

SmartLP: A CASE BASED LESSON PLANNING SYSTEM

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1. Problem

Lesson plans help teachers to organize content, materials and methods for their teaching and these items need to be tailored to accommodate diverse abilities, previous knowledge and motivations among students.

The implementation of a web based lesson planning system could assist teachers in this task whereby best practice in preparing lesson plans can be shared among teachers.

2. Problem Solving

Solving this problem involves obtaining a problem description, measuring the similarity of the current problem to previous cases (lesson plans stored in a case base, retrieving one or more similar cases and reuse the solution of the retrieved cases after customising it to account for differences in the constraints teachers have.

3. Process in SmartLP:

Search



RETRIEVE

4. Retrieval: Matching and Ranking

Terms expansion

Flexibility for users to choose related terms to the searched keywords.

Based on semantic relationship that has been transform into hierarchical representation - Ancestors, siblings,

Term weighting

Users can specify the importance of the searched keywords weighting in the range of 1 (least important) to 5 (most important) OR use default value defined in the system.

Similarity measure

Based on hierarchical matching concept. The similarity value will be in the range of 0 and 1.

This similarity of the searched keywords will be multiplied with the weight.

8. RETAIN

Three ways of sharing lesson plans: by saving the customised lesson plans, uploading or inserting them to the system.

Case base
(successfully implemented lesson plans)

7. REVISE

Users are able to customise the lesson plans according to their constraints and save them as new lesson plans.

Users can revise their lesson plans in the following visits to the system.

6. REUSE

The retrieved lesson plans can be

- viewed
- printed
- saved

5. Solution

Matched lesson plans in ranking
 Those at the top are likely to have a strong degree of relevance to the problems users have.

9. Conclusion

The system:

- offers a medium for teachers to share successfully implemented lesson plans;
- speeds up the process of preparing lesson plans by reusing previous lesson plans with some modifications according to constraints in hand;
- overcomes the isolated culture in preparing lesson plans

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