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MATHEMATICS AND E-LEARNING LOGIC

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Abstract:- Intelligent mentoring frameworks give a promising application region to systems from numerous subfields of Artificial Intelligence (AI), including information representation, client displaying, standard based frameworks, mechanized analysis, computerized thinking, versatile hypermedia, characteristic dialect handling and robotized thinking. Yet, as it turned out this is a restricted street, as well as a give and take in both courses as these instructive applications prompted new research issues too, among others, open understudy displaying, excercise dialogs, and versatile hypermedia, see, e.g., [Aleven and Koedinger, 2000; Brusilovski, 1996]. This likewise applies to computerized thinking as we might see in the continuation. With the broad accessibility of the Web, there is the colossal open door that instructive apparatuses created at one spot can be utilized anyplace the length of they are embodied in Web-applications that are interoperable and consistent with standard data dialects. While e-learning apparatuses are currently broadly utilized as a part of long lasting learning applications, for example, mechanical instructional classes for authority expertise and aptitudes, these frameworks gradually however clearly go into school showing [Koedinger et al, 1997; Matsuda and vanLehn, 2005], scholastic instructing, and expert preparing also.

Keywords: Logic, mathematics.

INTRODUCTION

Intelligent mentoring frameworks give a promising application region to systems from numerous subfields of Artificial Intelligence (AI), including information representation, client displaying, standard based frameworks, mechanized analysis, computerized thinking, versatile hypermedia, characteristic dialect handling and robotized thinking. Yet, as it turned out this is a restricted street, as well as a give and take in both courses as these instructive applications prompted new research issues too, among others, open understudy displaying, excercise dialogs, and versatile hypermedia, see, e.g., [Aleven and Koedinger, 2000; Brusilovski, 1996]. This likewise applies to computerized thinking as we might see in the continuation. With the broad accessibility of the Web, there is the colossal open door that instructive apparatuses created at one spot can be utilized anyplace the length of they are embodied in Web-applications that are interoperable and consistent with standard data dialects. While e-learning apparatuses are currently broadly utilized as a part of long lasting learning applications, for example, mechanical instructional classes for authority expertise and aptitudes, these frameworks gradually however clearly go into school showing [Koedinger et al, 1997; Matsuda and vanLehn, 2005], scholastic instructing, and expert preparing also. A few nations even grasp these new open doors on a fantastic scale. China has as of now around 90 million Internet clients with a yearly development rate of more than 10%. If this pattern is not bothered by outer occasions, China will have more Internet clients than the US by 2007 and it has been anticipated that inside of the following ten years, China will have more formally enrolled Internet clients than whatever remains of the world [China, 2005]. This is the quickest developing market on the planet at this moment and the Chinese government means to utilize this as a spine of its next five year advancement anticipate an excellent scale — specifically to create and instruct the

western parts of the nation.

WHAT E-LEARNING SYSTEMS NEED

Learning looks like examination and disclosure from multiple points of view [White and Shimoda, 1999]. Nonetheless, an understudy is not care for a specialist mathematician or an engineer of a hypothesis demonstrating framework. A framework that is valuable for taking in radically contrasts from frameworks that are significant for a mathematician or other master clients. This announcement may sound like a maxim, yet it indicates a conceivably rich and new research program. An understudy's objectives in learning (arithmetic) may be just to comprehend existing issue arrangements and confirmations or else to figure out how to discover an answer or to demonstrate a hypothesis all alone (with or without framework support). The objective may be to prepare arrangement methods or to figure out how to assemble data and quest for arrangements in the writing. Subjective brain research reveals insight into human learning: momentum ideal models and instructional speculations accept learning obliges that an understudy develops information, conditions and procedural aptitudes in her psyche [Piaget, 1977; Vygotsky, 1978]. The same number of exact results show (see e.g. [Mandl et al., 1997]), this ought to be advanced bury alia by:

•logical genuine learning knowledge
•a customized learning setting
•dynamic, explorative learning open doors
•criticism on the learner's exercises
•instructing and animating meta-thinking
•a suitable level of reflection and definite presentation of the arrangement
•a suitable client interface

GIVE US A CHANCE TO EXPOUND THESE ANGLES THUSLY:

Context: If a learner can coordinate her learning background with a genuine context it will be more probable that she adapts all the more quickly and that she can exchange this learning better to critical thinking truly [Andriessen and Sandberg, 1999]. A 'genuine context' could be presented by reasonable visual impressions from feature clasps, pictures or outlines or just by a verbal depiction of a solid circumstance speaking to an issue from the experience of the focused on learner gathering. Another significant highlight concerns the multifaceted nature of certifiable issues and the different stages their answer requires. Such a critical thinking cycle may require altogether different exercises and abilities from an unadulterated course reading or scholastic issue: perceiving the issue in the genuine setting, adding to the scientific model, then numerical critical thinking and potentially modification and, at last, interpreting the arrangement back from the numerical result into the genuine setting.

Personalisation: Personalized learning knowledge is significant for the inspiration as well as for effectiveness and viability of learning [Andriessen and Sandberg, 1999]. There are a few methods for adjusting an elearning instrument to the understudy. The most evident one is to tailor the learning material (specifically the illustrations and activities) to the capacities of the understudy and to her learning objectives. Moreover, a course on measurements for instance ought to be custom-made to the exceptional enthusiasm of the understudy: an understudy of physical science expects distinctive insights samples than, say, a scientist or an electrical designing understudy.

Active Learning: One of the most critical elements of compelling learning is active critical thinking and investigation of choices and the disclosure of broken steps and suppositions [VanLehn et al., 2001]. Specifically learning from slips and disappointments is an imperative element of active learning and ought to be maximally misused.

Feedback: Empirical examinations certify that a suitable feedback amid critical thinking enhances ensuing execution [Jacobs, 2001]. A keen learning partner ought to in this manner analyze botches, adaptively framework the individual procedure of critical thinking and produce proper feedback and insights, see e.g., [Narciss, 2001; Tsovaltzi, 2005].

Meta-reasoning: Meta-reasoning assumes a significant part in fruitful critical thinking [Polya, 1945; Schoenfeld, 1985; Melis and Ullrich, 2003] which incorporates arranging, checking, self-regulation and self-clarification [Chi et al., 1989]. Take, for instance, Polya's 'The means by which to Solve It' [1945]: it has the type of a 'how-to manual', i.e. a plan of an arrangement of heuristics cast as short summons inside of a casing of the four after critical thinking stages

1.Comprehend the issue
2.Devise an arrangement
3.Complete the arrangement

4.Glance back at the arrangement

These stages ought to be taken after and actively checked by the understudy, and precisely how this should be possible is the subject of this exceptionally persuasive book. In this way, be that as it may, this sort of reasoning is seldom taught, not to mention actualized in current e-learning frameworks.

Cognitively Adequate Presentation: The presentation of an answer and specifically, the presentation of evidences must be suitably organized [Catrambone and Holyoak, 1990] and to conceal unimportant points of interest keeping in mind the end goal to be thorough and transferable. The presentation ought to endeavor numerous modalities, for example, content, equations, charts, additionally discourse and livelinesss if suitable.

User Interface: The user interface of an e-learning instrument must be outlined such that the understudy can concentrate on the essentials of the specific learning assignment, undisturbed much as could be allowed by framework idiosyncrasies. Anderson [Anderson and Pelletier, 1991] cases that the configuration of the user interface considerably impacts what an understudy will realize utilizing the LISP guide [Anderson et al., 1995] as an a valid example. Contingent upon the user interface, specifically, contingent upon the data dialect, a learner will either simply take in a specific programming grammar or else have the capacity to concentrate on broad programming systems. Additionally, simply clicking catches is unrealistic to invigorate genuine learning. This applies to learning arithmetic pretty much also. Since e-learning apparatuses must be usable instead of simply valuable, a user-focused outline of the interface assembled by intellectual prerequisites is key.

ACTIVEMATH

Learning situations need to meet practical and complex needs, both in fact and mentally. So give us a chance to take a gander at the pedagogical and specialized goals of our examination for the ActiveMath framework.
Pedagogical Goals

ActiveMath goes for an intelligent and exploratory learning process and expect the understudy to be in charge of the genuine learning session. Subsequently, the framework bolsters relative flexibility for exploring through a course and the user characterizes decisions. The framework underpins a dynamic understudy model and of course, the understudy model is scrutable, i.e., inspectable and modi- fiable. Also, conditions between the scientific ideas can be reviewed in a lexicon with a specific end goal to help the understudy to take in the general structure of a space (e.g., examination, variable based math or number hypothesis). ActiveMath can adjust a course to the learner's goals, requirements and learning situations. In schools and colleges, the same subject is taught contrastingly for diverse gatherings of users in distinctive connections, e.g., measurements must be taught distinctively for understudies of science, for understudies of financial aspects, or in prescription. Hence, the versatile decision of substance to be exhibited and samples and activities is crucial. Furthermore, an adjustment of samples and activities to the understudy's genuine capacities is exceptionally attractive with a specific end goal to keep the learner in the zone of proximal improvement [Vygotsky, 1978] as opposed to overburden or undertax her. In addition, electronic frameworks can be utilized as a part of a few learning settings, e.g., long-separation learning, homework, or educator helped learning. Individual alization is needed in every one of them in light of the fact that notwithstanding for instructor helped adapting in a classroom with, say, 30 understudies and one educator, the educator can't generally react to all the individual needs. ActiveMath's present adaptation gives versatile substance and versatile presentation highlights.

Technical Goals

Building hyper-media content with guaranteed quality is a period expending and expensive procedure, subsequently the substance ought to be reusable in distinctive connections. As the vast majority of today's intuitive course readings comprise of an accumulation of predefined archives, ordinarily canned HTML pages and mixed media activitys, it is hard to reuse them in another setting. A re-mix of the encoded learning articles or another adjustment of the course presentation and substance of the course to different clients is unimaginable more often than not. ActiveMath's bland and semantically clarified learning representation underpins re-ease of use and interoperability. Specifically, it is consistent with the developing numerical learning representation and correspondence measures, for example, Dublin Core, OpenMath, MathML, and LOM.2 Some of the popular expressions here are metadata, ontological XML, and institutionalized substance bundling. Such highlights of the information representation guarantee a more drawn out life cycle even with new and changing advancements in programs and different gadgets. Keeping in mind the end goal to utilize the potential force of existing electronic innovation elearning frameworks require an open building design to coordinate and join with new parts including understudy administration frameworks, for example, Ilias, Moodle, Sakay, WebCT and in addition evaluation instruments, joint effort devices, and critical thinking apparatuses.

CHALLENGES AND FUTURE WORK

Devices for learning math (and rationale) are leaving the lab to be utilized as a part of practice,5 however there is still a lot of opportunity to get better. The accompanying open or just halfway tackled problems speak to a range from the user-focused outline of user interfaces and presentations up to the formalization of pedagogical procedures. The greater part of these difficulties oblige interdisciplinary examination.

Proof Presentation and User Interfaces: Learning science includes individuals, circumstances, and goals that are altogether different from those presupposed for a mechanized hypothesis demonstrating framework. Aside from different things, learning may have the objective to comprehend a given proof or locate a proof. To help the understudy to comprehend arrangements and proofs, we require an intelligible proof presentation at different levels of deliberation, point of interest and clarification upon solicitation. So as to bolster adapting by doing be that as it may, a superior proof presentation alone is not adequate as it obliges more propelled user-versatile user interfaces uncommonly intended for learning.

Presently the configuration of a user interface for a hypothesis demonstrating framework regularly begins with the extraordinary specialized highlights and abilities of the basic framework instead of with a user-focused methodology. This is not simply our own deplorable involvement with the user interface of the Ωmega framework [Siekmann et al., 1999], which is inadequate for a normal understudy. An understudy focuses on learning and problem solving and any emphasis on the instrument creates a psychological over-burden that impedes learning and numerical abilities. The organized (and foldable) hypermedia presentation of worked-out problem arrangements and the presentation of data pertinent to the problem solving procedure is truth be told vastly improved than a conventional course reading proof, which is in the convention of moderate proof presentation grew through the hundreds of years in science.

As a component of the user interface, an easy to utilize data editorial manager is required. Some work in this bearing was done at RISC [Nakagawa and Buchberger, 2001] with the Mathematica usefulness, in Nice [Dirat et al., 2000], in Grenoble [Nicaud et al., 2002], and for ActiveMath which at this point highlights a full- fledged palette-based data proofreader that produces OpenMath.

Feedback in Problem Solving: A framework ought to reason about the understudy's data and not simply utilize precomputed arrangements and proofs with a specific end goal to guide the understudy's problem solving. Also, it is absolutely not adequate to simply react "right" or 'wrong'. Intriguing criticism needs to incorporate the procurement of counter-samples, comparable proofs, clarifications and insights.

Meta-Reasoning: The joining of heuristics and meta-thinking into a learning instrument for learning arithmetic is still a test. A propelled device bolster may offer means a long ways past Polya's thoughts. Case in point, the understudy could utilize an online quest apparatus for the Internet to discover comparable problems, practically equivalent to arrangements, or the ideas which are requirements for her proof. Semantic pursuit methods, overseeing (little) hypotheses, scanning speculations, and keeping up and overseeing scientific ontologies are right now explore subjects of the MKM Conference arrangement and as halfway executed in ActiveMath seek/lexicon instrument.

Proof Planning with a specific end goal to utilize proof arranging in an instructive setting, a few examination headings are promising, among them

•more propelled backing for thinking about fizzled proof endeavors and fitting backing for reexamining a proof arrangement,
•support for checking whether a way is heuristically encouraging or deadended out and out,
•support for the development of scientific items.
•Island arranging as proposed in [Melis, 1996] is a decent beginning stage so as to build up a proof thought first and to leave whatever is left of the subtle elements to the proof system.

LEARNING AND TECHNIQUES

•If you are a logical learner, aim to understand the reasons behind your content and skills. Don't just rote learn. Understanding more detail behind your compulsory content helps you memorize and learn the material that you need to know. Explore the links between various systems, and note them down.
•While you study, create and use lists by extracting key points from your material. You may also want to use statistics and other analysis to help you identify areas you may want to concentrate on.
•Pay attention to your physical state, for example your breathing and stress level. It's possible that you isolate your own body from your rational thought. Remember that you are just as much a part of the 'system' as any equipment you may be using.
•Also remember that association often works well when it is illogical and irrational. It doesn't matter how logical two items are together. You have a better chance of recalling them later if you have make the association illogical. Your

brain may protest at first!
•In your scripting though, highlight logical thoughts and behaviors. Highlight your ability to pick up systems and procedures easily, and that you can detect when you need to change a set procedure.
•Make use of 'systems thinking' to help understand the links between various parts of a system. An important point here is that systems thinking helps you understand the bigger picture. Often the whole is greater than the sum of the parts. For example, you may understand the individual aircraft systems and flight surfaces, but you may not have a view of how all those systems support flight in equilibrium. Systems diagrams can help you gain that understanding.
•You may find it challenging to change existing behaviors or habits. You can rationalize all you want to about why you should change a behavior, but you may find it persists. Try the shunt technique to understand what behavior you currently have and what behavior you want to have. When you understand those behaviors, use the technique to divert from the old behavior to the new.
•You may sometimes overanalyze certain parts of your learning or training. This can lead to analysis paralysis. You may be busy, but not moving towards your goal. If you find you are overanalyzing which school to start with, or you are over-planning your course maps, stop and refocus on activities that move you forward. Consider how much 'bang for buck' you get from spending more time than necessary. Measure your activities by your speed towards your goal. Planning exactly how much time to spend on each chapter of theory doesn't help learn it anywhere near as fast as starting on the theory!

If you often focus from analysis paralysis, write 'Do It Now' in big letters on some signs or post-it notes. Place them in strategic places around your work or study area.

CONCLUSION:

A student's goal in learning may be just to understand existing problem solutions and proofs or else to learn how to find a solution or to prove a theorem on her own. Such a problem solving cycle may require very different activities and skills from a pure textbook or academic problem: recognizing the problem in the real life setting, developing the mathematical model, then mathematical problem solving and possibly revision and, finally, translating the solution back from the mathematical result into the real life setting. Moreover, web-based systems can be used in several learning contexts, e.g., long-distance learning, homework, or teacher-assisted learning. Person- alization is required in all of them because even for teacher-assisted learning in a classroom with, say, 30 students and one teacher, the teacher cannot really respond to all the individual needs. A student concentrates on learning and problem solving and any focus on the tool produces a cognitive overload that gets in the way of learning and mathematical skills. Feedback in Problem Solving: A system should reason about the students input and not just use pre-computed solutions and proofs in order to guide the students problem solving. Moreover, it is certainly not sufficient to just respond correct or incorrect.

REFERENCES:

1.http://www-ags.dfki.uni-sb.de/~melis/Pub/MSforGabbay05.pdf
2.http://www.learning-styles-online.com/style/logical-mathematical/

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