



جامعة عين شمس
كلية التربية
قسم المناهج وطرق التدريس

فعالية إستراتيجية التقويم الواقعي فى تنمية بعض عادات العقل
المنتجة والتحصيل لدى تلاميذ المرحلة الإعدادية فى مادة العلوم

رسالة مقدمة من

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للحصول على درجة ماجستير فى التربية
تخصص مناهج وطرق تدريس (العلوم)

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كلية التربية - جامعة عين شمس

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جامعة عين شمس
كلية التربية
قسم المناهج وطرق التدريس

رسالة ماجستير

اسم الطالبة : أسماء عمر السيد عمر

عنوان الرسالة : فعالية إستراتيجية التقويم الواقعي في تنمية بعض عادات العقل المنتجة
والتحصيل لدى تلاميذ المرحلة الإعدادية في مادة العلوم

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شكر وتقدير

بعد حمد الله وشكره على جزيلى نعمه ، يسرنى أن أتوجه بالشكر والتقدير والعرفان وعظيم الامتنان لأستاذى الذين تفضلا بالإشراف على الدراسة ، مما أعاننى على إتمامها وهما :

الأستاذ الدكتور / مجدى رجب إسماعيل .

أستاذ مناهج وطرق تدريس العلوم – كلية التربية – جامعة عين شمس . الذى شرفنى بقبول إشرافه على الدراسة وأنار لى الطريق بفيض علمه وسديد رأيه ، وعلى ما بذله معى من جهد طوال مراحل البحث المختلفة والذى كانت لأرائه وتوجيهاته السديدة من مرحلة اختيار الموضوع وحتى آخر مراحلها – القيمة والفائدة التى أثرت البحث ، ومهما أشيد به فأنى أدين له بالكثير فجزاه الله عنى وعن زميلاتى وزملائى من الباحثين خير الجزاء .

كما أتوجه بخالص الشكر والتقدير إلى :

الدكتور / أسامة جبريل أحمد .

مدرس مناهج وطرق تدريس العلوم – كلية التربية – جامعة عين شمس . الذى له الفضل الكبير فى تسهيل كافة إجراءات هذا البحث بإمدادي بالعديد من الأبحاث والدراسات ، وتذليل كل صعوبة واجهتني ، وعلى ما بذله معى من جهد طوال مراحل البحث المختلفة ، وعلى إنسانيته ومساعدته لى بإخلاص ، ولما قدمه لى من تشجيع وتوجيه وإرشاد ونصائح فعالة ، فكان خير معين لى فيما يخص هذا البحث ، فجزاه الله عنى خير الجزاء .

كما أتقدم بخالص الشكر والتقدير للأستاذ الجليل رائد تدريس العلوم فى مصر والوطن العربى الذى تفضل بالموافقة على مناقشة الرسالة :

الأستاذ الدكتور / مدحت أحمد النمر .

أستاذ المناهج وطرق التدريس – كلية التربية – جامعة الاسكندرية .

الذى تفضل بالموافقة على مناقشة الرسالة وتحمله مشاقات السفر بين الاسكندرية والقاهرة وترك أعماله ومسئولياته ليشرفنا بمناقشة الرسالة لنستفيد من علمه الغزير ، وخبرته الواسعه ، وأرائه السديدة ، ونقده البناء خلال مناقشة الرسالة . فجزاه الله عنى خير الجزاء .

كما أتقدم بخالص الشكر والتقدير للأستاذة الجلييلة الذى تفضلت بالموافقة على مناقشة الرسالة :

الأستاذة الدكتورة / لىلى إبراهيم معوض

أستاذ ورئيس قسم مناهج وطرق تدريس العلوم – كلية التربية – جامعة عين شمس . بموافقتها على مناقشة الرسالة بالرغم من كثرة مسئوليتها وضيق وقتها ، لتضفى على الرسالة قيمة علمية عظيمة بمناقشتها لها لنستفيد من توجيهاتها الفعالة ، وعلمها الغزير ، وخبرتها الواسعه ، وأرائها السديدة ، ونقدها البناء خلال مناقشتها الرسالة فجزاها الله عنى خير الجزاء .

مستخلص

اسم الباحثة : أسماء عمر السيد عمر

عنوان الرسالة :

فعالية إستراتيجية التقويم الواقعي فى تنمية بعض عادات العقل المنتجة
والتحصيل لدى تلاميذ المرحلة الإعدادية فى مادة العلوم

اسم الدرجة : ماجستير فى التربية (مناهج وطرق تدريس العلوم) .

الجهة : كلية التربية – جامعة عين شمس – قسم المناهج وطرق التدريس.

هدفت الدراسة إلى تحديد فعالية إستراتيجية التقويم الواقعي فى تنمية بعض عادات العقل المنتجة والتحصيل الدراسى لدى تلاميذ المرحلة الإعدادية من خلال تدريس مادة العلوم ، ولتحقيق هذا الهدف تم إعداد قائمة بالعادات العقلية المنتجة بعد عرضها على السادة المحكمين واختيار المناسب منها والتي يمكن تنميتها لدى تلاميذ المرحلة الإعدادية من خلال مادة العلوم ، وتم اختيار وحدة "الصوت والضوء " المقررة على تلاميذ الصف الثانى الإعدادي ، وإعداد دليل المعلم لتدريس تلك الوحدة وفقاً لإستراتيجية التقويم الواقعي ، وكذلك إعداد كتاب التلميذ ، كما تم إعداد مقياس عادات العقل المنتجة والاختبار التحصيلي .

وقد تم اختيار مجموعتي الدراسة إحداهما ضابطة والأخرى تجريبية ، ثم تطبيق أدوات الدراسة قبليةً على المجموعتين ، ثم تدريس الوحدة وفقاً لإستراتيجية التقويم الواقعي للمجموعة التجريبية ، ثم تطبيق أدوات الدراسة بعدياً على تلاميذ مجموعتي الدراسة . وقد أظهرت نتائج الدراسة وجود فروق ذات دلالة إحصائية بين متوسطى درجات تلاميذ المجموعة التجريبية ، ودرجات تلاميذ المجموعة الضابطة فى التطبيق البعدي فى كلاً من (الاختبار التحصيلي ، ومقياس عادات العقل) لصالح المجموعة التجريبية .

Abstract

Researcher name : Asmaa Omar El sayd Omar

Title of research : The effectiveness of realistic assessment strategy in developing some of productive habits of mind and achievement for students of preparatory stage in The subject of science

Degree: The magetser In Education (Curriculum and Instruction of Science)

Institution : Faculty of Education , Ain Shams University .

The present study aimed at limit The effectiveness of the Realistic Assessment strategy in developing some of productive Habits of mind and Achievement of students of preparatory stage in The subject of science . in order to achieve this aim prepared a list of productive Habits of mind after refer the list on a group of jury members to selection the habits which can develop it for students of preparatory stage by The substance of science .

A unit from units Curriculum of second year of the preparatory stage in The substance of science "sound and light" was chosen. To prepare a teacher's guide to study a unit with Realistic Assessment strategy, and book's student, In order to productive Habits of mind scale, and achievement test.

Experimental and control groups from the second year of the preparatory stage students were assigned .The study tools were administered before the teaching of unit to this groups. Then teaches the unit to experiential group by strategy Realistic Assessment , and teaches it control group with the olden method .

The results of the study showed that there are statistically – significant differences between the mean scores of the experimental group and control group in the post administration of productive Habits of mind scale , and achievement test . in favour of the Experimental group .



**Ain Shams University
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**The Effectiveness of the Realistic Assessment strategy in
developing some of the habits of mind and achievement of
preparatory stage students during science teach**

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For the M . Degree In Education

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Introduction

The educational reality show that students just memorize terms and scientific concepts without understanding or realizing them, and they don't use habits of mind, therefore planners of scientific education curriculums emphasize the inclusion of habits of mind in science curriculums and making them a main aim in all stages of education, that because habits of mind are not memorizing information but they are a type of intelligence behavior that lead students to the production of the knowledge not remembering or reproducing it on a previous pattern (perkins,2001).

Whereas Mrazano (Marzano,2000) sea that weak habits of mind cause weak-education, as (Costa,2001) denote that neglecting habits of mind cause more insufficiency in results of educational process.

Some curriculums and educational projects care for habits of mind and depend on them as a basis for educational development, for example :the British national curriculums American Association for Advancement of Science(AAAS) Project, 2061, project Queen Elezabth(Q.E,2004).

In addition there are more international schools that handle the development productive habits of mind educational system so that school becomes the cradle of minds, for example Hidden (Valley elementary school), (George school), (Dan Bury high School).

Many previous studies pay attention to habits of mind in different school subjects and stages, among them (Donna & Frey, 2002) study (Aymn Habeb,2006) study, (Noha Samer,2007) study (Ebtheal Mohamed,2008) study, (Coombs-cyrl-Paul, 2001) study, (Mandor Abd el Salam,2009) study, (Laila Abd Allha Hosam el deen,2008) study, (Coombs, 2001) study.

thes studies concluded that we can develop habits of mind in teaching science by using modern methods and strategies.

So we find that developing habits of mind is one of the main aims of teaching science , that science is a fertile field for developing habits of mind , but teaching by old methods hinders achieving this aim .

The American Association for the Advancement of Science(AAAS) denote that any attempt to educational repair must include reforming students Assessment , whereas an Assessment is one of the most important educational programs that affects forming the educational model and raising its sufficiency and effectiveness .

So this study adopts teaching & Assessment strategy at the same time , it is the Realistic Assessment .

Treagust study (Treagust et al,2001) denote that Realistic Assessment is part and parcel from teaching it is used by teachers to repair their ways of teaching , and to improve student's learning Realistic Assessment styles are part from the effective teaching activates, that enable us to identify different sides of the learner's growth, these methods focus on the realistic contexts of the world ,therefore The Realistic Assessment is honest and logical.

Realistic Assessment depends on the supposition that the Assessment and education are two sides of the same coin . and Assessment must be designed to be part of learning experience not separated from it .

Assessment can be Realistic when it indulge students in valuable and meaningful tasks , these tasks seem as learning activities not traditional examinations. In these activities learners can , apply their basic knowledge and skills that they acquired , this can be shown practically by their performance of realistic life tasks (Salah Al Dien Mahmoud ,2004),(Gaber Abd el Hameed ,2002) . The only difference between the Realistic Assessment and other learning activities is that enables teachers to can take obtain registered information from their students .

(Shepardson,2003) study denote that realistic Assessment tasks are good education tasks , they have structural and final purposes at the same time . this Assessment is positive before , during and after learning .

Realistic Assessment aims at preparing learners to life, because using information is more important than possessing it , as using information is the most important element in mental activity for learners .

A number of previous studies worked on Realistic Assessment strategy such as, (Dori,2003)study, (Eman Saed ,2005) study, (Parker&Gerber,2002) study, (Sahar Abd el karem,2000) study, (Mohamed Abo El Fotoh,2002b) study, and (Naema Hassan,2004) study. The results of these studies proved the effectiveness of Realistic Assessment in achieving the sought goals of science .

because there is no precedent study connect between Realistic Assessment and habits of mind , therefore came the idea of this study.

Identification of the problem

Because of the weak level of habits of mind for preparatory students that resulted from using older teaching and assessment methods that focus only on knowledge and neglect other sides of students' personality , so this study works on a modern strategy that is considered to be one of modern entrances for alternative educational assessment that merge assessment and teaching together, which is realistic assessment , this study aims at investigating the following major question:

- what is the effectiveness of using Realistic Assessment in developing some productive habits of mind and achievement for preparatory stage by teaching science ?

This major question can be analyzed into the following sub- questions:

- 1- what are the habits of mind that can be developed it for preparatory stage students by teaching the science ?

- 2- what is the suggestive conception of science unit in the established based on the Realistic Assessment strategy?
- 3- what is the effectiveness of the Realistic Assessment strategy in developing some productive habits of mind for preparatory stage students?
- 4- what is the effectiveness of the Realistic Assessment strategy in developing achievement for preparatory stage students?
- 5- what is the relationship between student's marks in achievement test and the habits of mind scale ?

The limits of the study :

The present study is limited to :

1. A group of second year students(girls) of preparatory stage in one of Geza schools .
2. " The sound and light unit " from the second year preparatory stage science curriculum .
3. Some habits of mind that are suitable for students of preparatory stage , and can be developed by teaching the science such as (Applying Past Knowledge , Thinking Flexibility, Questioning and Posing Problem ,Thinking interdependently, Gathering Data through all Senses, Striving for Accuracy)
4. Some Realistic Assessment styles that are more suitable for students of preparatory stage , as (include (the portfolio , concept maps , figure V maps , performance assessment , peers-assessment , self assessment) .

Study Group:

- The experiential group: (45) students (girls) from second year preparatory stage from Al Salam school in Geza .
- Control group : (50) students (girls) from second year preparatory stage from El Manashi new school in Geza .

Study tools :

- The Achievement test (Prepared by the researcher).
- The scale of some productive habits of mind (Prepared by the researcher).

Terms :

- **Productive Habits of Mind** is procedurally defined as :

Steady and continuous mental direction among students towards Habits of Mind (Applying Past Knowledge ,Thinking Flexibility ,Questioning and Posing Problem Thinking interdependently, Gathering Data through all Senses, Striving for Accuracy) its gives clear feature to the pattern students' behaviors , that they behave when facing a problem or a question they don't know its answer, or when they want to get knowledge . they are measured by the marks that obtained by students by the prepared scale .

Realistic Assessment: is procedurally defined as : -

Styles of assessment that make students indulge in activities with value and meaning for them , in which they practice skills and processes they need to perform common tasks en everyday life, these activities include criteria for judging students performance , they also provide feedback to improve this performance , They include (the portfolio , concept maps , figure V maps , performance assessment , peers-assessment , self assessment)

hypotheses of the study :

1. There are statistically significant differences between the average score of the experiential group and the average score of control group in the Achievement test in favor of the experiential group
2. There are statistically significant differences between the average score of experiential group in the post- application and pre- application of the Achievement test in favor of the post- application .
3. There are statistically significant differences between the average score of the experiential group and the average score of control group in the scale of habits of mind in favor of the experiential group .

4. There are statistically significant differences between the average score of experiential group in the post- application and pre- application of the the scale of habits of mind in favor of the post- application .
5. There is a positive relationship between student's degrees in the achievement test and the scale of habits of mind.

The procedures of the study :

First – indicating productive habits of mind that can be developed for students of preparatory , through the following :

- a- Being a revision with pre- studies, searches , literary that connected to habits of mind.
- b- Preparing a questionnaire that includes primary list of productive habits of mind , then referring the list to a group of jury members.
- c- Preparing the final list of habits of mind after modifying it .

Second - Preparing the suggestive science unit on the basis of Realistic Assessment strategy, through the following steps :

1. Choosing scientific content (a unit of science curriculum for preparatory stage) .
2. Analyzing the content of unit .
3. Preparing student's book , by Re- structuring the chosen unit on the basis of Realistic Assessment strategy, through the following steps :
 - a- Preparing primary student's book .
 - b- Checking of plenipotentiary student's book , by consulting a group of jury members.

Third - Preparing a teacher's guide , according to the following steps :

- 1 – Preparing primary teacher's guide .
- 2 - Making sure plenipotentiary the teacher's guide, by consulting a group of jury members.

Fourth : indicating an effectiveness of the suggestive unit in developing some habits of mind and achievement for preparatory stage students, through the following steps :

1. Preparing achievement test and making sure of its validity and firmness
2. Preparing a scale for habits of mind and making sure of its validity and firm .
3. Choosing the study group among students preparatory stage, then classificaing them in to two groups : experiential group and control group .
4. Making a pre- application to the study tools before teaching the unit to two groups to make sure of their similarity .
5. Teaching the suggestive unit to experiential group through Realistic Assessment strategy, and teaching the same unit to control group by the old method .
6. Making the post – application to the study tools after teaching the unit to experiential group and to control group .
7. Extracting ,analyzing , and approaching the results statistically, as well as discussing them .

Fifth - presenting recommendations and suggestions .

The importance of the study:

This study is expected to be useful for :

1- Curriculum planners and developers :

- The study provides a list of productive habits of mind that can be developed for preparatory stage students .
- Submission of suggested unit using Realistic Assessment strategy (as one of the effective strategies in teaching science) to included in science curriculum in preparatory stage.

2- Science teachers of preparatory stage:

- The study provide them with a guide that can help in applying Realistic Assessment strategy, and in preparing assessment tools as well as similar units to this one .

3- learners :

- it provides them with student book unit that was applied with Realistic Assessment strategy.

4- Those who are in charge of assessment process ,the study provide them with :

- The scale of habits of mind .
- The Achievement test .

Results of the study :

The results revealed that :

1. There are statistically significant differences between the average score of the experiential group and the average score of control group in the Achievement test in favor of the experiential group .
2. There are statistically significant differences between the average score of experiential group in the post- application and pre- application of the Achievement test in favor of the post- application .
3. There are statistically significant differences between the average score of the experiential group and the average score of control group in the scale of habits of mind in favor of the experiential group .
4. There are statistically significant differences between the average score of Experiential group in the post- application and pre- application of the scale of productive habits of mind in favor of the post- application .
5. There is a positive correlation between student's marks in the Achievement test and the scale of habits of mind.

Recommendations and Suggestions

A- Recommendations:

1. Reformulating the curriculum and content of different science books in primary stage to include Realistic Assessment methods which help students to develop habits of mind and achievement for them.