1 Learning the attachment theory with the CM-ED concept map editor 2009

Software engineering is a comprehensive and highly practical course, traditional teaching is very inadequate. Concept maps are a way to develop logical thinking and study skills, by revealing connections and helping students see how individual ideas form a larger whole. According to its characters concept maps should be used to improve software engineering teaching. In recent years both research and application of concept man have made great progress. Concept maps become increasingly mature method. In this paper we introduce the challenge which software engineering teaching is facing with. Then we proposed that concept maps can be employed to the software engineering teaching. The role and the application approach of concept map are explored. The practices show that concept maps are excellent teaching, learning and evaluating tools in software engineering. The results are remarkable

2 Using a Conceptual Approach with Concept Mapping to Promote Critical Thinking 2009

Promoting the development of critical thinking is crucial to nursing education for two reasons. First, the National League for Nursing and the American Association of Colleges of Nurses consider critical thinking an outcome criterion for baccalaureate nursing education. Second, and significantly more important, professional nursing practice requires critical thinking skills and problem solving abilities. Too often, teaching is not directed at specifically designed activities that foster critical thinking. Various teaching strategies have been proposed that promote critical thinking, including service learning, role playing, reflective learning, the critical incidence conference, video-taped vignettes, preceptorship, and concept mapping. This article focuses on the use of assimilation theory and concept maps to facilitate critical thinking experiences in nursing education.

3 Learning the attachment theory with the CM-ED concept map editor 2009

This paper presents a study carried out at the University of the Basque Country UPV/EHU with the aim of evaluating the CM-ED (concept map editor) with social education students. Concept mapping is a widely accepted technique that promotes meaningful learning. Graphically representing concepts of the learning domain and relationships between them helps students integrate new knowledge into their current cognitive structure. Due to the flexibility of computer-aided drawing graphs, several concept mapping tools have been developed and their use has been studied over the last few years. CM-ED is a multilingual and multimedia software program designed for drawing concept maps. Until recently, CM-ED had been mainly used and evaluated in computer science university degree. This paper represents a qualitative step in the evaluation of CM-ED: from technical students to students of more theoretical fields. The main characteristics of the CM-ED editor and the carried out study are presented in this paper. (C) 2008 Elsevier Ltd. All rights reserved.

4 Application of automatically constructed concept map of learning to conceptual diagnosis of e-learning 2009

The concept map proposed by Novak is a good tool to portray knowledge structure and to diagnose students' misconception in education. However, most of the learning concept maps have to be constructed through the suggestions of experts or scholars in related realm. It is really a complicated and time-consuming knowledge acquisition process. The study proposed to apply the algorithm of Apriori for Concept Map to develop an intelligent concept diagnostic system (ICDS). It provides teachers with constructed concept maps of learners rapidly, and enables teachers to diagnose the learning barriers and misconception of learners instantly. The best Remedial-Instruction Path (RIP) can be reached through the algorithm of RIP Suggested in this Study. Furthermore. RIP can be designed to provide remedial learning to learners. Moreover, by using statistical method, the study analyzed 245 students' data to investigate whether the learning performance of learners can be significantly enhanced after they have been guided by the RIP. (c) 2007 Elsevier Ltd. All rights reserved.

5、\*\*\*\*Computer-based concept mapping: a review of a cognitive tool for students

This text is devoted to a literature review of concept maps and concept mapping. An overall idea emerges: on the one hand, concept maps are useful tools for designers, to structure their products, but, on the other hand, ready-made concept maps might not be so useful for learning. For the learner, the process of creating and/or modifying concept maps seems to be much better. Evidence is collected from different studies about advanced organisers and about hypertext design and uses for learning. According to these results, computer-based concept mapping tools provide very interesting possibilities.

5 Analysing Concept Maps as an Assessment Tool in Teaching Physics and Comparison with the Achievement Tests

Concept mapping is a technique that paves the way to represent knowledge schematically. In this research, concept mapping was used as an assessment method on the impulse-momentum topic. The purpose of this study was to determine teacher candidates' knowledge about understanding of the concepts of impulse and momentum by comparing and contrasting two different methods; namely, students' concept maps and an achievement test. The mean of teacher candidates' concept map scores are extremely low when compared with the scores of the achievement test. In addition, it was seen that although a great number of concepts were written down, not many relationships were established between these concepts. There is a weak correlation between the achievement test and the concept map scores since concept maps assess the students' knowledge from a conceptual perspective while the achievement tests measure the level of students' knowledge on the topic and his/her ability to apply this knowledge on different occasions.

6 Concept map structure, gender and teaching methods: an investigation of students' science learning

Background: This study deals with the application of concept mapping to the teaching and learning of a science topic with secondary school students in Germany. Purpose: The main research questions were: (1) Do different teaching approaches affect concept map structure or students' learning success? (2) Is the structure of concept maps influenced by gender? (3) Is the concept map structure a reliable indicator of students' learning success? Sample: One hundred and forty-nine high-achieving 5th-grade students from four German secondary schools participated in the study. The average age of participants was 10 years. Gender distribution was balanced. Students produced concept maps working in small, single-sex groups. Design and methods: There were two teaching approaches used: one based upon teacher-centred instruction and one consisting of student-centred learning. Both were followed by a concept-mapping phase. Student groups experienced either one or the other teaching approach. Concept map structures were analysed using of the method of Kinchin, Hay and Adams. We defined three different possible types of concept map structure: spokes, chains and nets. Furthermore, for assessing a student's short-and longer-term learning success, we constructed a multiple-choice knowledge test applied in a pre-, post-, retention-test design. Parametric tests, such as MANOVA, one-way ANOVA and t-tests were used to identify any differences in gender, teaching approach, number of nets per concept map and their interactions. Results: Type of teaching approach had an effect on concept map structure but not on students' longer-term learning success. Students of the teacher-centred approach produced more net structures than those students who participated in the hands-on instruction. Subsequent analyses showed in total more net structures for female groups. The interaction of gender and number of nets per concept map showed a significant effect on students' longer-term learning success. Conclusion: The study suggests that Kinchin's classification scheme for assessing concept map quality may be a good indicator of students' learning success when applied in combination with a knowledge test.

7 A Study on the Use of Concept Maps in the Teaching of 'Chemical Periodicity' at the Upper Secondary Level

Concept maps are special forms of web diagrams for exploring knowledge and for gathering and sharing information; they illustrate meaningful relationships between concepts. The purpose of this study was to use concept maps in the teaching of 'Chemical Periodicity' in view of investigating their effectiveness on students' motivation, interest and conceptual understanding. The study was carried out through an action research over three cycles in a boys' State Secondary School in Mauritius. Data was collected through observation during the lessons, and through achievement tests administered after each cycle. Furthermore, at the end of the action research, a questionnaire was administered to all students in the sample, and a group interview was conducted to gather information about their attitudes and views on the use of concept maps in the teaching of 'Chemical Periodicity'. Our findings have revealed that the use of concept maps in the teaching of 'Chemical Periodicity' has led to enhanced conceptual understanding, as evidenced by an improvement in students' performance in the tests in the second and third cycles. The results have also indicated that the use of concept maps has aroused and maintained a high level of motivation and interest among the students during the lessons, and has promoted interactions between teacher and students.

8 A New Concept Map Model for E-Learning Environments

Web-based education enables learners and teachers to access a wide quantity of continuously updated educational sources. In order to support the learning process, a system has to provide some fundamental features, such as simple mechanisms for the identification of the collection of "interesting" documents, adequate structures for storing, organizing and visualizing these documents, and appropriate mechanisms for creating personalized adaptive paths and views for learners. Adaptive Educational Hypermedia seek to apply the personalized possibilities of Adaptive Hypermedia to the domain of education, thereby granting learners a lesson individually tailored to them. A fundamental part of these systems are the concept spaces, i.e., simple and clear visual layouts of concepts and relations among them. In this paper we propose a new visual layout model in e-learning environments based on the zz-structures, which are graph-centric views capable of representing contextual interconnections among different information. In order to describe the use of these structures, we present their formal analytic description in terms of graph theory, focussing, in particular, on the formal description of two views (H and I views), and on different extensions of these notions to a number n > 2 of dimensions. We then apply all these formal descriptions, and some particular properties of zz-structures, to an example in the Web-based education field.