Therefore, the Society would be put on the right track depending on scientific bases and motivations. Sociology also allows people to understand the inter-relations between social problems so they would easily recognize their rights and duties.

From what preceded, we could easily infer the importance of introducing social problems and issues through sociology courses as it the science concerned with social issues analysis in order to specify their causes, find out suitable solutions, and formulate sound judgments.

Accordingly, developing the social awareness of students is considered one of the fundamental aims of sociology teaching as it enables them to face social problems and find probable solutions that show a high level of awareness, critical thinking, problem solving and the ability to formulate suitable opinions and decisions. Developing critical thinking, however, helps students to comprehend the world around them, analyze social problems, events and situations they might face, create a sound critical mental vision and form sound judgments concerning social issues.

All what was mentioned previously could be achieved when new strategies are used in teaching sociology and when we pay more attention to the introduction of social problems and issues through sociology syllabi. It has been proved that the usual methods used in teaching sociology puts forward that valuable science in the form of useless separate facts and isolated pieces of information that relies only on memorization and recalling. Such a method does not assist in the achievement of any of the sociology aims in general or developing higher

thinking skills as problem solving and critical thinking specifically. It does not also provide students with any ability to realize their reality, handle it or become aware of it.

It could be easily concluded from what preceded that:
1) There is an urgent need for using new methods and strategies to overcome the clear shortage created by the usually used methods to help in achieving the aims of sociology.
2) More attention should be driven to the introduction of social problems and issues through sociology syllabi.
3) Paying more attention to developing students' critical thinking abilities and enhancing their awareness of social problems and issues faced in their society.

Thus, the researcher attempted in the current research to relate what has been achieved by previous studies to what was asserted by the modern trends in sociology teaching calling for the use of new strategies and paying more attention to teaching social problems and issues to reach a suitable level of reality awareness in addition to developing students' critical thinking. Some of the strategies attracting attention lately are the ones concentrating on the positive role of the learners and their active participation in deduction, connection, balancing and formulation of judgments that could be later implemented throughout their lives. It is well-known that those strategies have a positive impact on students and allow them a more profound and continuous learning.

It is beyond doubt that those strategies help in launching the creative abilities of learners. They also help students to get rid of the information receiving culture and replace it by knowledge building culture that requires the transformation of received knowledge to cognition by discovering the inter-relationships and the phenomena involved. Later on, it would

enable the learners to move forward to the meta-cognition phase that demands learners to reflect on their knowledge, gain an in-depth understanding, explain and discover the phenomena dimensions and deduce its hidden aspects through an active process of survey and research.

The recent research focused on the use of cognitive and metacognitive strategies in teaching social issues and problems as the mentioned strategies are in fact integrative and cannot be separated. On one hand the cognitive strategies aim at achieving a cognitive goal while the metacognitive strategies aim at evaluating that goal and validating it. So, the metacognitive strategies have to be preceded by cognitive ones as the prior is responsible for evaluating the effectiveness of becoming aware of the later.

Problem of the Study:

The problem of the study could be stated as follows:

1) The level of attention directed to the study of social problems and issues through sociology courses introduced to philosophy and sociology section student teachers at the faculties of Education, is inappropriate when compared to the relevant importance of those problems and issues. This fact is highly contradictory to the status quo of sociology teaching at the secondary stage. Thus, such issues have to be handled in depth during the preparation of prospective teachers as they are obliged to be fully aware of the issues and problems, he would be entitled to teach later on. It is ironic to expect our student teachers to become highly qualified teachers and prepare generations of aware students, when they are not equipped for that mission. To assure the previous assumption, the researcher carried out the following:

a- Reviewing the teaching plan of the philosophy and sociology section at the Faculty of Education that proved that the topic of social problems and issues was not discussed in any of the courses introduced to the students throughout the four years of study.

b- Reviewing all the topics included in the sociology syllabi introduced to philosophy and sociology section at the Faculty of Education students that proved that they did not include any hints about social issues or problems.

c- Preparing a questionnaire to speculate the student teachers' point of view concerning social problems and issues studied during their preparation period in the faculty. The questionnaire was administered to 30 fourth year philosophy and sociology section students. The students' responses were as follows: None of the social problems and issues were introduced or even discussed throughout the four years of studying at the faculty.

d- Preparing a questionnaire to speculate the education and sociology specialists' point of view concerning the importance of teaching social issues and problems to student teachers and the level of their inclusion in the recently introduced syllabi. All those who responded to the questionnaire assured that those issues are just mentioned but never dealt with in depth. They also assured that introducing those issues would help students to understand and adapt to the social reality. It would also assist them greatly when they start their teaching career. All the specialists assured that providing a special course dealing with the reality of the Egyptian society and the most important social issues and problems affecting the lives of Egyptians, is of vital importance for the preparation of prospective teachers.

e- Surveying the modern trends in sociology teaching to define the relative importance of teaching social problems and issues to student teachers.

2) The clear low-standard of critical thinking abilities and the lack of awareness of social problems and issues related to the social reality the students might encounter and deal with throughout their daily lives. The researcher reached those conclusions through:

a- The pilot study carried out by the researcher to identify the students' level of critical thinking. The researcher used Watson-Gelsser test for critical thinking, translated by Gaber Abd El-Hamid and Yehia Hendam. The test was administered to 30 fourth year philosophy and sociology section students. The study results showed that the level of student teachers' critical thinking skills is very low as their mean score was (41.86). Thus, the results proved that there is a clear urgent need for developing students' critical thinking skills.

b- The pilot study carried out by the researcher to identify the student teachers' level of awareness of social problems and issues. The researcher used "The Social awareness test" designed by Zeinab Badr Abd El-Wahab. The test was administered to 30 fourth year philosophy and sociology students. The results showed that the level of students' awareness was as low as 38.72% proving that there is a genuine need for developing that deteriorated awareness level.

3) Reviewing the literature and related studies showed that the teaching of sociology has a number of short comings. This fact could be attributed to the use of the usual methods that do not help students to raise their level of social awareness, develop their critical thinking skills or enhance

their problem solving abilities. Therefore, it is rather essential for student teachers to be trained on using educational strategies that would help them to use various cognitive and metacognitive processes.

In this way, the research attempted to answer the following question:

What is The Effectiveness of a suggested program using cognitive and metacognitive strategies in teaching social issues on developing philosophy and sociology section student teachers' critical thinking and level of awareness?

A number of sub-questions could be derived from the previously mentioned main question:

1- What are the social issues suitable for philosophy and sociology student teachers that are related to the reality of the Egyptian Society?

2- What are the bases for preparing the suggested program using cognitive and metacognitive strategies?

3- What are the requirements of the suggested program using cognitive and metacognitive strategies in teaching social issues?

4- What is the Effectiveness of the suggested program using cognitive and metacognitive strategies in teaching social issues on developing philosophy and sociology student teachers' awareness of those issues?

5- What is the Effectiveness of the suggested program using cognitive and metacognitive strategies in teaching social issues on developing philosophy and sociology section student teachers' critical thinking?

6- What is the Effectiveness of the suggested program using cognitive and metacognitive strategies in teaching social

issues on developing philosophy and sociology section student teachers' awareness of those strategies?

7- What is the relationship between developing social issues level of awareness and enhancing critical thinking through the introduction of a suggested program using cognitive and metacognitive strategies in teaching social issues?

Limitations of the Study:

The study is limited to:

1. A number of social issues related to the reality of the Egyptian society (Drug addiction – Illegal marriage – Homeless children – Unemployment).

2. The student teachers at fourth year, philosophy and sociology section at Faculty of Education, Fayoum University.

3. Some cognitive and metacognitive strategies (Concepts' maps – Brainstorming – Note taking – Summarization – K.W.L. – Self questioning – Thinking aloud – Consensus building).

4. Some critical thinking skills (Deduction – Induction – Hypothesis recognition – Explanation – Justification evaluation).

5. The second term of the academic year 2006 – 2007.

Tools of the Study:

The study used the following tools:

The experimentation tools:

1. The social issues list.
2. The suggested program using cognitive and metacognitive strategies.
3. The student teacher booklet.
4. The teacher's manual.

The measuring tools:

1. Critical Thinking Test Prepared by Wattson and Gellsier (Translated by Gaber Abd El-Hamid and Yehia Hendam).

2. Critical thinking test related to social issues.

   Prepared by the researcher.

3. Social problems and issues awareness test.

   Prepared by the researcher.

4. Cognitive andmetacognitivestrategies awareness measure.

   Prepared by the researcher.

Aims of the Study:

The study aims at the following:

1. Specifying the social issues suitable for the philosophy and sociology section student teachers which are related to the Egyptian society reality.

2. Finding out the level of effectiveness of the suggested program using cognitive and metacognitive strategies in teaching social issues on developing philosophy and sociology student teachers' awareness of those issues.

3. Identifying the level of effectiveness of the suggested program using cognitive and metacognitive strategies in teaching social issues on developing philosophy and sociology student teachers' critical thinking.

4. Identifying the level of effectiveness of the suggested program using cognitive and metacognitive strategies in teaching social issues on developing philosophy and sociology student teachers' awareness of the strategies used.

5. Studying the relationship between developing social awareness and critical thinking through introducing the suggested program using cognitive and metacognitive strategies in teaching social issues.

Importance of the Study:

The current study is highly important as it helps:

1. Sociology teachers to learn about new teaching strategies that would help them to enhance their teaching methods and achieve the aims of sociology teaching.

2. The student teachers' in developing their awareness of social issues and problems related to the Egyptian society.
3. The development of some critical thinking and problem solving skills that would not be easily enhanced when using other teaching strategies and methods.
4. The development of cognitive and metacognitive strategies awareness of philosophy and sociology section student teachers.
5. The introduction of sociology as a realistic functional science that would enhance student teachers' ability to think and face problems.
6. The introduction of a practical model of the processes involved in preparing a program dealing with social issues through the use of cognitive and metacognitive strategies.

Hypotheses of the Study:

1) There is a statistically significant difference between means of scores of the experimental group members in the pre and post administration of the social issues awareness test in favor of the post test.
2) There is a statistically significant difference between means of scores of the experimental group members in the pre and post administration of the critical thinking (Wattson and Gellser) test in favor of the post test.
3) There is a statistically significant difference between means of scores of the experimental group in the pre and post administrations of the critical thinking test related to the social issues in favor of the post test.
4) There is a statistically significant difference between means of scores of the experimental group in the pre, med and post administrations of the cognitive and metacognitive strategies awareness measure in favor of the post test.

5) There is a statistically significant correlation between means of scores of the experimental group in the social awareness and critical thinking tests.

Method of the Study:

The present study used both the descriptive and empirical methods. The descriptive method was used in handling the theoretical background, program building and creation of the study tools while the empirical method is utilized in the practical implementation of the study experiment. The study design depends on the use of one group, to which the suggested program using the cognitive and meta-cognitive strategies in social issues is introduced.

Procedure of the Study:

The current study utilized the following procedure:

1) Reviewing the literature and related studies dealing with:
   a. Teaching methods and strategies used in enhancing sociology teaching in addition to the introduction of social issues.
   b. Developing social issues awareness and critical thinking.
   c. Cognitive and metacognitive strategies.
2) Specifying the nature of cognitive and metacognitive strategies, their bases and procedures. In addition to identifying the nature of sociology and social issues and their importance for student teachers.
3) Specifying the aspects of social issues awareness and critical thinking skills and means of their development in student teachers.
4) Preparing a list of the most prominent social problems and issues that are related to the reality of the Egyptian society and that are considered valuable for student teachers and judging its validity through the viewpoints of a group of specialists.

5) Preparing the students' booklet in social issues included in the suggested program putting forward the program's aims, content and activities.

6) Preparing the suggested program using cognitive and metacognitive strategies in teaching social issues, paying special attention to the program's philosophy, aims, content, methods of teaching, activities, teaching aids and evaluation tools.

7) Preparing the teacher's manual that presents the procedures to be followed when teaching the suggested program using the cognitive and metacognitive strategies.

8) Designing the social issues awareness test and judging its validity by showing it to the jury members.

9) Designing the critical thinking test related to the introduced social issues and judging its validity by showing it to the jury members.

10) Designing the cognitive and metacognitive awareness measure and judging its validity by showing it to the jury members.

11) Calculating the validity and reliability of the two tests and measure.

12) Administering the two tests and measure to the study sample prior to the program introduction to gain pre-data.

13) Administering the critical thinking test (Wattson & Gelser) to the study sample to gain pre data.

14) Introducing the suggested program in social issues to the study sample using cognitive and metacognitive strategies.

15) Administering the tests and measure to the study sample to gain post data.

16) Statistical analysis of results, discussing them and formulating conclusions.

17) Recommendation and suggestions.

Results of the Study:

1) There is a statistically significant difference between means of scores of the experimental group members in the pre and post administration of the social issues awareness test at (0.01) Level in favor of the post test.

   This result shows the advance of the study sample members in the post administration of the test indicating the effectiveness of the suggested program using cognitive and metacognitive strategies in introducing social issues in raising the awareness level of those issues.

2) There is a statistically significant difference between means of scores of the experimental group members in the pre and post administration of the social issues awareness test dimensions (cognitive – affective – psychomotor) at (0.01) Level in favor of the post test.

   This result shows the advance of the study sample members in the post administration of the test in each of the three dimension indicating the effectiveness of the suggested program using cognitive and metacognitive strategies in introducing social issues in developing the three dimensions of awareness of social issues.

3) There is a statistically significant difference between means of scores of the experimental group members in the pre and post administration of the critical thinking (Wattson and Gellser) test at (0.01) Level in favor of the post test.

   This result reflects the advance of the study sample members in the post administration of the test in the critical thinking abilities indicating the effectiveness of the suggested program using cognitive and metacognitive strategies in introducing social issues in developing the students' critical thinking.

4) There is a statistically significant difference between means of scores of the experimental group members in the pre and post administration of the critical thinking (Wattson and Gellser) test considering each skill in isolation at (0.01) Level for each of them in favor of the post test.

   This result reflects the advance of the study sample members in the post administration of the test in all the critical thinking skills indicating the effectiveness of the suggested program using cognitive and metacognitive strategies in introducing social issues in developing the students' critical thinking variant skills.

5) There is a statistically significant difference between means of scores of the experimental group in the pre and post administrations of the critical thinking test related to the social issues at (0.01) Level in favor of the post test.

   This result reflects the advance of the study sample members in the post administration of the test indicating the effectiveness of the suggested program using cognitive and metacognitive strategies in introducing social issues in developing the students' critical thinking.

6) There is a statistically significant difference between means of scores of the experimental group members in the pre and post administration of the critical thinking test considering each skill in isolation at (0.01) Level for each of them in favor of the post test.

   This result reflects the advance of the study sample members in the post administration of the test in all the critical thinking skills indicating the effectiveness of the suggested program using cognitive and metacognitive strategies in introducing social issues in developing the students' critical thinking variant skills.

7) There is a statistically significant difference between means of scores of the experimental group in the pre, med and post administrations of the cognitive and metacognitive strategies awareness measure at (0.01) Level in favor of the post test.

This result reflects the advance of the study sample members in the post administration of the measure indicating the effectiveness of the suggested program using cognitive and metacognitive strategies in introducing social issues in developing the students' awareness of cognitive and metacognitive strategies.

8) There is a statistically significant difference between means of scores of the experimental group in the pre and post administrations of the cognitive and metacognitive strategies awareness measure for each dimension in isolation (cognitive strategies use awareness and metacognitive strategies use awareness) at (0.01) Level in favor of the post test.

This result reflects the advance of the study sample members in the post administration of the measure indicating the effectiveness of the suggested program using cognitive and metacognitive strategies in introducing social issues in developing the students' awareness of cognitive and metacognitive strategies use.

9) There is a clear proportional correlation between means of scores of the study sample members in the social awareness and critical thinking tests, clarifying the link between critical thinking and social awareness as the advance of one of them leads naturally to the development of the other indicating the effectiveness of the suggested program using cognitive and metacognitive strategies in introducing social issues in developing the students' awareness of social issues and critical thinking skills.

Recommendation of the Study:

In the light of the study results, the following are recommended:

1. Paying more attention to the preparation of philosophy and sociology prospective teachers by developing their thinking skills in general placing extra emphasis on critical thinking, in addition to the enhancement of their social awareness encouraging them to provide criticism and candid dialogue.

2. Training philosophy and sociology prospective teachers on using modern teaching strategies such as cognitive and metacognitive strategies and their application when teaching philosophy through practice teaching course.

3. Training student teachers on monitoring their learning and performance during the use of cognitive and metacognitive strategies and developing their awareness as well.

4. Providing syllabi and curricula designers with the results of studies proving the effectiveness of cognitive and metacognitive strategies so as to make use of them when planning curricula in the future.

5. Training pre and in-service teachers on the use of cognitive and metacognitive strategies in teaching to enable them to train their students on the use of those strategies.

6. Calling the faculty responsible for teaching sociology at universities to deal with the most prominent social issues as part of their sociology courses to develop their students' awareness.

7. Training teachers on the use of modern strategies used for developing critical thinking skills and social awareness.

8. Calling the faculty responsible for the development of the Faculty of Education curricula to include a course dealing with the most prominent social issues and problems to the

courses introduced to philosophy and sociology section students.

9. Calling teachers to use activities and variant teaching aids that stimulate students' minds and encourage them to use their minds instead of being passive recipients.

10. Devising part of the philosophy teaching methods course at the Faculties of Education for the introduction and training of student teachers on the use of modern teaching techniques and strategies.

<u>Suggestions of the Study:</u>

In light of the study results, the researcher suggests the following further research works:

1. The effectiveness of a suggested program using the cognitive and metacognitive strategies in teaching the philosophical issues on the development of philosophical thinking and awareness of philosophy and sociology section student teachers.

2. The effectiveness of a training program introduced to philosophy and sociology section student teachers in using the cognitive and metacognitive strategies on enhancing their attitude towards teaching philosophy.

3. The effectiveness of a suggested program using the cognitive and metacognitive strategies in teaching sociology on developing reading comprehension and decision making skills of students at the secondary stage.

4. The effectiveness of a suggested program using the cognitive and metacognitive strategies on developing scientific and creative thinking skills at the Faculty of Education.

5. Developing secondary stage sociology curricula in light of the most contemporary local and international issues and problems.

6. Similar research using other teaching strategies such as cooperative learning – constructivism – drama – problem solving, etc. that would assist in developing social issues awareness and critical thinking skills of students through sociology curricula.

7. The effectiveness of a suggested program using the cognitive and metacognitive strategies in teaching social issues on the development of problem solving skills and attitudes of philosophy and sociology section student teachers towards studying social issues.

8. A comparative study handling both the cognitive and metacognitive strategies in teaching social issues on the development of university students' thinking skills and acquisition.