Online learning support through peer tutoring

Peter Sloep, Francis Brouns, Peter van Rosmalen, Liesbeth Kester, Malik Koné, Adriana Berlanga
Overview

- Inventory the problem: two surveys
- Solution: explored in current OUNL project
- Future work
Identification of critical time-consuming student support activities in e-learning

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Higher education staff involved in e-learning often struggle with organising their student support activities. To a large extent this is due to the high workload involved with such activities. We distinguish support related to learning content, learning processes and student products. At two different educational institutions, surveys were conducted to identify the most critical support activities, using the Nominal Group Method. The results are discussed and brought to bear on the distinction between content-related, process-related and product-related support activities.
Problem

Two target groups
- educational experts with Open University (online)
- teachers with Fontys teacher education school (f2f and blended)

Two questions
- which support activities are taxing?
- which support activities deserve attention, but receive too little of it because they are time-consuming?
Method

- **Nominal group approach**
  - answer the questions, post them on a blackboard, discuss them, add new questions, rephrase questions
  - score the questions for relevance

- **Categorisation by experts**
  - problems with the subject matter and content
  - problems with the learning process
  - problems with the assessment
Results (collated, deemed relevant)

- Plagiarism in student paper
- Feedback to students about progress
- Not having to answer the same question twice
- Easily accessible and well-structured student portfolios
Results (collated, deemed relevant)

- Plagiarism in student paper
- Feedback to students about progress
- Not having to answer the same question twice
- Easily accessible and well-structured student portfolios
Results (collated, deemed irrelevant)

- Coaching new teachers
- Setting-up homogeneous student groups
- Tracking complex group dynamics
- Scoring papers and assignments
- Helping to write papers
- Helping to develop metacognitive skills
## Results

<table>
<thead>
<tr>
<th>Subject Matter</th>
<th>OUNL</th>
<th>Fontys</th>
<th>Total</th>
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<td>Process</td>
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| Product        | 5    | 2      | 7     | important
Conclusion

- Providing process support is seen as important
- Focus:
  - ‘not having to answer the same question twice’
  - through peer support and peer learning
ENHANCING SOCIAL INTERACTION AND SPREADING TUTOR RESPONSIBILITIES IN BOTTOM-UP ORGANIZED LEARNING NETWORKS

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ABSTRACT

A Learning Network is an ensemble of individual users, institutions and learning resources which are mutually connected through and supported by information and communication technologies. Learning Networks are particularly attractive to self-directed learners, who themselves decide on their learning program as well as on the timing, pace and place of their studies. Such learners may easily become isolated, which is detrimental to their studies. Supporting them is difficult and, if done properly, may rapidly lead to staff overload. This paper discusses of ad hoc, transient communities as a means of tackling both problems. It is argued that such communities are well poised to enhance the sociability of a Learning Network and increase learning effectiveness.
Essence of the approach

- analyse student questions with Latent Semantic Analysis (LSA)
- find suitable peer tutors
- set up a wiki and create an *ad hoc, transient* community
- seed the wiki with proto-answers that the LS analysis has found
- store the results (log files, student portfolio, FAQ) for later use
Moodle

LSA module

Tutor locator

ask question
What is the difference between heat and temperature? If it gets warmer, the temperature gets higher too! But apparently the same amount of heat can lead to different temperature increases. How come?
Tutor locator
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$$fr(ij)$$

$$f(mn)$$
question
set up discussion
The temperature is a measure for the average kinetic energy of molecules. Energy is needed to increase their speed and hence the temperature. How much energy is needed per degree depends on the molecular mass (their number) and their kind (metal need little, water needs a lot).
Did we achieve what we set out to achieve?
In conclusion

- Yes
- LSA and wiki enhanced peer tutoring jointly provide a way to overcome the support problem identified in the survey.
- Moreover, providing peer support is a valuable learning experience in itself (Fantuzzo et al., Gyanni & Pahuja, King et al., Wong et al.)
- But ...
In conclusion

- Experimental evidence is needed on student satisfaction and teacher workloads
- For this the system needs to be calibrated first
- how many students per ad hoc, transient community?
- when is someone available?
- what is the quality of the seed material? (calibrating the LSA engine!)
- And then ...
In conclusion

Can we use ad hoc transient communities to create a social structure in online communities?

- by connecting erstwhile community members to approach each other directly henceforth
- by connecting recommending erstwhile community members to friends (FOAF)

Do we need incentive structures, if so, which?

- altruistic behaviour is easily destroyed (MacLure)
Any questions ....

Thank you for your attention