Exploring social recommenders for teacher networks to address challenges of starting teachers

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(Netherlands Laboratory for Lifelong Learning)

• NELLL - research institute at the Open Universiteit:
  • specializing in research on life long learning
  • focuss on fundamental, application-oriented and innovative research

• Runtime of the project:
  • 04/2011 – 04/2015

• Outcome: A social support system for starting teachers
Irma: a starting teacher from Heerlen

• Class management problem
• An official mentor already assigned to her
• She signs up in a Learning Network for starting teachers
• She looks for discussions and groups on class management
• She post her problem on a blog
Irma a starting teacher from Heerlen

• The system finds the most suitable peers for her problem
• Irma selects some of them and sends a request
• André, a lecturer met Irma in a workshop about difficult pupils, accepted her request
• Regular meeting to discuss the problem in Irma’s classroom
• She receives notifications: new discussion posts and news relevant to her problem
• After a while, Irma’s class management has been improved a lot
• She also made more connections
Induction problem

• New teachers’ transition from novice to professional
• Induction period for teachers is challenging
  • Lack of experience and skills, Classroom management, Socialization, Isolation

• Many of starting teachers decide to leave their job
Need of an external network

• Starting teachers prefer to receive support
  • from outside of their own school
    • instead of the traditional relationships between a new teacher and a mentor at the same school

• A Learning Network?
Learning Network (LN)

• An infrastructure
  • Professional development in various domains
  • Enables teachers to communicate with far-away peers
    • Share and exchange knowledge with members on a LN
  • Access learning material and contents
    • Share, rate, tag contents on a LN

• Social learning opportunities
  • A promising form of learning for lifelong learners
  • motivation to learn from each other → improves their learning outcomes
Learning Network (LN)

• Selecting most suitable people or content in a LN
  • Challenging to address social interactions and matching
  • Solution **Recommender systems**?
Recommender systems

- To address information overload problem
- Personalize information for a user based on her/his interests
- Find suitable content/people for a user based on their past behaviour
- Mostly popular in the commercial world
  - Amazon
  - ebay
  - Last.fm, etc

They can be adjusted for educational domain
Challenges

• **Sparsity**
  • Inter-user trust relationships
    • raised from similarity
    • Transitive and capable of inference
    • How to compute mutual trust value or
    • ask users to give explicit trust values (in form of ranking)

• **Cold-start**
  • Web2.0 sources for a user (most popular social media sites for teachers)
    • Surfacing approaches

• **Matching**
  • Finding most suitable peers who
    • mastered the problem (experts, mentors)
    • already faced the problem but found solution (novices)
Conclusion

• **A proposed framework** to support starting teachers
  • Learning Network as an infrastructure
  • Tag-based profile manager
  • Hybrid recommender system
    • To find similar people/items based on tag-based profiles
    • Trust-aware RS to generate more accurate recommendations based on the given ratings/feedback
further steps

• **Analysis of a focus group session** (in progress)
  • Based on NGT (Nominal Group Technique)
  • 18 teachers from the schools in Limburg area

• **Verifying the theoretical framework**
  • Testing our RS algorithm on different datasets for teachers

• **Customize the environment**

• **Go online with the community portal**
Thanks for your time

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