Experienced teachers' informal workplace learning

a discussion of research methods

Dr. Annemarieke Hoekstra, CTL NAIT
annemarh@nait.ca; 780.471.7862

Overview of presentation

- Introduction of the larger research project
- Two related studies of experienced secondary school teachers' informal workplace learning in the Netherlands
- Implications for research in distance education

Acknowledgements

- Research project of 5 universities in the Netherlands, 2003-2007, funded by the Netherlands Organization of Scientific Research (Dutch equivalent of tri-council Canada)
- Project leader: Prof. Dr. Theo Wubbels, Utrecht University

Full time researchers

Dr. Inge Bakkenes
Dr. Jacobiene Meirink
Dr. Rosanne Zwart
Dr. Annemarieke Hoekstra

Advisors and supervisors

Prof. Dr. Fred Korthagen
Prof. Dr. Douwe Beijaard
Prof. Dr. Mieke Brekelmans
Prof. Dr. Nico Verloop
Prof. Dr. Jan Vermunt
Prof. Dr. Jeroen Imants
Prof. Dr. Jan Stavenga De Jong
Prof. Dr. Theo Bergen
Prof. Dr. Johan van der Sanden†
Dr. Paulien Meijer
Dr. Sanneke Bolhuis

Purpose of the larger project

- To combine insights from cognitive approaches to learning with insights from theories of learning in organizations
- To develop a conceptual model of teachers' learning in the workplace
- To learn from each other in collaboration

Definition of learning

- Based on notion of learning as an active process that results in a change of behaviour or capacity for behaviour (Shuell, 1986; 1990)

- Teacher learning is: “engaging in activities that lead to a change in cognition and/or teaching behaviour”.

Informal workplace learning

- debate over the term “informal learning”
- Some say formal and informal learning are different in nature
- Others distinguish learning in a formal or informal context
- (Colley, Hodkinson & Malcolm, 1998; Straka, 2004; Eraut, 2004; Billett, 2002)

Informal workplace learning

- For the purpose of our own study, we define informal learning by its context

  “learning that is not systematically supported by any program explicitly organized to foster teacher learning”

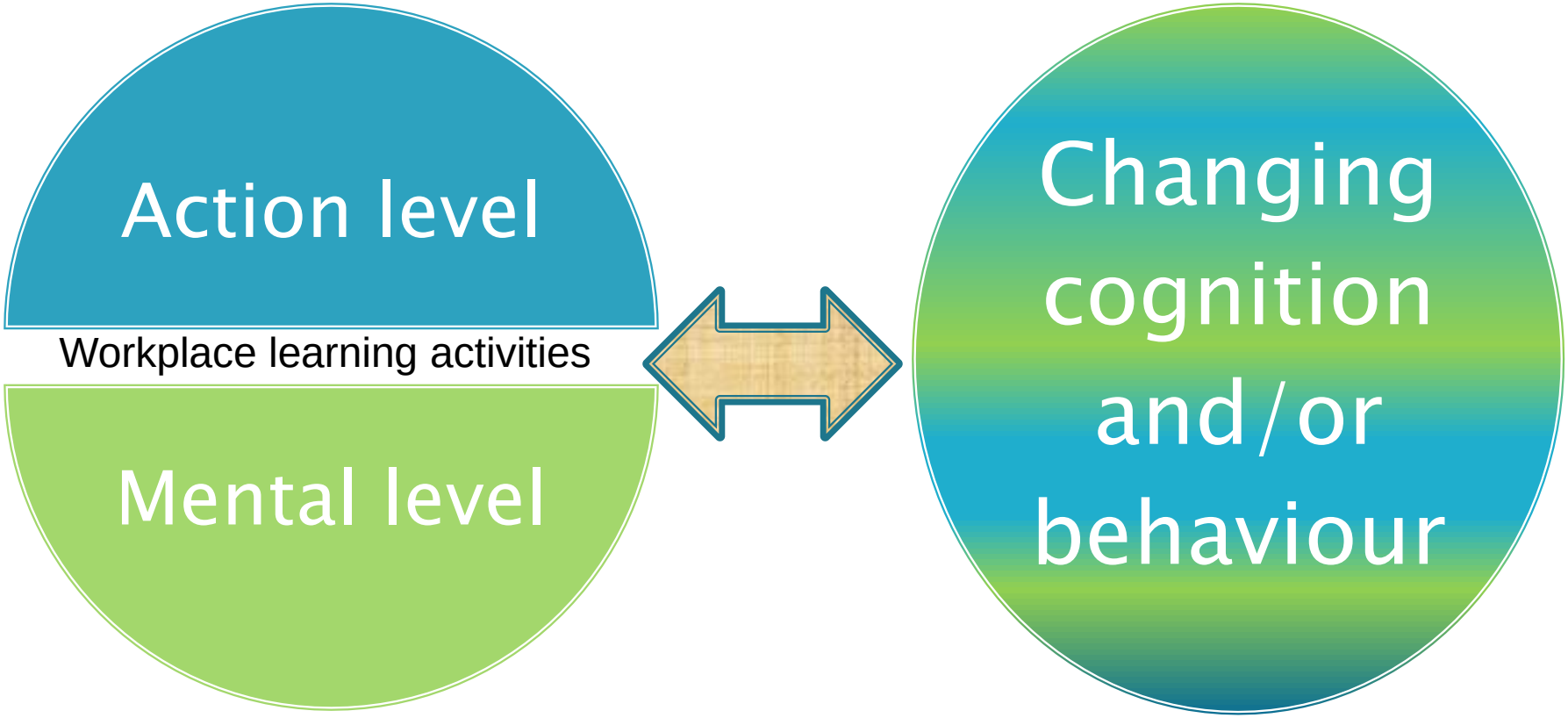
Workplace learning activities

- Two strands of research on workplace learning activities:
  - self-reported activities (Kwakman, 2003; Lohman & Woolf, 2001) such as: collaborating, learning by doing, scanning resources.

    => action level of activities
  - mental learning activities (Vermunt & Verloop, 1999) such as: analysing, critically diagnosing, comparing, evaluating.

    => mental level of activities

Conceptual model



Methods described in literature

- Retrospective interviews on beliefs and how they change over the years
- Story-line method on development of important aspects of teaching
- Written questionnaires on the development of expertise

Results of these studies

- Teachers change and learn most in the beginning of their teaching career
- Learning occurs through key experiences
- Learning takes place gradually

Some drawbacks of using self-reports

- Retrospectively teachers only remember key-experiences
- Memory may be selective and coloured
- Learning might take place implicitly

Study 1 Exploratory case study

- Aim: providing empirical underpinnings for a theoretical categorization of teachers' learning activities during teaching on three levels distinguished by Eraut (2004).

- Deliberative learning: intentional and conscious

- Reactive learning: unintentional and conscious

- Implicit learning: unintentional, beyond learners awareness

Case study: studying teacher learning as it takes place

Underlying assumptions:

- Learning takes place through engagement in activities
- These activities have an action level as well as a mental level, the mental level involves emotion, motivation and cognition
- Teachers can be more or less consciously aware of the activities they are engaged in

Case study of 4 cases

- Following 4 experienced teachers, by video-taping their lessons
- Each teacher 6 lessons during one year, while teaching same group of students
- Focus:
  - Teacher activities fostering Active and Self-regulated Learning of students (ASL)
  - Focus on a major concern of the teacher, an issue the teacher wants to improve

Data collection

- 1x Concern interview
- Video-recording of 6 lessons per teacher
- After each lesson: selection of 4 concern related situations per lesson
- Interview after the lesson, about those four fragments, attention for feelings, needs and thoughts

Data analysis

- First interpretation of the data
  (see example next slide)
- Formulating tentative codes for activities
- Categorizing activities into deliberative, reactive and implicit
- Within and cross case comparisons of activities

Table 2.2
Illustration of data of one situation in the case of Nicole

Example of part of the description of situation and Nicole's behavior	Example of interview data regarding this situation	Example of initial comments
Four students sit together in a group. The girl at the left asks a question. Nicole starts reading the assignment the girls are working on. The girl at the right starts answering the question. The girls have a discussion.	When they ask a question I have to quickly read those pieces of text and anticipate their question, which is rather difficult. Those two are working on the same question, so when I noticed that the other girl already had a standpoint towards the question, then I tried to get that out of her, because then I do not have to think myself, and in the meantime I can make up my mind, then I can calmly read the question […] When I walked away from these girls I felt content that these students started discussing without my intervention.	This situation is related to Nicole's concern because even though she did not intend the students to discuss together and do the thinking, this is what happened, as Nicole felt the need to read the assignment first for her own orientation. The fact that the students started their discussion on their own accord gives her a pleasant feeling.

Activities in deliberative learning

- planning
- practicing
  - Re-enforcing what works
  - Experimenting
  - Trying out new behaviour
    - Self- control: emotion, motivation and behaviour
- seeking explicit student feedback

Activities in reactive learning

- Becoming aware as such
- Becoming aware and changing course of action
- Becoming aware and reframing

These activities are usually followed by deliberative learning activities

Activities in implicit learning

- Implicit acquisition and strenghtening of beliefs
- Inhibiting role of tacit beliefs, feelings and behavioural tendencies

Conclusion first study

- In learning during and from teaching it is important to address teachers' emotions and needs in addition to thoughts and behaviours

- Experienced teachers do not generally consider themselves as learners and are therefore not alert in picking up clues from the environment to learn from

Second study

- Same conceptual framework
- Aim: to explore how teachers' informal learning activities can be related to teachers' change in beliefs and behaviour.
- Longitudinal study
- 32 experienced teachers

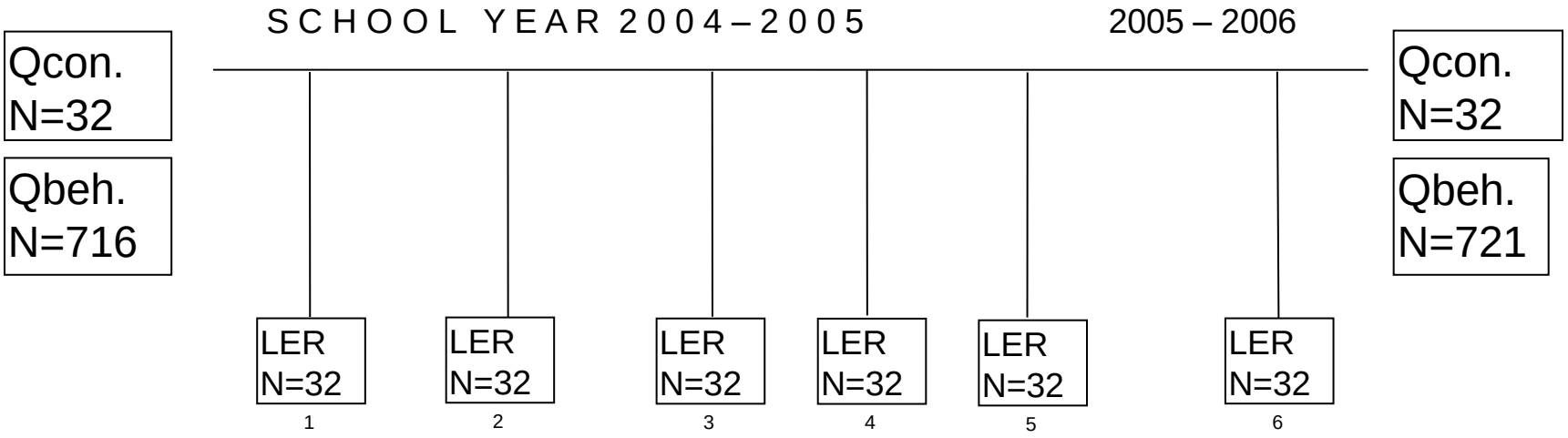
Research questions:

- What activities did the teachers report to have learned from during this year?
- Did the teachers' beliefs and behavior regarding active and self-regulated student learning change in the year 2004-2005? And if so, how?
- To what extent can the activities reported by the teachers be related to their changes in beliefs and behavior?

Method

- 32 teachers who are not systematically supported in their learning were followed for 14 months
- Two identical measurements of teachers' beliefs and behavior regarding active and self-regulated student learning and how to promote this at the start and end of this period
- Each teacher sent 6 learning experience reports regarding ASL, with six weeks intervals in between each report

Study 2



Qcon. = questionnaire on teachers' conceptions regarding ASL

Qbeh. = student questionnaire on teaching behavior

LER = learning experience reports regarding ASL by email

Analysis

- Teachers' individual change scores were assessed by means of a statistical procedure
  (Reliable Change Index, Jacobson & Truax, 1991)

- Teachers' learning activities were analysed by one researcher, with the aid of a collaboratively developed analytical framework based on literature and previous studies

Framework for the study of learning activities

1. Experimenting
2. Considering one's own teaching approach
3. Experiencing friction
4. Struggling with behavioral tendencies
5. Getting ideas from others

Each of these five activities may involve:

Action-oriented mental activities and/or
Meaning-oriented mental activities

Results

Cluster of Teachers	N
Remained ASL oriented	7
Became more ASL oriented	7
Did not change	14
Became less ASL oriented	4

Results

Cluster of Teachers	N	EXPERIMENT	CONSIDERING	FRICTION	STRUGGLING	GET IDEAS		MEANING	ACTION
Remained ASL oriented	7								
Became more ASL oriented	7								
Did not change	14								
Became less ASL oriented	4								

Results activities and changes in beliefs

Cluster of Teachers	N	EXPERIMENT*	CONSIDERING	FRICTION	STRUGGLING	GET IDEAS*		MEANING*	ACTION*
Remained ASL oriented	7	2,6	5,4	2,0	0,1	0,5		4,1	4,4
Became more ASL oriented	7	3,5	4,1	1,6	0,0	2,3		4,3	5,7
Did not change	14	1,6	3,3	1,8	0,5	1,0		2,1	4,2
Became less ASL oriented	4	1,1	3,8	2,9	1,1	0,8		1,5	5,3

*Significant differences in frequencies between groups, p<.05

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Results activities and changes in behaviour

- Relationship between activities and changes in behaviour less straightforward
- Some indication that experimenting involving meaning-oriented reflection can be related to a change towards more ASL oriented behaviour.

Conclusion

Teachers differ in the way they learn informally in the workplace

Those teachers who became more ASL oriented in their beliefs reported most often:

- Learning activities with a focus on new practices
- Meaning-oriented mental activities

Discussion

How can the research methods discussed be used in studies on distance education?

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Contact information

Annemarieke Hoekstra Ph.D., M.A.
NAIT, Centre for Teaching and Learning
11762- 106 Street NW
Edmonton, Alberta,
Canada, T5G 2R1
Email: annemarh@nait.ca
Phone: 780.471.7862