

## Publications LINT

### Refereed articles

Lederman, N.G., Lederman, J.S., Wickman, P.-O. & Lager-Nyqvist, L. An international, systematic investigation of the relative effects of inquiry and direct instruction. Submitted to *Journal of Research in Science Teaching*.

#### 2011

Andrée, M. (2011). Altering conditions for student participation and motive development in school science: learning from Helena's mistake. *Cultural Studies of Science Education*, online first. DOI: 10.1007/s11422-011-9314-x.

Gyllenpalm, J. & Wickman, P.-O. (2011). The Uses of the Term Hypothesis and the Inquiry Emphasis Conflation in Science Teacher Education. *International Journal of Science Education*, 33 (14), 1993-2015.

Gyllenpalm, J. & Wickman, P.-O. (2011). "Experiments" and the inquiry emphasis conflation in science teacher education. *Science Education*, 95(5), 908-926.

#### 2010

Gyllenpalm, J., Wickman, P.-O. & Holmgren, S.-O. (2010) Secondary science teachers' selective traditions and examples of inquiry-oriented approaches. *Nordic Studies in Science Education*, 6(1), 44-60.

Gyllenpalm, J., Wickman, P.-O. & Holmgren, S.-O. (2010) Teachers' language on scientific inquiry: methods of teaching or methods of inquiry? *International Journal of Science Education*, 32(9), 1151-1172

Molander, B-O., Halldén, O & Lindahl, C. (2010) Ambiguity – a tool or obstacle for joint productive dialogues in deaf and hearing students' reasoning on ecology. *International Journal of Educational Research*, 49, 33 – 47

#### 2009

Hamza, K. M., & Wickman, P.-O. (2009) Beyond explanations: What else do students need to understand science? *Science Education* 93(6), 1026-1049.

#### 2008

Hamza, K. M., & Wickman, P.-O. (2008) Describing and analyzing learning in action: an empirical study of the importance of misconceptions in learning science. *Science Education* 92, 141-164.

### Refereed conference contributions

#### 2011

Andrée, M., Lager-Nyqvist, L. & Wickman, P.-O. (2011). *Play with Science in Inquiry Based Science Education*. Presented at the ESERA conference in Lyon, France, 5-9 September.

Andrée, M. & Lager-Nyqvist, L. (2011). "Vad vi vet om fett" – en studie av att ta eleverns erfarenheter som utgångspunkt för NO-undervisning. Presented at the NFSUN conference, Linköping, 14-16 June.

Johansson, A.-M. & Wickman, P.-O. (2011). *Using organizing purposes to support semiotic resource use in school science*. Paper presented at the symposium Learning science through engaging with its epistemic representational practices. Chair Russell Tytler. 9th International Conference of the European Science Education Research Association, Lyon, France.

Ligozat, F., Wickman, P.-O., & Hamza, K.M. (2011). *Using practical epistemology analysis to study the teacher's and students' joint action in the mathematics classroom*. Paper presented at the Seventh Conference of European Research in Mathematics Education, Feb 9<sup>th</sup>–13<sup>th</sup>, 2011.

Wickman, P.-O. (2011). *Practical epistemologies as beliefs or as action*. Paper presented at the 9th International Conference of the European Science Education Research Association, Lyon, France.

Wickman, P.-O. & Johansson, A.-M. (2011). *Using pragmatism in making semiotic resources meaningful in the science classroom*. Paper presented at the symposium Learning science through participation in its epistemic/symbolic language practices. Chair Russell Tytler. Conference of European Association for Research on Learning and Instruction, Exeter, England.

## 2010

Andrée, M. (2010). Student participation and motive development in school science: The case of Helena's mistaken acid. In S. Dolinšek & T. Lyons (Red.) *XIV IOSTE Symposium, Bled. Socio-cultural and Human Values in Science and Technology Education*. (s. 94-101). IRI UL, Institute for Innovation and Development of University of Ljubljana.

Andrée, M., Lager-Nyqvist, L & Wickman, P.-O (2010). *Students' Ways of Using Prior Experience in Inquiry Based Science Education – the case of NTA*. Presented at the ECER conference in Helsinki, Finland 25 - 27 August.

Gyllenpalm, J., Wickman, P.-O & Holmgren, S.-O. (2010) *Teachers' pedagogical use of inquiry related words – conflating means and ends*. Conference of the National Association for Research in Science Teaching, Philadelphia.

Hamza, K.M. & Wickman, P.-O. (2010) *Grounding teaching in naturalistic descriptions of teacher and student action in the science classroom*. Conference of the National Association for Research in Science Teaching, Philadelphia.

## 2009

Almqvist, J., Brickhouse, N.W., Lederman, J., Lederman, N.G., Ligozat, F., Östman, L., Sadler, T.D., Wickman, P.-O., Zeidler, D.L. (2009) *Exploring themes of scientific literacy*. At the symposium Exploring the landscape of scientific literacy: visions for research and practice. Chair Jim Ryder. European Science Education Research Association, Istanbul.

Lederman, N.G., Lederman, J.S., Wickman, P.-O. & Lager-Nyqvist, L. (2009). *An international, systematic investigation of the Relative effects of inquiry and direct instruction*. Annual Meeting of the Southern African Association for Research in Mathematics, Science, and Technology Education, Grahamstown, South Africa.

Östman, L., Wickman, P.-O., Almqvist, J. & Ligozat, F. (2009) *A pragmatist approach to scientific literacy*. European Conference on Educational Research, Vienna.

## 2008

Hamza, K.M. & Wickman, P.-O. (2008) *Reasoning about Electrochemical Cells in a Concept Mapping Activity and in the School Laboratory*. Concept Map Conference, Helsinki.

Hamza, K.M., & Wickman, P.-O. (2008) *How do misconceptions of electrochemistry identified in interviews enter into students' reasoning in a more authentic setting?* Conference of the National Association for Research in Science Teaching, Baltimore.

Lederman, N.G., Lederman, J., Wickman, P.-O., & Lager-Nyqvist, L. (2008) *An international, systematic investigation of the relative effects of inquiry and direct instruction: a replication study*. Conference of the National Association for Research in Science Teaching, Baltimore.

Wickman, P.-O. & Östman, L. (2008) *Practical Epistemology Analysis: Introducing the approach*. At the symposium Pragmatic Epistemology Analysis and Joint Action Theory in Didactics. Chair Gérard Sensevy, IUFM de Bretagne, European Conference on Educational Research, Göteborg.

Wickman, P.-O., Almqvist, J., Hamza, K., Lidar, M., Lundqvist, E. & Östman, L. (2008) *Practical Epistemology Analysis: Cognitive learning*. At the symposium Pragmatic Epistemology Analysis and Joint Action Theory in Didactics. Chair Gérard Sensevy, IUFM de Bretagne, European Conference on Educational Research, Göteborg.

Wickman, P.-O., Jakobson, B., Lundegård, I., Öhman, J. & Östman, L. (2008) *Practical Epistemology Analysis: Aesthetic and moral learning*. At the symposium Pragmatic Epistemology Analysis and Joint Action Theory in Didactics. Chair Gérard Sensevy, IUFM de Bretagne, European Conference on Educational Research, Göteborg.

## **Books, book chapters**

### In press

Andrée, M. (In press). Vardagsanknytning som pedagogiskt redskap. In Strömdahl, H. & Tibell, L. (Eds.), *Skola och naturvetenskap - politik, praktik, problematik i ett ämnesdidaktiskt forskningsperspektiv*. Lund: Studentlitteratur.

Johansson, A.-M., & Wickman, P.-O. (In press). Syften som stöd för minne och lärande i undervisningen. In R. Säljö (Ed.) *Lärande och minnande som sociala praktiker*. Stockholm, Norstedts.

Kelly, G.J., McDonald, S. & Wickman, P.-O. (In press). Science learning and epistemology. In: Fraser, B., Tobin K. & McRobbie, C. (Eds.), *Second International Handbook of Science Education*. New York: Springer.

Lager-Nyqvist, L. Wickman, P.-O., Lundegård, I., Lederman, J. S., & Lederman, N.G. (In press). In R. Säljö (Ed.) *Lärande och minnande som sociala praktiker*. Stockholm, Norstedts.

Wickman, P.-O. (In press) Aesthetic Learning. In Seel, N.M. (Ed.) *Encyclopedia of the Sciences of Learning*. Springer.

Wickman, P.-O, Liberg, C. & Östman, L. (In press) Transcending science: scientific literacy and bildung for the 21st century. Jorde, D. & Dillon, J. (Eds.) *Science Education Research in Europe*. Volume 4 of *The World of Science Education* (Series Eds. Tobin, K. & Roth, W.-M.) Rotterdam, Sense Publishers.

### 2011

Johansson, A.-M. & Wickman, P.-O. (2011) A pragmatist approach to learning progressions. In Hudson, B. & Meyer, M. A. (Eds.) *Beyond Fragmentation: Didactics, Learning, and Teaching*, pp. 47-59. Leverkusen, Germany, Barbara Budrich Publishers.

Linder, C., Östman, L., Roberts, D.A., Wickman, P.-O., Erickson, G. & MacKinnon, A. (Eds.) (2011) *Exploring the Landscape of Scientific Literacy*. 302 pp. New York: Routledge.

Piqueras, J., Wickman, P.-O. & Hamza, K. M. (2011). Student teachers' moment-to-moment reasoning and the development of discursive themes – an analysis of practical epistemologies in a natural history museum exhibit. In E. Davidsson & A. Jakobsson (Eds.) *Understanding interactions at science centers and museums - A sociocultural perspective* (pp. 79-96). Rotterdam, SensePublishers B.V.

Wickman, P.-O., & Ligozat, F. (2011). Scientific literacy as action: consequences for content progression. In: Linder, C., Östman, L., Roberts, D.A., Wickman, P.-O., Erickson, G. & MacKinnon, A. *Exploring the Landscape of Scientific Literacy*, pp. 145-159. New York: Routledge

### 2010

Andrée, M. (2010). Levda läroplaner i individorganiserad NO-undervisning. In I. Eriksson, V. Lindberg & E. Österlind (Eds.). *Uppdrag: undervisning o.ch lärande*. (pp. 97-107). Lund: Studentlitteratur.

Hamza, K.M. & Wickman, P.-O. (2008) Hur lär sig elever naturvetenskap? In: *Resultatdialog 2008: Forskning inom utbildningsvetenskap, vol. 12*, pp. 119-124. Stockholm, Vetenskapsrådet.

Wickman, P.-O. & Jakobson, B. (2009) Estetiska lärprocesser i naturvetenskap: att behandla en förgiftning. In: Selander, S. & Lindstrand, F. (Eds.) *Estetiska lärprocesser*. [Aesthetic learning processes in science: treating a poisoning. In: *Aesthetic Learning Processes*.], pp. 127-152. Lund: Studentlitteratur.

Wickman, P.-O. & Persson, H. (2008) Naturvetenskap och naturorienterande ämnen i grundskolan: En ämnesdidaktisk vägledning. [Science and School Science: A Research Based Guide] 280 pp. Stockholm: Liber.