Towards a real application of an electronic learning theory

Ass. Prof Dr. Abdul karim Almazedi *

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

*Alrafidain University college ,Baghdad.
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.
References


الاستخلاص

إن هذا البحث يبدو مختلفاً كونه يعطى حافزاً وعوناً في تقييم مفردات المواد لتطوير المهارات حيث أنه يسمح للطالب بالتعبير عن الحلول بأجراءات محسوبة وكذلك فإنه يستخدم آثار الفرضية عند تنفيذ تلك الأفكارة مما يسمح لأفكار الطالب أن تتواصل لتنتمح بطرق تصويرية مهنيةة اعتماداً على استفسار ماهماً لو "WHAT – IF"

ان مواد حر المساهم يجب أن تصلم وتتجز لتسمح للطالب استكشاف الحقائق كلما A COMMAND (VOCABULARY) قد اعدت لهذا الغرض بحيث أن مجموعة منها يمكن أن تحدد حجم المشكلة المزمن العمل عليها والاستفسار عنها بنجاج إذا أراد الطالب ذلك أن الاستفسار يمكن أن يكون على كامل المشكلة أو مرحلة منهما أو خطوة. إنه يستطيع أن يسأل بستمرار لماذا اعمل هذه المرحلة أو الخطوة (WHY DO) ان هذا استفسار يمكن أن يكسب في التحرك بعدة الأفكارة (WHY CHOOSE) كيف عمل ان ذلك عندما يستتحصل فأنه يساعد في التحرك قدماً باتجاه الحل )، كيف استفسر أن ذلك يتم بالام "HOW DO" ولماذا هذا الإسلاو تم استخدامه.

بينما الاستفسار لماذا اختار (WHY DO) هذا الهدف فأنا لمعرفة مواصلات المسألة التي توقد للهدف بينما لا تتحقق المواصفات الأخرى. إن أمر المساعدة يعطي خلال المبادرة بالحل عندما لا يستطيع الطالب أن help يتقدم بالحل (( الأمر قل TELL متوفراً أيضا كملل اخبار للطالب )) لذا خطاً.

WHY WRONG

إن هذا النظام المقترح يجب أن يحتفظ على كامل التسجيلات والبروتوكولات والاستجابات للطالب ثم تحلل هذه النتائج على ضوء طبيعة البحث أن هذا الإسلاو في قدر الإفكار بأنهاء تطوير واكتساب مهارات في اتجاه حل المسائل نأمل أن يكون مؤثراً ومفيداً ويحتاج إلى أن يتم تطويره من خلال أعمال لاحقة ذات صلة به.

(1) كلية اليرافدين الجامعة/قسم هندسة البرامجيات.