Towards a real application of an electronic learning theory

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Abstract

This work though diverse, gives help and stimulation in the design of computer based materials for developing skills , it allows the student to express solution as procedures, and receive feedback as the computer executes them, his /her idea can be extended to in imaginative but structured ways by using WHAT- IF questions.

Problem solving materials must be implemented to allow the student to explore facts as she / he works through specific pre-stored problems.

A command vocabulary is provided for this purpose,   and the command set enables the student to set the problem chunk to be attempted (complete question, stages or smaller steps) and to ask, successively if he wishes, WHY DO a stage / step (i.e. if that goal is achieved how does it help in moving towards   a solution ?) WHY CHOOSE that goal (i.e. what problem features lead to that goal rather than do others) .

HOW DO stage / step (a general hint on method), and WHY THAT method would be followed . A HELP command provides advice, through heuristic, when the student can not proceed (A   TELL response is available as a last resort), WHE WRONG enables student to gain further feedback.

Other commands are available to provide summaries and reminders of previous and present work, and to manage the presentation of information.

The system keeps full records of   responses and   these are to be analyzed, This method of triggering ideas towards developing and acquisitions skills in the solution of problems seems to be effective and needs to be developed through further works

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INTRODUCTION

Varieties of knowledge and their difficulties in the curricula require the need of a new strategy to deal with the acquisition and retrieval of these knowledge. In order to enhance teaching and learning paradigms, the need for e-learning emerges more than simply reading on-line or off line lessons which is not the aim of this paper, it is a simulation for the tutors in a stimulus methods

Now days, the students need to take knowledge by(spoon feed)method which is a catastrophe for the education system in general, so the need is tremendous to change these bad habits and to create an environment of learning by putting the students in a situation of learning.

(Practice and drill) learn by doing, this gives a solid knowledge based on a logic understanding. For (Newell & Simon, 1972[4])

Described problem-solving was a matter of insight, encouraged by wide ranging experience and practice through which declarative knowledge becomes organized and structured.

For (Larkin,1981[3]) on a grosser scale, (Polya,1962[5]) has discussed the contribution of heuristic knowledge in problem solving the electronic fault finding program SOPHIE (Brown & Burton, 1975[1]) the learner can suggest hypotheses and have them evaluated, the biomedical diagnosis and treatment program MYCIN (Shortliffe 1976[6]) he can ask why rules have been chosen (i.e. why achieving that sub-goal is useful) and how a conclusion was arrived at(i.e. which sequence of rules was used).

In that time such programs are both difficult and expensive to design. Now days the development of techniques of knowledge representation and supporting software bring these methods again.

(Guetlc,2004[2]) suggested the need for e-learning is imperative, "due to the rapidly growing amount of knowledge, as a stronger need emerges for efficient and improved knowledge acquisition strategies, E-learning can be very helpful for different learning activities in various learning environment (Guetlc,2004[2]).

A one-size fits all approach does not work well enough, that is why teachers need to provide customized learning experiences for targeted groups(Terzieva v.2006[8]).

According to all these theories and opinions the development of education may passed in these stages:

1.Tell me, and I forget, after a while.

2.Sow me, and I might remember when I need it

3.But involve me, and I will understand and retrieve knowledge when I need it.

If the first stage represents the old traditional methods, the second stage represents the improved methods for traditional education, accordingly the e-learning addresses the third stage which is our goal in this research, as the using of e-learning systems has been increased and internet has become almost accessible to everyone.

METHOD

A paradigm was carefully analyzed the structure of each part studied, expected difficulties to be addressed in an interactive ways, by dealing with each piece of knowledge to be forced by the majority of students.

A command vocabulary is provided as functions in the computer for this purpose, the command set enables the user to set the problem-chunk to be attempted.

A command vocabulary is provided as functions for this purpose, the command set enables the user to set the problem chunk to be attempted(complete question, stages or smaller steps) and to ask successively if he wishes why DO a stage/step(i.e. if that goal is achieved how does it help in moving toward a solution?). why choose that goal(i.e. what problem features lead to that goal rather than to others). How DO stage/step(a general hint on method)and why that method would be allowed. A HELP command provides advice, through heuristics, when the learner can't proceed(a tell response is available as a last resort)and the system also identifies general categories of error. Why wrong enables the student to gain further feedback. Other commands are available to provide summaries and reminders of previous and present work.

DISCUSSION

Three main ideas underpin the work:

1.The exploratory material of needs and methods which form a higher level and more general commentary on the solution.

2.The suggestions helping students to recover from difficulties, the heuristics purpose analyzing features of the immediate

problem, creating similar but simpler examples from previous experience in order to suggest a way forward.

3.Building and generalizing on what has been learnt in a particular problem what if questions are asked which test the implication of the solution.

The system keeps full records of responses and these are to be used in the analyzing of the work.

Conclusions and further work

A one-size-fits-all approach simply does not fit all, the traditional methods need to be changed, mixed method is the answer for the fundamental challenge facing today's learning professionals. Our research suggests a shake-up for education systems in IRAQ, since the spoon-feed education is failed to satisfy the goals of education to create the environment of innovative and invention , also the distance is zero, this flexibility of venue and time and to be convenient to each student overcomes the threat and killing facing Iraqi people every day ,therefore, this research can be extended to meet the needs to all subjects-matters and in different areas of knowledge, this required multiple-efforts to bridge the gap between IRAQ and the advanced countries, or at least to echo their achievement in the field of knowledge by benefitting of using the e-learning system since internet is almost accessible to every student,Also pre-test and post test for measuring learning can be designed and results obtained can be both evaluated for further work.

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نحو تطبيق حقيقي لنظرية التعليم الالكتروني

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المستخلص

ان هذا البحث يبدو مختلفا كونه يعطي حافزا وعونا في تقييم مفردات المواد لتطوير المهارات حيث انه يسمح للطالب بالتعبير عن الحلول باجراءات محوسبة وكذلك فانه يستلم اشارات عكسية عند تنفيذ تلك الاجراءات مما يسمح لافكار الطالب ان تتوسع لتتمثل بطرائق تصويرية مهيكلة اعتمادا على اسئلة ماذا لو "WHAT – IF"

ان مواد حل المسائل يجب ان تصمم وتنجز لتسمح للطالب استكشاف الحقائق كلما تقدم بحل مسائل معدة ومخزونة مسبقا   ان مفردات اوامر (A COMMAND VOCABULARY) قد اعدت لهذا الغرض بحيث ان مجموعة منها يمكن ان تحدد حجم المشكلة المزمع العمل عليها والاستفسار عنها بنجاح اذا اراد الطالب ذلك ان الاستفسار يمكن ان يكون على كامل المشكلة او مرحلة منها او خطوة. انه يستطيع ان يسأل بأستمرار لماذا اعمل هذه المرحلة او الخطوة (WHY DO) ان هدفا مثل ذلك عندما يستحصل فأنه يساعد في التحرك قدما بأتجاه الحل) ، كيف اعمل ان ذلك يتم بالامر" HOW DO" ولماذا هذا الاسلوب تم استخدامه.

بينما الاستفسار لماذا اختار (WHY   CHOOSE) هذا الهدف فأنها لمعرفة مواصفات المسألة التي تقود للهدف بينما لا تفعلها المواصفات الاخرى.

ان امر المساعدة help يعطى خلال المبادهة بالحل عندما لا يستطيع الطالب ان يتقدم بالحل ((الامر قل TELL متوفرا ايضا كملجأ اخير للطالب)) لماذا خطأ WHY WRONG يمكن الطالب ان يحصل على مساعدة اضافية.

ان هذا النظام المقترح يجب ان يحافظ على كامل التسجيلات والبروتوكولات والاستجابات للطالب ثم تحلل هذه النتائج على ضوء طبيعة البحث

ان هذا الاسلوب في قدح الافكار بأتجاه تطوير واكتساب مهارات في اتجاه حل المسائل نأمل ان يكون مؤثرا و مفيدا ويحتاج الى ان يتم تطويره من خلال اعمال لاحقة ذات صلة به.

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